PN-ACD-229
98712

TRANSPORT & COMMUNICATIONS

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

Lilongwe, Republic of Malawi
1 - 3 February 1995

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PROJECT NUMBERING SYSTEM

Projects are identified using an alphanumeric numbering system

1 The first group of three letters indicates the member State·

AAA	-	Regional	NAM	-	Namibia
ANG	-	Angola	SWA	-	Swaziland
BOT	-	Botswana	TAN	-	Tanzania
LES	-	Lesotho	ZAM	-	Zambia
MAL	-	Malawi	ZIM	-	Zimbabwe
MOZ	-	Mozambique			

2 The first digit defines the Sector

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

3 The second digit is a serial number

ABBREVIATIONS

ADB	-	African Development Bank
AFRAA	-	African Airlines Association
AFTN	-	Aeronautical Fixed Telecommunications Network
AGIP Spa	-	AGIP Spa
AIDAB	-	Australian International Development Aid Bureau
AITRSG	-	African Information and Telecommunications Policy Study Group
ANG	-	Angola
AP	-	Action Plan
ASK	-	Available Seat Kilometre
ATS	-	Air Traffic Services
ATS/DS	-	Air Traffic Services/Direct Switching
AUS	-	Australia
BADEA	-	Arab Bank for Economic Development in Africa
BEL	-	Belgium
BOT	-	Botswana
BR	-	Botswana Railways
BRA	-	Brazil
CAN	-	Canada
CBI	-	Confederation of British Industries
CEC	-	Commission of the European Communities (Formerly Known as EEC)
CEOS	-	Chief Executive Officers
CFM	-	Caminhos de Ferro de Mocambique
CFTC	-	Commonwealth Fund for Technical Cooperation
CHI	-	Peoples Republic of China
CIF	-	Cost Insurance and Freight
CITES	-	Convention on International Trade Endangered Species
CIDA	-	Canadian International Development Agency
CNS/ATM	-	Communication Navigation Surveillance/Air Traffic Management
COC	-	Committee of Chair Persons
DCA	-	Directors of Civil Aviation
DEL	-	Direct Exchange Lines
DEN	-	Denmark
ECA	-	Economic Commission for Africa
ECU	-	European Unit of Account
EEC	-	European Economic Community
EU	-	European Union
FAO	-	Food and Agriculture Organisation of the United Nations
FIN	-	Finland
FINNIDA	-	Finnish International Development Agency
FRA	-	France
FRG	-	Federal Republic of Germany
GTZ	-	German Bank for Development and Reconstruction
IBRD	-	International Bank for Reconstruction and Development
ICAO	-	International Civil Aviation Organisation
ICE	-	Iceland
IDA	-	International Development Association
IDRC	-	International Development Research Centre
IDU	-	International Development Unit of the Commonwealth Secretariat
IFAD	-	International Fund for Agricultural Development
ILO	-	International Labour Organisation
IMPOD	-	Import Promotion Office for Products from Developing Countries
IRC	-	Inter-Railways Conference of the Chief Executives of Railways in Southern Africa
IRE	-	Ireland
ISNAR	-	International Service for National Agricultural Research
ITA	-	Italy
ITB	-	International Tourism Board
ITU	-	International Telecommunications Unit
JAP	-	Japan

KFW	-	German Bank for Development and Reconstruction
KLM	-	Royal Dutch Airlines
KUW	-	Kuwait Fund
LAC	-	Logistic Advisory Centre
LES	-	Lesotho
MAL	-	Malawi
MOZ	-	Mozambique
MR	-	Malawi Railways
NAM	-	Namibia
NET	-	Netherlands
NOR	-	Norway
NORAD	-	Norwegian Agency for Cooperation and Development
NORDICs	-	Nordic Countries
NRZ	-	National Railways of Zimbabwe
OAU	-	Organisation of African Unity
OPEC	-	Organisation of Petroleum Exporting Countries
PLF	-	Passenger Load Factor
POR	-	Portugal
PTA	-	Preferential Trade Area
RMI	-	Road Maintenance Initiative
RPK	-	Revenue Passenger Kilometre
RSIS	-	Regional Rolling Stock Information and Management System
RTCA	-	Regional Track Condition Assessment
RTRN	-	Regional Trunk Road Number
SADC	-	Southern African Development Community
SADC/WFP	-	Southern African Development Community/World Food Programme
SAFTTA	-	Southern African Federation of Travel and Tour Associations
SAREC	-	Swedish Agency for Research Cooperation with Developing Countries
SAS	-	Scandinavian Airline Systems
SAR	-	Search and Rescue
SARATA	-	Southern Africa Regional Air Transport Authority
SARSAT/COSPAS	-	Search and Rescue Satellite Aided Tracking/Abbreviation of Russian Words (meaning the same thing)
SATA	-	Southern Africa Telecommunications Association
SATCC	-	Southern Africa Transport and Communications Commission
SATCC-TU	-	Southern Africa Transport and Communications Commission - Technical Unit
SATEP	-	ILO Southern African Team for Employment Promotion
SDC	-	Swedish Development Corporation
SIDA	-	Swedish International Development Agency
SPA	-	Spain
SPA	-	SADC Plan of Action
SSATP	-	Sub-Saharan Africa Transport Programme
SR	-	Swaziland Railways
SRCEC	-	SADC Railways Chief Executives Conference
STEP	-	SADC Transport Efficiency Project
SWA	-	Swaziland
SWE	-	Sweden
SWECO	-	Swedish Consulting Group
SWI	-	Switzerland
TAN	-	Tanzania
TAZARA	-	Tanzania Zambia Railway Authority
TEU	-	Twenty Foot Container Equipment Unit
TNL	-	Trans Namib Limited
TRAFIS	-	Trade Facilitation Information System
TRC	-	Tanzania Railways Corporation
TZR	-	Tanzania Zambia Railways Authority
UAPTA	-	Unit of Account of the Preferential Trade Area
UK	-	United Kingdom
UNCTAD	-	United Nations Conference on Trade and Development
UNDP	-	United Nations Development Programme
UNIDO	-	United Nations Industrial Development Programme
UNITA	-	Uniao Nacional para Independencia Total de Angola
UNTACDAI	-	United Nations Transport and Communications Decade for Africa

USA	-	United States of America
USAID	-	United States Aid for International Development
WB	-	World Bank
WDTC	-	World Telecommunications Development Conference
WMO	-	World Meteorological Organisation
ZAM	-	Zambia
ZIM	-	Zimbabwe
ZISCO	-	Zimbabwe Steel Corporation
ZRL	-	Zambia Railways Limited

1. EXECUTIVE SUMMARY

1.1 Regional Transport and Communications Environment

In 1993, actions continued to be taken to further improve the environment for the development and more efficient operations of transport and communications in the SADC region and Southern Africa in general. In Mozambique, progress continued to be made in the peace process, making it possible to undertake an increased number of physical infrastructure projects as well as to improve the performance of transport corridors in that country. In South Africa, the process of democratisation culminated in the holding of the first non-racial elections in April 1994, and the installation of a transitional democratic government on 10th May, 1994. In addition, actions continued to be taken in all SADC member States and South Africa to restructure the organisation and management of government and institutional operations with a view to addressing the policy, structural, organisational and institutional weaknesses inhibiting the development and operation of an efficient transport and communications network in the region. The exception is Angola, where only very limited restructuring actions could be undertaken but without any notable implementation due to the war which, unfortunately, continues in spite of the protracted negotiations between the government and UNITA.

1 2 Performance of Regional Transport and Communications Systems

The operational performance results of the SADC transport and communications sectors in 1993 were mixed In surface transport modes of railways, roads and ports and shipping, a total of 5 88 million tonnes of dry cargo imports and exports were handled by the SADC ports transport systems in 1993, an increase of 1 2% over the 5 81 million tonnes handled in the previous year. However, imports of bulk petroleum products declined by 1.4% from 3 23 million tonnes in 1992 to 3.19 million tonnes in 1993.

In air transport, the SADC airlines suffered a gradual reduction in passengers carried between 1985 and 1993, culminating in 2 243 million passengers carried in 1993, a decrease of 13.25% from the 2 666 million passengers carried in 1985 South African Airways, which carried almost twice as many passengers as all SADC airlines, suffered the same fate from 1989 onwards On the other hand, freight carried by the SADC national airlines also decreased from the industry highest of 45.949 Ktons in 1991 to 41.572 Ktons in 1992 and 37 054 Ktons in 1993.

In telecommunications, there was about 2% growth in intra-SADC traffic to a total of 18.626 million paid minutes in 1993. However, this was still far less than the traffic between SADC and South Africa, which amounted to 96.541 million paid minutes in 1993. As regards the SADC postal sub-sector, the limited available data indicates that there was growth in the volume of mail handled, especially the EMS items More information is expected soon to facilitate better reporting of the performance of this sub-sector in 1993

The lack of adequate data continues to inhibit a comprehensive and exhaustive analysis and reporting of the level of quality of service provided as well as the relevant indicators for operational performance, productivity and utilisation of equipment and facilities of the Transport and Communications Sector. Nonetheless, the available data generally indicates that there was a slight improvement in all modes of transport, telecommunications and postal services in 1993 compared to the performance in 1992 However, the level of performance in this respect is still below the world or industry expected average levels

1 3 **Review of SATCC Programme of Action**

Implementation of the physical capacity building and capital investment projects continued to address the existing bottlenecks and missing links in the regional transport and communications network However, the activities of the SATCC/TU continued to emphasise on efficiency improvement, operational coordination and human resources development issues Progress of implementation of SATCC projects in the SADC Programme of Action continued at a reasonable pace as indicated in the project briefs However, the level of overall implementation of the SPA under SATCC corresponds to the level of funding of the programme In this regard, there is still an overall funding gap of US$3 91 billion, or 45%, when compared to the total cost of US$6 874 billion for the 208 main projects in the programme

A programme is underway to improve the database to enable better programme reporting as well as the analysis and reporting of the performance of the transport and communications sectors

Cooperation among SADC member States continued in the implementation of projects and operational improvements Sub-sectoral working groups and sub-committee meeting continued to be well attended and important fora for exchange of ideas, solving pertinent cooperation problems and agreeing upon measures for further deepening of cooperation. Cooperation between SADC member States and South Africa also continued to improve with the attendance of relevant South African institutions to all the technical meetings, especially the working group and sub-committee

meetings in all sub-sectors However, the implementation of the Regional Transport and Communications Integration Study for (post-apartheid) Southern Africa experienced further delay. In this respect, the SATCC Committee of Ministers has reiterated the continued importance of the study and the need to expedite its urgent implementation so as to urgently provide a comprehensive framework for future course of action. This is in response to some doubts which had been expressed by some members of the European Union, the financiers of the study.

Preparations for the development of transport and communications protocol/s continued. In this regard, funding has been secured and preparations are underway to launch the process with the holding of the brainstorming seminars for all the seven sub-sectors of ports and shipping, roads and road transport, railways, air transport, telecommunications, postal and meteorological services.

2 REVIEW OF THE REGIONAL SITUATION

2 1 SADC Treaty: Preparation of the Transport and Communications Protocol/s

The debate on the future areas of cooperation in transport and communications, and the means of achieving such cooperation in the new "SADC", continued during 1993 in all the sub-sectoral technical Working Group meetings and the highest policy level meetings of the Coordinating Committee, Sectoral Ministers and the Council of Ministers This has led to a better appreciation and a clearer understanding of how the process of preparing the protocol/s on transport and communications should be carried out

From these initial consultations, it is clear that the development and concluding of the protocol/s in the transport and communications sectors must involve the holding of extensive consultations and the canvassing of views of a wide cross-section of stake-holders. Thus, the development of the sectoral protocol/s will be processed as described below

Initially workshops will be held for each sub-sector (i.e. railways, roads and road transport, ports and shipping, air transport, telecommunications, meteorology and postal services) to identify issues that will need to be addressed during the drafting of the protocol/s. Following the sub-sectoral workshops, omnibus workshops will be organised separately for Transport and Communications sectors. These omnibus workshops, which are scheduled to run concurrently, will address issues of common interest to the various sub-sectors Brief discussion papers for the workshops will be prepared to provide guidance for the deliberations. However, a comprehensive elaboration of the issues is

expected to result from the inputs of the participants in the sub-sectoral workshops The workshops will therefore, bring together a wide spectrum of actors and concerned groups, or stake-holders, in the respective sub-sectors.

On the basis of issues elaborated at the workshops, consultants will be engaged to draft elements of protocol/s specific to each sub-sector as well as those that are cross-subsectoral, such as institutional arrangements. The consultants responsible for drafting the elements common to all sub-sectors issues will also be responsible for consolidating the sub-sectoral inputs into a draft protocol/s document possibly broken down into major components of, for example, surface transport, air transport, telecommunications, postal services and meteorological services.

The draft document will be distributed as widely as possible to the member states particularly to all the people concerned, as will have been previously determined by the workshops The distribution will take into account the need to provide adequate time for detailed study by and internal consultation among the various parties concerned within each member state before the process of protocol negotiation can start

The SADC Secretariat and SATCC/TU have prepared a programme and a budget for the development of the protocol/s The SATCC/TU has initiated work in this respect by engaging consultants, with emphasis on regional ones, to elaborate the broad framework of the exercise Their work will provide further guidance to the resource people for the "brain storming" workshops. Negotiations with USAID are in progress regarding financial support for carrying out the programme

In view of the important role of the transport and communications sectors to the development of the SADC region and the need to the streamline the status and operations of SATCC with the provisions of the new SADC Treaty, it is planned to finalise the protocol/s development process as quickly as possible Accordingly, it is planned to have the Transport and Communications Protocol ready for the consideration of the Summit of 1996. This means that the workshops and most of the work should be carried out in the second half of 1994 and during 1995.

2.2 Performance Improvement and Restructuring

The structural and organisational/institutional weaknesses of the transport and communications sectors in the region continued to be addressed by the enterprises themselves, by governments at the national level and, under the aegis of SATCC at the regional level. At the national level, reforms are being considered and carried out in almost all the SADC Member States either as part of the general Structural

Adjustment Programmes or national initiatives to reform economies and to eliminate subsidies to enterprises which should be profitable and make a contribution to the national treasury. The initiative at the regional level continues to be focused on coordinating these activities and organising seminars or workshops to provide an opportunity for exchange of experience as well as gaining a better understanding of the issues involved, problems and possible solutions, and possible costs and benefits The purpose of the regional initiative is to ensure attainment of an integrated transport and communications system with a uniform level of performance and efficiency, which is critical and necessary for the achievement of the desired goal of creating the Community based on equity, balance and mutual benefits for all Member States.

Accordingly, SATCC continued to follow up restructuring work being carried out in the Member States for the different sub-sectors At the regional level, sub-sectoral restructuring seminars have so far been held for the railways and telecommunications sub-sectors. Preparations are well underway to hold the long-delayed seminar for Civil Aviation Similarly a restructuring seminar for the roads sub-sector is being organised with the assistance of the World Bank, through the Road Maintenance Initiative (RMI) of the Sub-Sahara Africa Transport Programme (SSATP). Similar seminars for the other sub-sectors have been requested and will be organised at a later date.

At the regional policy makers level, a Seminar on Restructuring of State-owned Transport and Communications Enterprises was held in Maseru, Lesotho on 3 - 4 June, 1994 The Seminar was well attended by the Ministers and Senior Officials from the Ministries responsible for transport matters and public investment The issues considered included liberalisation, commercialisation and privatisation policies, relationship between government and public enterprises, capitalization and investment policies and arrangements, pricing policies; staffing rationalisation, maintenance and preservation of infrastructure; and regional cooperation and restructuring. Apart from exchange of ideas and experiences in restructuring activities underway in the member States, a number of important consensus statements and recommended actions were made whose implementation is expected to lead to further improvement of sector performance Among the important conclusions are that:

(a) Early restructuring of state enterprises is critical for their survival. Efficiency and effectiveness may be enhanced by private sector participation either entirely or in joint ventures.

(b) Restructuring of SOE's requires deregulation and liberalisation SOE's should have greater autonomy from government and be overseen by Board of Directors with suitable qualified professionals

(c) When restructuring, SATCC member States should consider implications of their actions to the regional economy as a whole and not just national interests; and

(d) A check list of restructuring activities being taken by member States should be compiled and circulated among all member States. Follow-up actions should be coordinated by SATCC/TU which should also organise a follow-up seminar in early June 1995.

2.3 Logistics and Transit Transport Facilitation

During the reporting period, capacity problems drastically limited the effectiveness of the specialised institutions which provided assistance in addressing the logistical and facilitation problems affecting the movement of traffic along the SADC transport corridors These are the Harare based SADC/WFP Logistics Advisory Centre (LAC) and the Blantyre based UNCTAD executed Project on Transit Traffic and Support to the Transport Sector in Southern Africa While the LAC was established as an emergency institution to deal with logistical problems and gather, collate, analyze and disseminate information in connection with the overall 1992/93 drought response, the UNCTAD Project has been in existence in the region since 1981 with a mandate to deal with transit facilitation issues or, specifically, the removal of non-physical barriers to the efficient flow of traffic especially across borders Its activities include addressing documentation, customs, administrative procedures and logistical aspects

With the virtual disappearance of the drought, the LAC activities naturally greatly diminished. However, agreement has been reached within SADC to incorporate the critical functions of the LAC into the existing SADC structures, in order to ensure that the experience gained during the drought operations is not lost and also that a certain level of preparedness to deal with any disaster is retained. In this respect, most of the logistics and transport functions are to be incorporated into the SATCC programme Modalities have been worked out by SATCC and the SADC Food Security Sector to accomplish this and implementation is expected during 1994 Continued assistance will still be needed from the Cooperating Partners in ensuring continuity and the smooth transfer of responsibilities In addition to this, a seminar will be organised to evaluate the performance of the transport and communications sector during the drought and determine what actions need to be taken in future

As regards the SADC Project AAA.0 04, the problem is financing. After the withdrawal of UNDP financing from December 1991, the project had up to 31 March 1994, survived on a USAID grant to UNCTAD for the Project's trade facilitation activities While USAID was not willing to extend its support under the existing framework, they were prepared to assist in solving trade and transport facilitation problems under a different framework, which guarantees or provides clear indications of ownership and commitment to solving the problems by the countries concerned. Thus, USAID would like to provide assistance either directly to the member states concerned or through the its programme of support to the region through SATCC.

In considering the future status of the project, the Tripartite Review Meeting held in March 1994 recommended that (a) the project should be transferred to SATCC, (b) a new project orientation and framework should be designed to clearly define the organisational aspects and roles of all the institutions concerned, and (c) resources should be sought to support on-going activities to ensure continuity Implementation of these recommendations is being pursued by SATCC supported by the member states. Meanwhile, UNCTAD has provided limited funds to sustain the functioning of the project office for a limited period until a new course of action has been determined

2 4 Transport and Communications Integration in Post Apartheid Southern Africa

2.4 1 Regional Transport and Communications Integration Study

Activities related to the implementation of the regional transport and communications integration in Southern Africa, post-apartheid were commenced during the year under review The study will be undertaken by a consultant, under the supervision and management of SATCC in consultation with the Commission of European Communities (CEC)

The process of selection of the consultant commenced in January 1993, by inviting pre-qualifications On 23 February 1994, nine consultancy groups, who had been pre-qualified, were invited to submit tenders. By closing date and Tender Opening at the SATCC-TU on 2 May 1994, seven bids had been received The tender was based on a "two envelope" system, that is separate submission of the technical and financial proposals. The evaluation of the technical proposals for the seven tenders have been finalised in June 1994

The next step will be to negotiate with the selected consultant. The contract is expected to be signed so as to allow the successful consultant to mobilise and start work in the region in August 1994

In recognition of the need for close supervision of the study, an elaborate consultative process has been incorporated in its Terms of Reference. In this regard, SADC member states have been requested to appoint study contact points and most countries have already done so. The SATCC-TU, through its Study Coordinator, has initiated consultations with the relevant authorities in all the member states and South Africa in order to prepare for their effective participation in the study. In this respect, the Study Coordinator has already visited Botswana, Lesotho, Malawi, Tanzania and Zambia.

As indicated in the Terms of Reference of the study, in recognition of their important contribution, the Cooperating Partners will be fully involved in the Steering Committee and in the workshops that will be held during the implementation of the study.

In view of the dynamic situation in the Region, including the major political changes in the Republic of South African's and the reforms underway in the region's transport and communications sector, SATCC believes that the integration study needs to be carried out expeditiously in order to assess the current development and policy needs and consequently establish a comprehensive framework and strategy for the development and management of the transport and communications sector in the region

2 4 2 **Relations with the Republic of South Africa**

While the integration study is expected to elaborate the framework for the integration of South African's transport and communications systems with those of the SADC countries, strong contacts with the South Africa have, already been established at the technical level beginning in 1993 Representatives from South Africa were invited and attended all the SATCC sub-sectoral technical Working Groups meetings The initial outcome, in the form of a very useful exchange of experience, has been very positive In some areas, agreement has been reached on measures to be taken jointly in solving technical problems inhibiting the efficient flows of traffic in the region's transport and communications systems.

2 5 **Peace and Security**

Progress continued to be made in the peace process in Mozambique, thus making it possible to plan, design and implement an increased number of physical infrastructure projects

In South Africa, the process of democratisation culminated in the holding of the first non-racial elections in April

1994 and the installation of a transitional government of national unity on 10 May, 1994. It is hoped that peace will also be consolidated in the new South Africa so as to provide a good environment and basis for improving the operational performance and integration of the transport and communications systems in Southern Africa.

In Angola, the war continues and the situation has, unfortunately, not improved in spite of the protracted negotiations between the Government and UNITA. It is hoped that the changed geo-political situation in the region and a more assertive stance by the international community will help to secure genuine peace in Angola. This is urgently required for the rehabilitation and development of the transport and communications projects as well as to enable the country to participate fully in other regional programmes

2 6 **SATCC Statistical Database**

Although data collection and compilation gained momentum during the year, major gaps still exist in operational and financial statistics For some sectors however, significant improvement in data collection has been achieved. During the year comparative data from the region has been added to the database, though this has not been possible for all sub-sectors Generally, some basic statistics are still missing especially those which are required to analyze adequately the performance of the sector and identify problems and technically sound measures to be taken to solve the problems.

As mentioned in the last annual report, a comprehensive approach is being taken to improving the database both at the regional (ie SATCC-TU) and national levels In this regard, a major database improvement programme is to be implemented in the course of the implementation of the Integration Study Some improvement will also be undertaken within the SADC Transport Efficiency Project (STEP) SATCC-TU and a selected number of member states will also continue to participate in the ECA/World Bank Transport Data Project under the auspices of SSATP

3 TRANSPORT AND COMMUNICATIONS CAPACITY AND PERFORMANCE REVIEW

3 1 Surface Transport

3 1 1 General

(a) Overall capacity and usage of SADC ports and their respective transport systems for the years 1991 - 1993 is presented in Charts PS1 and PS2, by type of traffic handled and Chart PS3, by user countries. It should be noted that some of the statistics reported last year have been adjusted

due to the receipt of updated information concerning the 1992 data The following general picture emerges from the information presented.

i) Some traffic data for the Port of Walvis Bay in Namibia has been provided for the years 1992 and 1993 However, due to unavailability of statistics, detailed analysis of the performance of this port has not been possible This situation is expected to improve in future following the reversion of the port to Namibia only in March 1994

ii) The capacity of the Region's transport system as determined by the capacities of the ports covered in this report is still in excess of current usage levels

iii) A total of 5 88 million tonnes of dry cargo imports and exports were handled by the SADC ports transport systems in 1993. This represents an increase of 1 2% over the previous year's traffic figure of 5 81 million tonnes During the same period, imports of bulk petroleum products declined by about 1 4% from 3 23 million tonnes in 1992 to 3 19 million tonnes in 1993

iv) The recorded increase in dry cargo traffic during 1993 was composed of increases recorded at the ports of Dar es Salaam and Beira, while traffic through the ports of Maputo and Nacala declined largely due to the reduced volume of general cargo imports Overall, the total dry cargo imports handled by the ports' transport systems decreased by about 10% which was offset by an increase of about 26% in dry cargo exports

v) This analysis of the overall performance of the ports' transport corridor systems does not include the overall usage of the regional networks of land modes of transport (i e rail and roads) by domestic and intra-SADC traffic This is reported below in the respective modal sections

(b) As regards performance indicators concerning the comparative quality of service and cost of the different corridors, the SATCC-TU is still not able to make a reasonably exhaustive assessment due to inadequancy of data In last year's report, the LAC data concerning the movement of drought emergency traffic was used to provide an illustration of the corridors' charges and

transit times for major traffic centres in the landlocked countries. As the drought related traffic and the capacity of the LAC diminished, it has not been possible to obtain similar information for the general traffic. Efforts to obtain such information from the Trade Facilitation Information System (TRAFIS) of the Blantyre based UNCTAD project are yet to produce the desired results since the system was still at its early stage of development. However, it is the expectation of the SATCC-TU that the initiatives which are underway or planned to improve the SATCC data base will enable reasonable reporting on this aspect in the next year's report. As explained above, these initiatives include the implementation of the Regional Transport and Communications "Integration Study" and STEP Project, as well as agreed take-over of the functions of the LAC and the Blantyre based "UNCTAD Project"

3.1.2 Ports and Shipping

Since there was no major infrastructure development leading to significant increase in the installed capacity of the ports, it is assumed that the combined SADC ports annual throughput capacity during 1993 remained at the 1992 estimate of 28 3 million tonnes Individual port capacities are depicted in Chart PS1 and PS2 for both dry and liquid cargo.

Due mainly to the decline in the volumes of imports of petroleum products and of cabotage/coastal traffic, the total SADC ports throughput in 1993 declined to 9 70 million tonnes from the previous year's total of 9 82 million tonnes, drop of about 1 3% Consequently, the 1993 overall port capacity usage level for all cargo types slightly decreased to about 34 3%, from 34 5% achieved in 1992

The trend in traffic development for the years 1991 to 1993 for each of the ports covered is shown in Charts PS1, PS2 and PS3 These show development by cargo types and by user countries For the period covered, only the Port of Beira show steady growth in the volumes of cargo handled Traffic through the Port of Nacala for the same period is almost static while that through the Port of Maputo declined slightly in 1993 by about 8%, after registering an increase in 1992 compared to the 1991 performance At the Dar es Salaam port, total traffic handled declined by about 2 5% in 1993 against an increase of 23% in 1992. As regards usage, the information provided does not reflect much change in the routing of the landlocked member countries' imports and exports All available routes have been used.

The overall decline in the volume of traffic handled by the SADC ports during 1993 was attributed to the decreases of traffic at the ports of Dar es Salaam, Maputo and Nacala At Dar es Salaam, although imports and exports of dry cargo rose by 5%, bulk petroleum products imports declined by nearly 10% compared to the 1992 performance. Dry cargo imports registered a similar increase of some 51% when compared to the 1992 performance At Beira, a 3 6% drop in the volume of dry cargo imports in 1993, caused largely by a decline in the volume of drought emergency related traffic, was more than offset by a 90% increase in dry cargo exports from particularly Zimbabwe and, to a lesser extent, Malawi and Zambia. At the Port of Walvis Bay, information available shows that dry cargo registered a small increase of 3.5% in 1993 when compared with 1992 However, containerised traffic for the same period declined slightly from 18994 TEUs in 1992 to 18844 TEUs in 1993

Many of the statistics maintained by the port authorities of the region are not standardised and thus, few common indicators are available for all the ports In this regard, efforts are being made on harmonisation in order to remedy the situation Meanwhile, some performance indicators relating to port operations are presented in Table PS1 which shows average ship waiting times, average service time to ships as well as total ship-time spent at the regional ports It can be observed that productivity at the ports of Maputo and Nacala declined slightly in 1993 as compared with 1992 At Nacala, service time increased while at Maputo both waiting time and service time increased, contributing to a longer stay of ships in that port.

Another measure of port performance is presented in Table PS2 which shows the volume of general cargo tonnage handled per ship working day as well as the number of containers handled per ship per day in port Although this performance indicator has not been reported for all ports, the information presented in the Table shows generally the level of service provided at the SADC ports. The indication is that, except for the Port of Maputo, all the other SADC ports registered an improved performance during 1993 when compared with 1992

3.1.3 Railways Performance Overview

3.1.3 1 On a Corridor Basis

The overall performance of the SADC Railways on a corridor basis is depicted in Table RL1 and Chart RL1 The situation of individual lines is as given below

(a) **Goba Line (Maputo-Swaziland)**

International traffic on this line declined by about 18%, from 187 200 tonnes in 1992 to 154 600 tonnes in 1993 The main traffic has traditionally been coal, sugar, molasses and pulp exports from Swaziland. The decline in traffic was mainly due to the closure of the Emswati coal mine towards the end of 1992, with the result that no coal was transported over this route throughout 1993 Pulp and cement traffic continued to show a modest growth. About 50 000 tonnes of Zimbabwe sugar sugar imports from Swaziland moved over this line However, most of Swaziland export sugar continued to go through Durban during 1993.

Considerable increase in international traffic could be expected next year as coal from the new Maloma Colliery in Swaziland may be moved on this line to Maputo The possibility of reopening Emswati mine is also under active consideration In addition, the discussions on the leasing of the sugar terminal at Maputo port are in progress and there is a bright prospect for a significant volume of Swaziland export sugar being moved to Maputo on this route during the latter half of 1994

(b) **Ressano Garcia Line (Maputo-RSA)**

There has been a remarkable recovery of South African traffic over this route during 1993, reversing the steady decline in traffic that had taken place over the previous three years. International Traffic increased by about 145% in 1993 to 693 200 tonnes from 283 300 tonnes in 1992. This was mainly due to the increase in export coal traffic The operation of the Matola Coal terminal by a private company on lease basis, as a result of the commercialisation policy of CFM, partially contributed to the increase. Citrus, clinker, general goods and containerised traffic for Maputo also grew during the year when compared with the previous year

The outlook for next year appears bright as more South African coal and traffic for rebuilding the Mozambican economy such as steel, clinker and containerised cargo are expected to be conveyed over this route.

(c) **Limpopo Line (Maputo-Zimbabwe)**

International traffic conveyed on this line declined by 27% from 417 900 tonnes in 1992 to 302 400 tonnes in 1993 This decline was caused mainly by the virtual disappearance of the 276,900 tonnes of drought emergency related traffic for Zimbabwe which was moved on this route in 1992 Apart from the disappearance of the drought-related traffic, the decline was also caused by the drop in steel exports from Zimbabwe due to the closure for rehabilitation, of a furnace at the ZISCO plant. However, on balance, if the drought related traffic is disregarded, it is clear that there was actually an increase of other traffic. In this respect, there was new traffic conveyed including petroleum to Zimbabwe, export maize from Zimbabwe and sugar from Swaziland to Zimbabawe

As regards the future, there are good prospects considerable increase in traffic mainly of ferro-chrome, coke and sugar which are expected to be conveyed over this route in 1994 In addition, some export maize from Zimbabwe to Mozambique is likely to continue to be moved

(d) **Machipanda Line (Beira-Zimbabwe)**

Traffic on this line increased by 22% from 846 800 tonnes in 1992 to 1 029 400 tonnes in 1993 International traffic increased by 29% from 749 500 tonnes in 1992 to 970 000 tonnes whereas there was a decline of domestic traffic by 39% to 59 400 tonnes Regarding international traffic, the up traffic (away from the Beira), mainly drought relief commodities, was 484 800 tonnes while down traffic (towards Beira), mainly tobacco and maize, was 485 200 tonnes

A total of 16 110 equivalent twenty foot containers (TEUs) of international traffic were conveyed in 1993 compared to 11 198 in 1992, representing an increase of 44% These comprised 13 732 TEUs for Zimbabwe, 2 058 for Malawi, 315 for Zambia and five for Botswana

As regards future prospects, the operational capacity of this route has been increased with the arrival of ten new locomotives in November 1993 and the completion of the rehabilitation of 1 000 wagons Consequently, traffic is expected to increase, with the down traffic traditionally dominating as the movement of drought related commodities has been completed

(e) **Nacala Line (Nacala-Malawi)**

International traffic on this line, which is all Malawian, has continued to increase although the last 77 kilometres of the line are yet to be rehabilitated The traffic inreased by 45% from 62 500 tonnes conveyed in 1992 to 90 600 tonnes in 1993 Because of the incomplete rehabilitation of the line, international traffic level is still well below expectation, especially considering the fact that this is potentially by far the cheapest route for Malawi's overseas trade Obviously, this is a matter of great concern and is seriously being addressed by the Governments of Malawi and Mozambique, with the assistance of donors and SATCC

(f) **TAZARA Line (Dar es Salaam-Zambia)**

Reversing a trend of declining traffic over the previous three years, traffic on this line grew by 19% from 902 476 tonnes in 1992 to 1 079 358 tonnes in 1993 While Zambian exports mainly of copper, zinc, lead and cobalt declined from 307 809 tonnes in 1992 to 281 574 tonnes in 1993, exports from Zaire, Malawi, Tanzania and Zimbabwe increased from 309 979 tonnes to 426 559 tonnes. Similarly, import traffic for all the five countries using the line increased from 304 686 to 535 783 tonnes

The increase of traffic on this route is mainly accounted for by the increase of grain imports for Zambia from 67 510 tonnes in 1992 to 281 021 tonnes in 1993, and the 115% increase of Tanzanian exports from 37 173 to 80 087 tonnes respectively. Malawi import traffic also increased by 41% from 47 803 tonnes in 1992 to 67 549 tonnes in 1993

The traditional Zambia export traffic for this line has declined and the apparent increase in traffic, which was mainly due to the movement of drought-related commodities, cannot de expected to be sustained in 1994. In fact with fierce competition from road transport and without seriously addressing other factors affecting this route, which have led to the diversion of some of the traditional traffic to other routes, traffic on the TAZARA line may again decline next year.

3.1.3 2 **SADC Railways Institutional/Organisational Performance**

Performance of the individual Railway Organisations is depicted in charts RL2 to RL15 showing trends in the key performance indicators for the years 1991 to 1993

In addition to railways reported on last year, this year the analysis includes Tanzania Railway Corporation and South Africa's Spoornet Furthermore, some of the indicators have been changed and new ones included to reflect profitability related aspects, in line with the expressed desire for providing an indication of the impact of the restructuring and commercialisation process which is underway

The data relating to these charts is also contained in Table RL2 and RL3 It can be noted that there are still gaps in the availability of some statistics, especially on working and operating ratios Efforts are being made to obtain this basic information from the organisations concerned. Consequently, these limited statistics are illustrative only and more conclusive observations and recommendations can only be offered when complete and comparable data is available.

Furthemore, caution must be exercised when comparing one railway to another since their configuration differs significantly and constraints on their operations are different Some railways are involved in marine, ports and other operations which are difficult to separate from railway operations as far as some statistics are concerned. In addition, most railways base depreciation on historical costs of assets The financial positions of these railways would be worse if depreciation was based on more appropriate policy, that is the replacement value of assets In general, data obtained on railways performance indicators depicts the status below

(a) **Tonnages Conveyed (Chart RL2)**

Except for BR, MR, CFM and TZR all the other railways conveyed less freight tonnages in 1993 compared to 1992 and this was partly due to the reduction of drought-related commodities moved in 1993

(b) **Net Tonne-Kilometres (Tkms) Performed (Chart RL3)**

Only BR, CFM, Spoornet, TZR and ZRL increased the Tkms performed in 1993 compared to 1992 The increase in Tkms performed by Spoornet and ZRL, despite the decrease in tonnages conveyed, indicates that the average haul for freight was greater in 1993 than the previous year

(c) **Passenger Traffic Carried (Chart RL4)**

With the exception of CFM, NRZ, TZR and ZRL the number of passengers carried declined in all the railways in 1993 compared to 1992. Reduction in the number of passengers carried, especially if it is due to the reduction of passenger service offered, normally improves the financial position of a railway primarily because the passenger rates normally do not cover the costs of providing the service.

(d) **Passenger Kilometres (Pkms) Performed (Chart RL5)**

Most of the railways which carried more passengers also increased the Pkms performed in 1993 compared to 1992 The exception is NRZ which performed less Pkms, reflecting shorter average passenger journeys

(e) **Traffic Units (Tkms+Pkms) Performed (Chart RL6)**

All railways, except NRZ, SR and TNL, increased the work performed in 1993 compared to the previous year. It should, however, be noted that the railways with a significant passenger service tend to be reflected as having done more work as a Pkm is equated to a Tkm, which is not strictly correct A better conversion factor of Pkms to Tkms is being investigated and will be used in future analysis, thereby minimising this distortion

(f) **Line Density: Traffic Units per Km of line (Chart RL8)**

There has been an increase in track usage in all railways except MR, TNL, SR and NRZ However it should be noted that this statistic is also affected by the above-mentioned suspect validity of the present form of Traffic Units as a measure of work done.

(g) **Staff Productivity: Traffic Units per staff (Chart RL8)**

Staff productivity increased in all railways in 1993 compared to 1992 except for MR and TNL This reflects the general trend in 1993 of staff reduction in all SADC railways. For MR and TNL the reduction in work performed was significantly more that the staff reduction, hence the decline in staff productivity

(h) **Locomotive Productivity: Annual Traffic Units per Mainline Locomotive (Chart RL9)**

Except for MR, the utilisation of locomotives improved in all the other railways in 1993 compared to 1992. No information on locomotive productivity is shown for SR as it uses mainly hired locomotives.

(i) **Wagon Productivity: Annual Pkms per Wagon (Chart RL10)**

With the exception of NRZ, where there was a slight decline, productivity of wagons increased for all the other railways in 1993 compared to the previous year. The wagon productivity for SR is abnormally high because of the use of mainly hired wagons for the movement of most of the traffic Hired wagons are not separated in the calculation, which tends to exaggerate the wagon productivity in the railways which use mostly such wagons and to understate the same for the railways hiring them out.

(j) **Coach Productivity: Annual Pkms per Coach (Chart RL11)**

There was a reduction in coach productivity in 1993 compared to the previous year in all railways except CFM, TZR and ZRL This may be a reflection of increased road competition in this passenger transport market for most railways

(k) **Passenger Kms as a Percentage of Traffic Units (Chart RL12)**

With the exception of MR, TZR and TRC, the rest of the railways have less than 25% of their business in passenger traffic However, the Pkms as a percentage of traffic units declined in 1993 compared to 1992 for all railways except CFM and ZR As indicated above, having a significant portion of railway business in passenger traffic is generally not advantegeous financially since this traffic is normally moved at fares that are below cost

(l) **Ratio of Passenger Average Fares to Average Freight Rates (Chart RL13)**

This ratio is a rough measure of the likely extent of cross-subsidy of passenger losses from freight revenue. It appears that the greatest cross-subsidy took place in ZRL and TZR and increased in 1993 compared to 1992. The opposite appears to have occurred in TNL and NRZ, although

the data for the last two years indicates a trend towards possible increase in the cross-subsidy

(m) **Working Ratios: Percentage of Operating Expenses (excluding depreciation) to Total Revenue (Chart RL14)**

With the exception of MR and ZRL for 1993, all railways seem to have been able to cover their operating expenses from revenue for the past three years. However, these ratios have declined for MR, SR, ZRL and NRZ while for the other railways, an improvement was achieved in 1993 compared to the previous year.

(n) **Operating Ratios: Percentage of Total Operating Expenses to Total Revenue (Chart RL15)**

When depreciation is included, the financial situation of the railways, as reflected by the operating ratios, appears to have been pretty much the same as what is reflected by the working ratios described above The exception is MR whose ratios for both 1992 and 1993 indicate that it was unable to cover its total expenses from its total revenue. However, as observed earlier, these ratios are based on varying depreciation policies which may be misleading

3 1 4 **Roads and Road Transport**

Efforts are underway to develop a database for the evaluation of the performance of the roads and road transport sub-sector. While comprehensive work in developing the data base is envisaged in the course of implementation of the Regional Transport and Communications Integration Study for Southern Africa and the SADC Transport Efficiency Project (STEP), a specific project proposal has been made to address the immediate needs of gathering, analysis, and dissemination of information on cross- border road traffic The information will be used to

- Ascertain the pattern of road freight and passenger flows over time,
- Determine the modal split between road and rail by combining the results with rail data,
- Assess road infrastructure damage by vehicles belonging to neighbouring countries,
- Determine the type of commodities being transported across borders by road,
- Determine passenger transport volumes by type of vehicle,
- Determine time spent at border posts in customs and immigration procedures; and
- Determine the effect of changes in legislation

and regulations on the facilitation of cross-border traffic.

In the meantime transit times between some of the major regional trading centres are as indicated in Chart RD1. These times include collection, loading, travel and unloading at destination. The transit times between Johannesburg and Harare, Harare and Lusaka, and Harare and Beira can be reduced to almost a half by improving on time spent at borders going through customs and immigration procedures. A Task Force has been set up to look into ways of simplifying the border crossing procedures and therely reducing the crossing time.

3.2 Civil Aviation

(a) Background to the Analysis

The performance indicators used in this report for the aviation sub-sector give both the partial and total factor productivity levels and trends for the SADC airline industry compared to the rest of the world

Data continues to be delayed for this annual assessment and in some cases it is not available at all This makes it difficult to provide the desired overall regional performance analysis and overview To overcome this, other sources of information, such as the Air Transport World magazine, have been consulted and/or careful approximation made.

This year's performance reporting concentrates exclusively on the globally-used traffic performance indicators which were introduced in last year's report. Inter-SADC passenger carried by SADC airlines as a measure of airline performance is no longer used.

(b) The Global Scene

In 1993, several important events took place in aviation globally which have broad implications and lessons for the SADC Aviation industry for 1994 and beyond Attempted retrenchment in American Airlines and Air France produced turmoil which left the labour movement stronger In China a strong airline industry began to emerge while in Russia the once monolithic Soviet airline, Aeroflot, disintegrated In the Maghreb and the Middle East airlines moved toward cooperation, while in Europe the Alcazar effort to build a KLM/SAS/Swissair/Austrian consortium which could effectively compete with the megacarriers, collapsed Meanwhile, competition heightened in Asia

New civil aviation policies in some regions, particularly the introduction of the "Third Package" in the European Union (EU), pose new challenges to existing regional policies and call for new business approaches and relations Worldwide, airport and airway congestion will worsen as traffic grows. Environment pressures will become more pronounced as nations airports push for Stage 4 noise restrictions and sharply reduced aircraft emissions

The world airline industry continued to suffer losses in 1993, a trend which has been experienced since 1990 The 1993 losses are estimated at US$ 4.1 billion.

As regards the future global outlook, the world aviation industry is, in 1994, expected to post a net profit of US$ 2 billion Revenues are expected to rise by 10% due to the projected increase in passenger traffic by 7% and freight traffic by 6% Overcapacity is expected to worsen in 1994 with the net addition into service of more than 80 jets following last year's addition of 85 However, in the long term capacity is expected to level off and even decline at some large carriers. The massive aircraft order cancellations and deferrals in the past two years may set the stage for capacity shortage in the near future, possibly raising the price of aircraft as well

Although favourable financial results are foreseen, with reasonable profitability projected in the global arena in 1995, the low traffic, overcapacity, poor yield and high unit costs have to be seriously addressed by the management to sustain the emerging positive trend. While the projected profit will not be enough to repair the damage of the previous losses or for reinvestment, it will, unfortunately, also prompt demands for salary increases and beckon heavy taxation. Unable to cope with all this, even some big carriers may be expected to shrink in both size and stature

(c) **SADC Airlines Traffic and Financial Productivity**

Table AT1 shows various traffic and financial performance parameters for the SADC national airlines as a whole for the years 1985 to 1993 These include passengers carried, Revenue Passenger Kilometre (RPKs), Available Seat Kilometre (ASKs), Aircraft Fleet Value, Passenger Load Factor, Operating Results, Revenue Expenditure (RevEx) ratio and RPK per employee These are graphically elaborated in Charts AT1 to AT8 in which the performance of South African Airways and the world airlines have, in some cases, been included for comparison.

Passengers Carried

Chart AT1 illustrates passenger traffic trends for the SADC airlines, South African Airways and the world airlines for 1983 to 1993 SADC airlines suffered a gradual reduction in passengers over the entire eight year period ending with 13.25% less passengers in 1993 compared to 1985 South African Airways, which carried almost twice as many passengers as all the SADC airlines, suffered the same fate from 1989 onwards. The global picture, on the contrary, depicts continuous growth throughout the eight years except 1991. The air transport liberalisation and political developments in South Africa and, consequently, the introduction of more airlines and direct flights between Johannesburg and the rest of the world must have shifted passengers from SADC carriers to others. On the other hand, the decline in 1991 and 1992 may be in conformity with the global decline following the Gulf war

Revenue Passenger Kilometres (RPKs)

The combined RPKs of SADC airlines showed an average annual growth of just over 1.4% between 1985 and 1993. As Chart AT2 shows, there was a decline from 1985 to 1987, followed by positive growth from 1988 to 1991, before another decline from thence to 1993 In 1992 the world generally enjoyed growth after the 1991 reduction due to the Gulf war In absolute terms, the SADC RPKs have shrinked from 4 456 billion in 1991 to 3.71 billion in 1993 This implies reduced intercontinental effort in passengers carried and/or flight frequency by SADC airlines

Passenger Load Factor

Combined, the SADC airlines maintained an average Passenger Load Factor (PLF) of above 60% during the 1985-1991 period compared to the estimated Break-Even Load Factor of about 61 5% In 1992 the PLF dropped to 57 54% It deteriorated further to 56 01% in 1993. This could be the result of a combined effect of the introduction of bigger aircraft, increased flight frequency and/or poor traffic performance due to poor marketing and/or unrealist pricing

Freight Carried

The amount of freight carried by the SADC airlines increased gradually from 17,304 ktons in 1985 to 45,949 ktons in 1991 before declining to 41578 ktons in 1992 In 1993 there was a further decline to 37,054 ktons Chart AT3 also shows that the amount of freight carried by the combined SADC national airlines had, until 1992, been increasing to catch up with that

carried by South African Airways. It should, however, be noted that the SADC statistics did not include freight carried by Affretair of Zimbabwe.

Fleet Value

The combined SADC aircraft fleet value has almost tripled during the last eight years largely due to re-equipment in some airlines. Reduction in passenger numbers, Passenger Load Factor and RPKs, while fleet value and ASKs have been increasing, imply problems in the marketing area and general management of these airlines.

Labour Productivity

Retrenchment and restructuring attempts in some SADC airlines have gradually and consistently reduced the level of staff from the 1988 peak of 14318 to 11484 in 1993, thus raising labour productivity from 235,000 RPK per employee to 320,000 However, this is still very low compared to 800,000 of South African Airways, 1,263,720 of British Airways or 2,607,520 of Singapore Airlines It is clear from these figures that the SADC airline industry is overstaffed.

Revex Ratio

The revenue to expenditure (Revex) ratio is the bottom line, so to speak, in the assessment of the performance of the airline industry The Revex ratio achieved during the eight years is better than that achieved globally (see Chart AT6, being constantly slightly above 1 0 except for 1990, 1992 and 1993 This implies slight contribution or operational surplus in the SADC airline industry taken as a whole, although this was not enough to offset other massive costs including depreciation and financial costs Chart AT5 depicts a three year trend in individual airlines, which shows that most of them operate at a loss.

Yield

Compared to the rest of the World and to South African Airways (Chart AT7) the SADC airlines exhibit high yields which reached a peak at about 20 7 US$ cent per RPK in 1987 before portraying a trend to reduce to the world average. The implication is that it costs comparatively more to fly with a SADC airline than with other carriers probably because SADC scheduled air travel is predominatly business type with minimal use of excursion fares

Summary and conclusion

Despite their high yield figures, signifying high fares, the SADC airlines are losing money because of high operating costs, low productivity, overstaffing, low aircraft utilisation; which are signs of disjointed operations in a small market. These are clear signs of deterioration of the regional airline industry with observed weakening of some individual airlines This worsening situation needs to be arrested before it is too late To overcome these problems, SADC as a community should, like the rest of the world, seriously consider integrating their national airlines into few, bigger and more efficient carriers.

3.3 Telecommunications

3 3 1 Capacity Expansion

(a) **Regional Interconnectivity and International Links**

With the introduction, since the beginning of 1994, of ISD (International Subscriber Dialling) service between Mozambique and Zambia, and excluding links with Angola, the only remaining intra-SADC telecommunications service without ISD is between Malawi and Mozambique This has, to a certain extent, been caused by delays in the completion of the Chimoio (Mozambique) - Mutare (Zimbabwe) microwave link

As regards links with the outside world, the SADC region has credible intercontinental telecommunications services through satellite Links with other African countries are provided through satellite, transitting via Europe and by terrestrial microwave links principally with neighbouring countries)

The utilisation of the Panaftel Microwave links still remain below the desired level Telecommunications Administrations in the region are making efforts to address the situation, through improved maintenance of the links and setting of a competitive tariff structure

(b) **General Capacity Expansion**

Growth in the total capacity of Direct Exchange lines (DEL) continued to be recorded in 1993 as depicted in Table TL1 and Chart TL1. The capacity has grown from a SADC total of about 780,000 DEL in 1992 to approximately 840,000 DEL in 1993, a regional overall growth of about 7 7%.

However, despite this growth the level of telephone penetration, which is a proxy for the level of demand satisfaction, remains one of the lowest in the world. As shown in Table TL1, the SADC regional average penetration was, in 1993, estimated to be 0 70 DEL per 100 persons (DEL/100 pop) compared to the estimated 1992 world average of about 10 48 DEL/100 pop

This level of telephone penetration in the SADC compares very poorly with South Africa, with an estimate of 10 03 DEL/100 pop in 1993, and other regions or continents such as Asia, Americas and Europe which had, by 1992, attained respective average penetration levels of 3.86, 26.03 and 35.36 DEL/100 pop. As regards comparison with the rest of Africa, although the SADC region has a higher level of penetration than the average for Sub-Sahara Africa (estimated at just over 0 40 DEL/100 pop. in 1992), it is significantly lower than the overall average for Africa, which was in 1992 about 1.47 DEL/100 pop

Chart TL2 provides further insight of the level of telecommunication penetration, and an indication of its growth in the recent years, for each SADC country. This shows that Malawi, Mozambique and Tanzania have the lowest levels of penetration, indicated to have been below 0.40 DEL/100 pop in 1993 With the highest population in the region of over 27 million, Tanzania appears to have the most difficult task to expand its telecommunications capacity to achieve a higher rate of growth in telephone penetration

In order to enable the telecommunications sector to significantly perform its crucial role of facilitating business operations and, hence, economic development, it has been established, under the second United Nations Transport and Communications Decade for Africa (UNTACDA II), that the target for the year 2000 should be to attain a minimum penetration of 1 DEL/100 pop. for each African country. Consequently for the forecast total SADC regional population of about 120 million in the year 2000 (assuming an average annual growth rate of 3% of the current estimated population of about 97 million), a total investment of about US$ 540 million will need to be made by year 2000, at an ITU estimated average cost of US$ 1500 per new DEL. This means that there must be an average investment of over US$ 100 million per year in the SADC regional telecommunications system over the next five years It should, however, be noted that this set minimum target will still not enable the region

to substantially get closer to the levels of telecommunications services attained by the developing countries whose economic growth rates are considered as exemplary. For the region to be able to emulate such countries, investments in Telecommunications will need to at least be trebled to an annual average of US$ 300 million.

3 3 2 Telecommunications Sector Performance

(a) Traffic Growth

The growth of the telephone traffic among SADC Member States was about 2% in 1993. Further increase is expected with the recently established terrestrial connection between Gaborone (Botswana) and Blantyre (Malawi), transiting Zimbabwe and Tete in Mozambique. This is partly a result of the consultations held in Maputo, Mozambique in October 1993 between the three SADC

Administrations of Malawi, Mozambique and Zimbabwe to address the difficulties and constrains which had prevented using of the link

As shown in Table TL2 and Chart TL3, about 67% of the total inta-SADC telephone traffic in 1993 was generated by three neighbouring countries of Botswana, Zambia and Zimbabwe Further, traffic exchange between Botswana and Zimbabwe alone accounted for more than 31%. Traffic between SADC and the neighbouring South Africa remained still at about 5 times of the total agregated intra-SADC traffic. A further increase in the intra-SADC traffic is expected after the completion of new links between Mozambique and Zimbabwe, and Namibia and Botswana

However, despite digitalisation of most of the transit switching centres in the region, traffic transitting within the SADC region is still either through Operator intervention or hard patched. For the low capacity routes, which characterise most of the intra-SADC routes, the hard patch circuits are not economically viable and manual operation has proved to be very inefficient. Hence there is need of introducting automatic telephone transit facilities to enable smooth flow of traffic

(b) Institutional and Network Performance

The efficiency of the SADC Public Telecommunications Operators, measured by the number of employees per 1000 lines and Revenue

per Employee, is still much lower than in other parts of the World. Charts TL4 and TL5 respectively depict these two indicators for the SADC countries and South Africa for comparison. Chart TL4 and Table TL1 show that the average level of achievement of the SADC Operators in 1993, of about 41 employees per 1000 DEL, was worse than South Africa (at about 15.7 employees per 1000 DEL) and far below the average for Africa and the world in general at respectively about 25 and 7.6 employees per 1000 DEL in 1992. The latter reflects the level of efficiency in the developed countries such as Europe and the Americas whose 1992 respective average levels were about 6 4 and 5.6 employees per 1000 DEL.

As regards network performance, the poor quality of service of the Local Area Networks, compounded by congestions in some trunk networks, continued to prevent significant improvement of the regional call completion rate, which was estimated to be still below 35% in 1993 against the regional target of 40% for the international service. Most countries in the developed world have attained a call completion rate of above 60% for this service

In order to improve efficiency and increase profitability, some countries and Telecommunications Operators have, under the auspices of the national economic or sector reform, started adressing the issues of overstaffing, organisational and structural reform, cost reduction and improved operational performance as well as tariff structure in use.

Table TL3 and Chart TL6 present an illustration of the tariff structure in use in the SADC countries. Compared to South Africa, USA and Europe, the international calls from SADC countries are generally more expensive than the reverse. This encourages reserve call services which, although cheaper to users, leads to a loss in revenue for the SADC Telecommunications Administrations

3.4 Postal Services

Only limited data on the performance of the SADC Postal Sector for 1993 has been provided so far. Table PO 1 shows information obtained for 1993 as compared to 1992. The available data indicates that there was growth in the volume of mail handled especially the EMS items. (More information is expected to be provided in the near future to facilitate better analysis of the performance of the SADC Postal sector before final publication of this report

in September 1994). Further improvement in the Postal database is expected in the course of implementation of the "Integration Study" as mentioned above.

3.5 Meteorology

Initiatives to systematically collect data and information on the capacity and performance of the Meteorological Services were not pursued substantially due to capacity limitations at the SATCC-TU However, the fact that it has been possible to issue a ten-day "Drought Watch for Southern Africa" Bulletin, a monthly Drought Overview Bulletin, and fore-warnings of impending natural disasters eg. cyclones, it is clear that there is improvement in the level of service provided by the Meteorological Services. However, it is expected that, improved analysis will be possible in the future after the meteorological database is improved also through the implementation of the "Integration Study".

3.6 Performance in Human Resources Development

In the railway sub-sector, more than 2000 person-weeks were spent to train railway officers in the just ended Phase 1 of the SATCC Railway Training Project which has just ended and more is expected in the forthcoming programmes of Phase 2 to start in 1994. Reports show that the programmes were a tremendous success Swaziland, in particular, has reported success stories of utilising ex-course participants to train other people in areas like marketing, thus making the project already bearing some multiplier effect

All the railway administrations have received training equipment and materials through the project to improve their training centres and enable them to take on more advanced training on a national basis. It is the intention of SATCC to develop a machinery to ensure that the various centres build on the capacity to put the materials to efficient and effective use.

The Monitoring and Evaluation Tools for measuring the effectiveness and impact levels of training in the railway sub-sector have now been developed A report on their implementation will be made in the next annual report This work will be closely monitored with a view to extending it to other sub-sectors when resources become available and implementation of recommended training starts.

In the ports sub-sector, training continued to be internalised in member states and run in an ad-hoc basis. The recommended training needs assessment study is expected to address this problem and recommend measures to adopt a regional approach and, where appropriate, to include land-locked countries.

In the meteorology sub-sector, the training activities continued mainly in Mozambique, supported by the balance of funds from the SATCC/FINNIDA/WMO project which ended in June 1993.

4 REVIEW OF THE SATCC PROGRAMME OF ACTION

4 1 General Progress of Programme Implementation

(a) Growth and Implementation

Implementation of the physical capacity building and capital investments projects continued to address the existing missing links in the regional transport and communications network However, the activities of the SATCC-TU and the subsectoral working groups continued to be on efficiency improvement and operational coordination issues Details of the status of implementation of projects in the SPA are contained in the Projects Briefs (which are in the process of being updated now)

(b) Financing Status

Table F1 provides a breakdown of the overall status of funding for the different components and/or subsectors of transport and communications as of December 1993, which basically reflects the 1992/93 status reported last year The information on the status and funding of projects for 1993/94 is currently being updated, an exercise which is expected to be completed before formal publication of the annual report in September 1994

4 2 Surface Transport

4 2 1 Ports and Shipping

(a) Thrust and Growth

The main thrust of ports and shipping activities in the Region is toward improvement of operational performance and raising of efficiency Maritime transport in the SADC region, like many other sub-sectors of the transport and communications industry, is at a cross-roads in the wake of the new economic and political environment in Southern Africa. With the normalisation of trading relations between the SADC member countries and the Republic of South Africa, the choice of external trade routes is being made on the basis of perceived efficiency Therefore, the ports of the region no longer have guaranteed or captive traffic from their traditional hinterlands Consequently, ports in the region must prove to the shippers

and shipowners the advantage of using their ports in "user port performance and productivity" terms. Thus the Ports Authorities in the Region must strive to improve their operational performance and raise their efficiency overall in order to remain competitive and attract cargo to their ports

The restructuring and/or commercialisation programmes underway in both Mozambique and Tanzania have the above- mentioned factors as principal objectives Efficiency improvement measures, to be carried out under the programmes, form part of the restructuring process now being implemented in the region. The programmes also include the introduction of modern cargo handling methods and the adoption of cost-cutting measures.

In the new set-up, ports will need to monitor their performances very closely with a view to improving in operational and overall management efficiency. In this respect, each port will need to identify and establish performance indicators which will be used to monitor its operational performance Efforts are, therefore, being made to secure funding for the implementation of the "Package of Port Statistics Project", which includes the adoption of the performance indicators which have been developed by UNCTAD

One of the major events in the ports and shipping industry in the SADC region was the reversion of the port of Walvis Bay to the Namibian Sovereignty Its development and operational activities should be integrated in the SADC Programme of Action from 1994

(b) **Programme Implementation**

At the Beira port, the container terminal completed its first full year of operation during 1993 Although productivity in terms of container liftings per hour was well below that of other ports in the region, the throughput volume achieved was encouraging The port is expected to make further improvement in its performance as more equipment for the terminal, which is presently on order, is delivered during the first half of 1994. The additional equipment expected includes tug masters, trailers and forklifts. All are required to assist in horizontal transfers of containers in the Terminal

Meanwhile, a new oil terminal for the Beira port has been completed and commissioned in April 1994, thereby further enhancing the capacity of the Port. In addition, efforts to find a permanent solution to the siltation problems experienced by the ports of Beira and Maputo continued. The objective now is to acquire a dredger for use by these two ports.

The Masterplan Study for the port of Dar es Salaam was completed during 1993. The main objective of the Study was to recommend measures which will ensure the provision of sufficient capacity for handling traffic expected to pass through the port up to the year 2004. Following completion of the study, some modifications have been made to the components of the "Development of the Port of Dar es Salaam" Project, in the SPA

The Joint Working Group of Port Administrations, Shipping, Clearing and Forwarding has agreed on the admission of the lake port of Mpulungu in Zambia as a regional port Subsequently, a project has been proposed for the improvement of that port. The European Union has indicated interest in financing the proposed project

As regards restructuring of public enteprises in the ports and shipping sub-sector, a number of lease contracts for the management and operation of specialised terminals in the port of Maputo were either concluded in 1993 or are under negotiation In the port of Dar es Salaam, similar plans are afoot to involve private sector interests in the management of the container terminal The move in both Maputo and Dar es Salaam ports will have greater impact when the general cargo operations (including stevedoring) are also divested and/or privatised.

(c) **Operational Coordination Issues**

Implementation of operational coordination and efficiency improvement activities picked up during the year under review, albeit slowly. A Joint Working Group meeting for Port Administrations, Shipping, Clearing and Forwarding was held during April 1994. A Work Programme for the Joint Working Group covering the period 1994 - 1998 was adopted by the meeting. Some of the activities included in the Programme are

- a brainstorming seminar relating to the development of protocols for the maritime transport sub-sector The seminar will take into account the African Maritime Transport Charter which was adopted by the OAU Member States in December 1993,
- a seminar on the restructuring of public enteprises in order to share information and experience as well as establish a common strategy for the exercise,
- a maritime transport workshop on subsector policy and strategic developments to be organised in conjunction with the European Union,
- development of a shipping policy for the SADC Region;
- ratification of International Conventions relating to marine safety and the protection of the marine environment,
- preparation and submission, by port authorities, of quartely and annual statistical reports,
- development of joint coastal shipping services to take advantage of the increasing level of feedering activities, and
- promotion of multimodal transport operations in the region

4 2.2 **Railways**

Except for the Benguela railway, where project implementation could not proceed because of the poor security situation, implementation of the SADC railways programme continued to progress well elsewhere, for the projects which are funded The following is a summary of the status of lines for which up to date data has been provided

(a) **Maputo-Goba Line**· Rehabilitation work, which cost ECU 15 million, started in late 1992 and was completed in 1993.

(b) **Limpopo Line:** Rehabilitation programme of this line involving USD 120 million was completed in 1993. The speed of trains on this 534 kilometre line is now 60 kilometres per hour and the transit time from Maputo to Chicualacuala is 15 hours

(c) **Maputo-Ressano Garcia Line** A study for assessing rehabilitation needs for the track on this route has been completed Initial estimates indicate that the initial phase will cost USD 2 7 million while the second phase will cost about USD 10.7 million Due to the changed geo-political situation in the region, and as part of integrating South Africa into the region, this project will be included as a project element of

the Maputo port transport system. The Southern African Development Banking has expressed interest in funding this project element jointly with any other co-financier.

(d) **Nacala Line**· Despite SATCC having given priority to the rehabilitation of the last 77 kilometres of this line, not much progress has been made due to the non resolution of the outstanding issues resulting from the conditionalities being imposed by donors before they can fund the project. SATCC-TU will continue its efforts to facilitate the resolution of the outstanding issues and assist in arranging for a Donors' Conference so that the rehabilitation work can be completed

As regards the future focus of actions on the capital investment projects, priority will continue to be given to those which enhance standardisation, harmonisation, coordination and integration of the region's railway network for improving operational efficiency These include projects designed to improve operational management, communications, signalling, wagon control and rehabilitation of existing resources Furthermore, an assessment and prioritisation of railways projects will be made by the SATCC-TU with the assistance of the SADC Railway Administrations and Governments

4 2.2 1 **Merging of the Regional Railway Organisations**

At the 16th meeting of SADC Railway Administrations, held in April 1993 in Windhoek, Namibia, it was provisionally decided that, to avoid duplication and the consequential waste of resources, the Inter-Railway Conference of the Chief Executives of Railways in Southern Africa (IRC), which included Spoornet of South Africa and Zaire Railways, should merge with the SADC Railway Administrations. At the 14th meeting of the IRC, held in Cape Town in August 1993, it was finally decided to dissolve the IRC, and incorporate its activities into the SADC Railway Administrations structures, on the understanding that non-SADC railways will participate as observers in the merged organisation until they can become members. Subsequently, as directed by the Cape Town meeting, the SATCC-TU urgently organised a meeting of Chairpersons of Working Groups under the two organisations to merge them and their agendas. A new Regional Railways Organisational structure which has emerged is described below.

(a) **SADC Railways Chief Executives Conference (SRCEC)**

This supreme body of the new regional railways organisation will be responsible for providing policy and strategic guidance to the railways in their efforts to cooperate, coordinate, standardise, harmonise and integrate all aspects of railway transport system. Special attention will be given to the fields of operations, marketing, logistics, maintenance and human resources development. The ultimate aim is to create a truly regional railway system which is seamless, efficient, cost-effective, and economically viable.

(b) **Committee of Chairpersons (COC)**

This multi-disciplinary Committee, comprises the Chairpersons of the Traffic, Technical and Human Resources Development Committees and a representative of the SATCC-TU The COC reports to the SRCEC and has the following main responsibilities

- Interpretating chief executives' decisions and implementing them
- Assignment of work from the chief executives' decisions to the chairpersons of the committees, and sub-committees
- Preparation of the terms of reference for the specialized committees and sub-committees, clearly spelling out the respective objectives, tasks, composition, timed action or work plans and indicators for measurement of achievements
- Creation and supervision of the specialised and/or ad-hoc committees and sub-committees to ensure that they perform the assigned tasks to achieve the set objectives
- Implementation of the Action Plan as enunciated by the chief executives and other regional efforts aimed at providing a seamless, efficient, cost-effective rail service which is responsive to the market
- Oversee the activities of any steering committees established for regional projects such as the Regional Rolling Stock and Management Information System and the Regional Track Condition Assessment, and report on them to the Chief Executives

(c) **The Specialised Committees**

The specialised Committees, which report to the SRCEC through the COC, are the Traffic, Technical and Human Resources Development Committees. The main role of the committees will be to deal with strategic regional issues in their respective areas and supervise the activities of the sub-committees which deal with regional operational issues as well as specific tasks assigned by the committees

The Traffic Committee has the overall responsibility for the implementation of the Action Plan(AP). In addition to items which are already on the agendas, it will allocate the various elements of the Action Plan to its sub-committees It will also determine requirements or inputs from the Technical and Human Resources Development Committees which will enable the objectives of the AP to be achieve Currently sub-committees under the Traffic Committee are·-

- The Joint Operations Improvement Sub-Committee
- The Joint Marketing Sub-Committee
- The Safety and Hazardous Materials Sub-Committee
- The Finance and Accounting Sub-Committee

The Technical Committee will gear its activities to meet the requirements specified by the Traffic Committee as mentioned above and also advise its training requirements to the Human Resources Development Committee. It will continue, through its sub-committees, to standardise the railway equipment and procedures of repairing the equipment. At present, the sub-committees of the Technical Committee include

- The Mechanical and Electrical Sub-Committee
- The Signals and Telecommunications Sub-Committee
- The Civil Sub-Committee

The Human Resources Development (HRD) Committee will direct its efforts at meeting human resource development requirements for itself, the Traffic and Technical Committees as well as for the railways in general It will continue with its present training activities but will give priority to requirements of the other committees once they are determined.

It is worth noting that the sub-committees, which are the operational organs of the new organisation, are not permanent structures but ad hoc, as they are and will continue to be created for specific tasks or projects and will be dissolved when these are completed

Project steering committees, such as those for the Regional Rolling Stock Information and Management System (RSIS) and the Regional Track Condition Assessment (RTCA) will meet as the projects demand. These committees will report to the COC directly or through the relevant committee depending on their composition and projects' reporting requirements

In the new regional railway organisation, the chairpersons of Committees, not SATCC-TU, will convene their Committee meetings, decide on the agenda in liaison with SATCC-TU, and ensure that the committees provide their own secretarial service

To enhance the effectiveness of the committees there is need for continuity in their membership and chairmanship. Therefore, committee members and their alternates will be appointed for a period of at least two years. The chairpersons should also be elected and appointed for at least the same period

(d) **Role of the SATCC-TU in the New Regional Railway Organisation and the Thrust**

SATCC-TU's role will be advisory to the chief executives, the Committee of Chairpersons and the three committees which deal with strategic issues, providing general guidance where necessary especially on issues related to regional cooperation and integration SATCC-TU will also provide technical input and analytical papers on issues related to the committees' and sub-committees' work and evaluate the overall railway industry as well as the committees' performance

The new regional railway organisation is to be action- or results-oriented, aimed at providing a seamless rail service throughout the region which is competitive, predictable, efficient and cost-effective. The railways of the region have realised that unless they operate as one railway system, which disregards borders within the region, they cannot, effectively compete with road transport in meeting the customers needs

(e) **Review of the Merging of the two Regional Railway Organisations**

It is the feeling among SADC railways that the merger has produced a more focussed, action- and results-oriented, organisation that is better equipped to serve the region's railways in a better way than its predecessors Indeed, a very strong foundation appears to have been laid for a dynamic regional railway organisation. What is now awaited is actual actions and results on the ground to ensure that the railway not only maintains its current market share but improves it as well as profitability.

From the above observations, it is clear that as emphasis is made on regional operational coordination issues and the promotion of the establishment of a seamless railways service to customers, not only is the participation by all railways at these meetings essential but that the continuity of membership of these committees is also necessary Often some railways do not participate at the meetings because they could not get authority from their Governments in time There appears to be a momentum to produce results for railways at a regional level, it is, therefore expected of Governments to facilitate this process by allowing railways to operate commercially within the ongoing process of restructuring It is important to ensure that the railways survive as commercially vibrant and competitive systems, especially taking into account their strategic role in the region's economic development

4 2 2.2 **A Regional Action Plan to Improve Railway Operational Efficiency**

The railways, faced with the new competitive environment and the dramatic decline in the market share as well as the unwillingness or inability of governments to continue subsidising them, have had to come up with a Regional Action Plan for immediate implementation to improve the rail services of the region in order to survive in the competitive market

Firstly, the railways have recognised that they have to respond to the changing transport environment in which they now operate by gearing themselves to meeting current market needs In such an environment, there is no room for an operations-led philosophy of doing business. Secondly, they have realised that, in order to effectively compete with road transport in meeting the needs of the market, particularly for cross-border traffic, the activities of their railways

have to be viewed as part of a regional railway system which has to disregard artificial borders for train operations. Regional operations are therefore increasingly becoming very important.

The Action Plan (AP) is aimed at providing a seamless rail service throughout the region and reducing the cost of international haulage. This entails identification of potential international customers and designing a reliable and predictable rail service to meet each of the identified customer's needs Scheduled international trains have already been introduced under this plan. The details of the Action Plan are as follows:

(a) **Identification of International Customers and Design Appropriate Logistical Plans**

Specific activities in this respect include:

- Conducting market survey;
- Understanding why road haulage is preferred to rail in each case;
- Conducting corridor flow analyses;
- Determining what percentage of tonnages goes by road (expressed as corridor tonne/kilometres), and
- Designing best rail service to convey this traffic (analyze total logistics),

(b) **Improve Predictability of Service**

To achieve this the respective committees or sub-committees must·

- Establish cross border communication needs and systems; and
- Introduce freight booking on trains that connect.

(c) **Offer A Seamless Service by:**

Designing inter-railway process control,

- Implementing and managing the process;
- Investigating customs clearance for traffic as part of a service package,
- Aiming for one stop service concept,
- Ignoring borders as far as possible for train operations and the use of resources, and
- Offering customers uniform service, conditions and limitations over the whole inter-railway routes

(d) **Reduce Cost of International Haulage**

This includes

- Understanding information on the cost of each railway by corridor;
- Sharing facilities and equipment;
- Cost reduction strategies to be on all inter-railway agendas; and
- Establishing common costing basis for international traffic.

4.2.2.3 **Specific Activities of the Committees**

On the basis of the mandate and authority granted to the specialised committees by the Railways Chief Executives, the implementation of specific activities under the AP is already underway or planned. An overview of some of the Committees' activities is given below.

(a) **Joint Marketing Effort**

The Railways Chief Executives have identified joint marketing as one of the key activities for their survival in the competitive environment they now operate in. The overall objective of the Joint Marketing Effort is to establish the current and potential railway market share and devise strategies to increase profitability. A sub-committee under the Traffic committee is responsible for formulating and implementing marketing strategies for each corridor Corridor marketing groups are to formulate service packages which will include contract rates and provision of discounts on return legs Deadlines have been set for each railway to carry out specific activities aimed at achieving this objective

(b) **Joint Operations Improvement**

Another key strategy identified by the Railways Chief Executives concerns Joint Operations Improvement which enables the railways to operate as one system in order to cope with the competition from road transport The activities of the sub-committee responsible for the implementation of this strategy are aimed at providing a predictable, cost-effective and seamless service focused at meeting customer needs The work entails operating corridors on a joint basis and eliminating borders as physical barriers for train operations, operating international scheduled trains for international traffic and providing uniform conditions and

quality of service The sub-committee is in the process of determining the current indices of quality of rail service, and the specific activities to be carried out by each railway at specified times

(c) Safety and Handling of Hazardous Materials

The need to improve safety on railway operations has been emphasized by the establishment of a sub-committee whose responsibilities include determining the current levels of accidents and their causes with the view to reducing them The sub-committee will tackle the issue of standardisation of procedures and definitions and reporting of accidents In addition, the railways should assess the market for and develop the capability to handle hazardous materials so as to make inroads into this apparently lucrative market Identification of measures to be taken by the railways, including training, will also be made by the Sub-Committee on Safety and Hazardous materials

(d) **Standardisation of Documents**

While the Combined Consignment Note is already in use, there is need to pursue the standardisation of other documents and resolve some of the financial and invoicing issues at a regional level The Finance and Invoicing sub-Committee has been established to tackle these and related issues

(e) **Regional Track Condition Assessment Project**

This project, which is financed by Austria, is aimed at measurably improving the quality of the track of the region's railways and ensure future sustainability of the required levels of track condition within the region Implementation of the project, under the guidance of a steering committee composed of the Railways Chief Civil Engineers, has already commenced and is expected to be completed in 1995. The project is expected to provide a comprehensive assessment of the track condition, establish a comprehensive computer data base, and establish a prioritised implementation plan on a corridor basis, together with an estimate of cost of implementing such a plan

(f) **Regional Rolling Stock Information and Management System (RSIS) Project**

The initial phase of this project, which is being financed by USAID, is expected to commence in the second half of 1994 and is aimed at enabling the railways to efficiently manage their rolling stock and provide timely and accurate information to their customers. The project is under the guidance of a steering committee, composed of the railway Chief Traffic Managers and Chief Signal and Telecommunications Engineers. The Steering Committee has already approved the key functions of the proposed RSIS and the Terms of Reference for the Consultants who will carry out the initial detailed design phase of the project.

(g) **Other Activities Underway**

By the end of 1994, the Mechanical and Electrical Sub-Committee should have reviewed all inter-railway business agreements, joint interchange inspections, Carriage and wagon examiners manual, and specifications for parts reclamation Processes These are all aimed at facilitating expeditious movement of international traffic The Civil Technical Sub-Committee, will, by December 1994, establish simplified railway abnormal loads acceptance procedures The Signal and Telecommunications Sub-Committee will review the regional railway telecommunications networks and their integration, including the issues of cost, reliability, safety and trains control systems for corridors, in order to facilitate the implementation of the Regional Action Plan. In addition, the Technical Committee is expected to urgently identify measures to reduce energy consumption and maintenance costs

4 2 2 4 **Review of SADC Railways Restructuring and Commercialisation**

As a follow-up to the railways restructuring and commercialisation initiatives underway in the region, as well as in response to the Committee of Ministers' directive that detailed reporting should be made on the restructuring underway in the state-owned enterprises in transport and communications, a study on the "Review of SADC Railways Restructuring and Agenda for their Commercialisation" was undertaken and its findings were presented at the Railways Chief Executives' Microworkshop held in Maputo on 11 and 12 April 1994

The study involved reviewing railway restructuring already underway, analyzing problems experienced and how they are being solved. The Action Plan designed at the Microworkshop, by the Railway Chief Executives themselves, is now the basis for the further monitoring of railway restructuring and commercialisation activities in the region. The overall objective is to enhance the pace of SADC Railways restructuring or commercialisation so as to improve their operational efficiency and become increasingly financially viable enterprises.

Some of the main findings of the study and observations of the microworkshop are depicted in matrices 1 to 4 in the following areas:

(a) **Authority of the Chief Executive Officers:** Matrix M1, containing information concerning the authority of the Railways Chief Executive Officers (CEOs) shows that, generally, the CEOs have a fair amount of authority to determine revenue on freight operations, but very limited authority to control losses on passenger operations Overall, CEOs have very little authority to motivate their senior managers.

(b) **Composition And Powers Of The Board Of Directors:** Matrix M2, depicting information on the composition and powers of the Boards of Directors of the Railway Administrations, indicates that most of the CEOs have very limited authority because of two factors (a) strong government influence mainly through the Boards, and (b) Boards largely consisting of civil servants and/or bureaucrats and other political appointees who have limited railways transportation or commercial experience. In view of the present limitations to the authority of most CEO's and the lack of professional corporate experience on the Boards, the railways are seriously inhibited in their ability to become commercially oriented and profitable.

It is acknowledged that the usual purpose of a Board of Directors is to guide and assist management by making important decisions by offering broad experience especially in the main areas of business related to the organisation's mission and objectives This means that the Boards should comprise persons who have extensive experience in the relevant areas and who do not have a conflict of interest with the main business of the company.

(c) **Government Policy:** As regards issues which are affected by government policy indicated in Matrix 3, which contains information as provided by the Railways, virtually every railway Administration claims that they do not have a "level playing field" with respect to competition between the railways and the road trucking industry Road transport is perceived not to pay its fair share of road infrastructure and maintenance costs This situation is exacerbated by the fact that government departments do not always effectively enforce rules designed to regulate road transport. The railways unanimously stated that there is an urgent need to develop and implement fair and equitable regional and national ransport policies. The policies should include road user fees, vehicle safety checks, regulation of drivers, and control of overweight vehicles.

As regards legislative changes, five of the ten SADC States do not need to change their existing legislation in order to restructure Two states are introducing legislative reviews to provide a suitable regulatory framework to facilitate restructuring. Three states would need their governing Acts to be reviewed, but nothing is underway or planned Furthermore, restructuring of other industries is taking place in all SADC states and South Africa to varying degrees

(d) **Degree and Pace of Restructuring and Commercialisation:** From Matrix 4 it can be observed that most railways now have established marketing departments or are planning to do so in order to be responsive to the market. Computerised costing systems are in place, underway or planned with a view to the enabling the Railway Administrations to understand their costs and quote contract rates expeditiously. However, very little has been done to establish the current and potential market for the railways, and hardly any joint marketing or operations are being undertaken

In an effort to cut costs, most railways have either already reduced staff, are in the process of doing so or are planning to do so in the near future Very few railways, however, have reduced passenger service in order to cut losses Most railways have not "rightsized" their assets, rationalised their workshops, or restructured their debt a fact which indicates that much still needs to be done in this respect. However, most railways either have organisational restructuring underway or it is planned Marketing and

commercial skills development of staff has a either been done or is planned by most railways. No railway has a productivity incentive scheme, although two are implementing some kind of incentive schemes and three have plans to introduce them

As a conclusion of the microworkshop, the Railways Chief Executives made the following decisions and recommendations, in order of priority:

(a) The pace of implementing Joint Operations Improvement and Joint Marketing strategies is to be increased as a way of transforming the Railways into commercially viable organisations.

(b) Rightsizing of railway resources should be done internally and it is up to each railway to learn from relevant experience of other railways on a bilateral basis. Assistance may be required in rightsizing, especially of the workforce

(c) As a way of addressing the problem of the lack of a level playing field, it was agreed that

- Each railway will urge or lobby its government that, if it is interested in the continued existence of the railways, economic space should be carved out for the railways,
- Lobbying, at both national or regional level, would be aimed at reducing truck size, updating the road user charges to levels necessary to pay for road infrastructure ensuring the transparency of these charges, enforcing road regulations (particularly on overloading), and the clear indication of the granting of an economic space for the railways in the written or unwritten National Transport Policy,
- The problem of the lack of a level playing field should be taken up with the SATCC Ministers of Transport and Communications,
- Railways should concentrate on joint operations and joint marketing in order to meet the challenge of competition from road transport, through the

improvement in the quality of service; and

- Commission national macro-economy studies with respect to establish a level playing field. These should form the background documents for the next Microworkshop which will be on "The Road and Railways Competition". Both regional and overseas Specialists/Consultants with relevant practical experience shall be invited to conduct the above study and organise a workshop with a view to developing the appropriate policy and determining the necessary actions to achieve it.

(d) Government control of domestic freight rates and passenger fares was identified as a problem.

(e) Professional persons with relevant skills and experience should be appointed to the Board in their individual capacity. The Boards should be given more powers to direct the railway management and be fully accountable. The Board should also, inturn, give more powers to the Chief Executive Officers to manage the railways.

4 2 3 Roads and Road Transport

4 2 3 1 Thrust and Growth

As reported last year, increased attention continues to be paid to maintenance of roads and improvement of operational efficiency in the road transport sub-sector. The identified constraints to efficient cross-border transport in the region are being addressed.

As regards maintenance, the main sources for inadequate maintenance have been identified as overloading, inadequate funding, inefficient and inadequate institutional capacity of the roads departments or authorities The capacity of the road authorities to execute maintenance works by contract is constrained by poor road management systems, inadequate manpower in the roads departments and in the civil engineering contracting industry

A review of the SPA in the roads and road transport sub-sector shows that software projects have been receiving less attention in terms of funding than the hardware projects for new construction or rehabilitation. However, there are indications that the situation has started to be addressed.

4.2.3.2 **Progress of Implementation of Specific Operational Coordination Activities**

The following activities were undertaken to improve road infrastructure and the flow of road traffic on the Regional Trunk Road Network (RTRN)

(a) **Overload Control**

The study to identify causes for overloading and measures to be undertaken to ensure effective enforcement of overload control in the region was substantially completed during 1993. This was carried out using experts from five member states assisted by an international consultant and the SATCC/TU. The recommendations which have already been approved at technical Working Group level, include·

i) carrying out a public awareness campaign highlighting the consequences of overloading vehicles for both the road infrastructure and vehicles,

ii) the need to review the legislation on overloading by replacing the current prosecution system with an administrative system based on the payment of penalties;

iii) introduction of weigh-in-motion system aimed at improving the efficiency of enforcement of load limits;

iv) upward revision of penalties in line with the damaging effect of overloading with an appreciable amount added as a deterrent for overloading;

v) the need to review the organisational structure, payment procedures and management of the weighbridge sites to ensure effective overload control operations; and

vi) development of training programmes for weighbridge personnel

These recommendations are expected to be implemented in harmonised fashion in the region after they are approved by the SATCC Committee of

Ministers. As regards enforcement, reservations have been expressed by some officials and donors regarding the effectiveness of the weighbridge system in controlling overloading due to increased incidences of malpractice and corruption This issue is being addressed by the five-country working party, the Working Group and individual member states. Some innovative solutions are already being tried while others are still under consideration These include the contracting of the exercise to Associations of Freight Transporters or private contractors

(b) **Manpower Problems**

The roads departments of the region have in recent years experienced extreme difficulties in attracting and retaining technical staff. In order to solve the problem the technical Working Group on Infrastructure and SATCC-tu carried out a study to identify the manpower problems and solutions. The study has now been completed and its main finding exodus in recent years of a large number of experienced technical staff (managers, engineers and technicians) and the inability to attract new entrants into the roads departments are due to:

i) the lack of managerial authority for and control over the use of resources, modern management tools, and lack of appropriate road condition measurement instruments;

ii) poor conditions of employment,

iii) lack of effective tutelage for newly graduated technicians and engineers.

Some of the solutions which have been agreed upon at the technical level are

i) the setting up of autonomous road authorities with the power to hire, fire and set up salary levels and other benefits for staff,

ii) changing the regulatory framework for roads departments so as to allow for the establishment of independent roads fund using revenues from road user charges;

iii) improvement of remuneration package of technical staff to match that of the private sector,

iv) reviewing the career structure for technicians and supervisors;

v) increasing the regional capacity for training engineers and technicians;

vi) training supervisors so who can work independently,

vii) strengthening of the manpower planning and development functions of the roads departments;

viii) improvement of management structures and management development in the roads departments; and

ix) increasing contracting out of maintenance works.

It is recognised that it will take a fairly long time before the above recommendations are approved and fully implemented by the member states Consequently, a special technical working group has been set up to draw up recommendations of measures which may be implemented in the interim while the longer term solutions are being addressed.

(c) **Road Transit Charges**

On the basis of the work previously carried out by the PTA Secretariat and SATCC-TU, a joint review to establish common charging system to facilitate the smooth movement of intra-regional road transport has been undertaken and finalised. The recommended system incorporates the following fundamental principles and concepts

i) roads need to be preserved through proper maintainance so that they can last their economic life and facilitate smooth and efficient flow of traffic at optimal operating costs,

ii) the promotion of the optimal use of resources in the road transport sector through appropriate charging for their use,

iii) road users, and specifically transit traffic, should pay charges commensurate with their use of the highway infrastructure;

iv) levels of charges must be related to the cost of maintaining the highways used;

v) the charging system should be secure, flexible, simple and inexpensive to implement as well as acceptable to all competing interest groups;

vi) revenue realised from payments made by transit traffic must be utilised in maintaining and improving the transit routes

The study, whose recommendations have already been approved at the technical Working Group level, addresses the following specific objectives which substantially formed the basis of the review.

i) establishment of a common set of principles and methodology for calculating the transit charges;

ii) determination of the levels of charges to be levied,

iii) formulation of a uniform system for charging and collecting revenue;

iv) examination of issues associated with the implementation of the proposals, and

v) proposing a system for the management of revenues collected from road transit charges

Uniform levels of charges for the region have been recommended by the technical Working Group These are proposed to be US$ 5 per 100 km for buses, US$ 6 per 100 km for heavy goods vehicles of less than 3 tonnes, and US$ 10 per 100 km for the larger heavy goods vehicles Implementation will follow after the approval of the recommendations by the Committee of Ministers

Because of the ever changing road design standards, traffic flow patterns and maintenance unit costs, it has been agreed at technical level that the system should be reviewed jointly by PTA and SATCC every three years

(d) **Axle Load and Gross Vehicle Mass Limits**

In 1993 the SATCC Committee of Ministers supported the intention to harmonise axle load limits for the region at 10 tonnes during a transitional period with the ultimate aim of to harmonising at 13 tonnes The Ministers further directed that the timing for the implementation of this interim axle load limit should take into account the cost implication to the member states of such an action In this regard, a consultant has been engaged to look into the matter and his fundings are expected to be out by the end of July 1994

In addition to the above assignment, the technical Working Group has undertaken to determine a harmonised Gross Vehicle Mass Limit for the region in the interest of protecting bridges. Work in this area is expected to be carried out concurrently with the determination of the timing for the implementation of the axle load limit

(e) **Regional Road and Road Transport Research**

During 1993 a start was made at formulating a regional strategy for carrying out research in the roads and road transport sub-sector. Among the objectives of the strategy will be to

i) define the parameters of cooperative roads and road transport research in the region,

ii) develop a common approach to research among the SADC member states,

iii) establishing the level of resources required in the future, and

iv) devise strategies for mobilising the necessary resources.

The development of the research strategy is expected to be completed by the end of 1994 Pending the conclusion of the strategy, a Regional Research Coordination Committee has been set up in the interim to facilitate and coordinate research activities in the region.

The activities of the Committee include

i) the establishment and dissemination of an inventory of completed, on-going and planned research work in the region;

ii) the setting up of a SATCC Research Coordination Entity; and

iii) identification of regional research needs, and methodologies to be applied

Implementation of the Harare-based Transport Research Laboratory (TRL)/SADC Materials Research project started in January 1994 The main aim of the project is to encourage an integrated approach to the economic and environmental use of natural gravels for road construction and maintenance in the region.

(f) **Road Management Systems**

The need increasingly to preserve the region's existing road network has brought about the demand for reliable, comprehensive and accessible information to support the total road asset management programmes being undertaken by road agencies in the region In view of this demand a strategy for the development of Road Management Systems was developed during the year It provides general guidelines for setting up Road Management Systems and the key issues addressed in the process of developing the strategy are:

i) the ability to provide information for monitoring the performance of the road network,

ii) the improvement of the planning, programming and budgeting processes,

iii) the determination of appropriate maintenance and design standards,

iv) the improvement of the acquisition, storage and analysis of traffic data for planning purposes,

v) to improvement of communications between road providers and road users, and

vi) the establishment of linkages between marginal road usage cost and appropriate user charges

All Member States are currently at various stages of developing Road Management Systems based on this strategy

(g) **Route Numbering System**

After extensive consultations with PTA, the Economic Commission for Africa (ECA), Economic Commission for Europe and the Economic and Social Commission for Asia and the Pacific, a suitable numbering system for the SADC RTRN has been determined Due to its flexibility, the numbering system used in Europe and Asia has, thus, been agreed upon at the technical Working Group level

Following approval by the SATCC Committee of Ministers, implementation of the Route Numbering System on the RTRN will take place. In this regard, ECA will need to review its system for interfacing the numbering of the Trans Africa Highway system with that of the RTRN The SATCC-

TU has therefore already initiated contacts with ECA with a view to reaching agreement on this.

(h) **Transit Traffic Facilitation**

During 1993 the following bottlenecks continued to affect the efficiency of road transport in the region, especially cross border transport:

i) varying border customs and administrative procedures including temporary importation permits, temporary export permits, commercial vehicle guarantees, removal in bond removal in transit operating hours

ii) varying levels of transit charges and systems of their administration;

iii) varying limits of axle loads and gross vehicle mass,

iv) poor coordination at the national level and slow dissemination of information to the personnel at the border posts;

v) Conflict between national and regional interests manifested by the insistence, by some member states, on national regulations, procedures and systems in violation of agreed regional ones.

A sub-committee has been set up to study these problems which are also related to the implementation of bilateral and multi-lateral agreements The sub-committee will recommend how to remove above bottlenecks

(i) **Design Standards**

Although more member states continued to adopt the SATCC Road Design Standards and Specifications, their global adoption is slow due inter alia to such factors as the non-availability of documents in member states, lack of familiarity with the documents by the design engineers and other users, and conflict between regional and national policies on road design

Efforts are being made to find soluctions to these problems. For example, arrangements have been made for the production of additional copies of the Design Standards and Specifications which are to be made available for a fee to the private sector, especially consulting engineering firms, and to relevant organisations in the member states Furthermore, a regional seminar for

design engineers aimed at familiarising them with the SADC Design Standards and Specifications is contemplated.

(j) **The Zambezi River Crossing**

The above project is still under consideration and the Permanent/Principal Secretaries of Botswana, Namibia, Zambia and Zimbabwe are due to meet in the near future to review its status

Regarding the maintenance and improvement of the operational efficiency of the existing facilities at various crossing points, work in progress to implement the essential measures which have been agreed. For example, two new 100 tonnes capacity pontoons were put in operation in February 1994 at Kazungula resulting in considerable reduction in waiting time. Zambia is liaising with Botswana regarding the rehabilitation of the ramps on the approaches to the ferries.

(k) **Driver Training**

Drivers Instructors Guidelines are being prepared with a view to improving the quality of drivers and, hence, reduce accidents. The Guidlines are based on the SATCC Manual for Learner Drivers and other related documents which have already been approved. The work of developing the Guidelines is expected to be completed in the third quarter of 1994

Angola is in the process of translating the SATCC Manual for Learner Driver into Portuguese to facilitate its adoption in the Portuguese speaking countries.

(l) **Road Signs and Signals**

Adoption, in a phased manner, of SATCC road signs and signals continued in Malawi, Tanzania, Zambia and Zimbabwe. In the remaining member states, adoption of the Signs and Signals is awaiting the review of the Road Traffic legislation.

(m) **Model Vehicle Driving Licence**

Following the approval by the Committee of Ministers of the Model Vehicle Driving Licence for the region, measures for adoption of the licence have been initiated in Botswana, Lesotho and Malawi. In close liaison with the member states, SATCC-TU is in the process of assessing the feasibility of centralised production of the licence taking into account the consideration of

security printing Adoption of the licence by all member states is expected by December 1995 as scheduled.

(n) **Road Safety**

A Road Safety Editorial Committee, which will also act as an interim Safety Research Advisory Committee, was set up in 1993 The main objective of this Committee is to try and reduce accidents through information dissemination, identification of causes of the accidents and determining solutions for the same A first issue of a Regional Road Safety Newsletter is now expected during 1994

Road safety improvement programmes continued in Angola (for Luanda Province), Botswana, Malawi, Namibia, Tanzania and Zambia, with the assistance of various donors Implementation of these programmes include the institution of mechanisms and systems which will ensure the sustainability of the measures being taken

(o) **Harmonisation of Road Traffic Legislation**

Review of the road traffic legislation in line with the SADC Model Book of Statutes continued in the member states In Angola, Botswana, Malawi, Tanzania, Zambia and Zimbabwe the review at a Ministerial level is completed and the proposed new legislation is awaiting approval by the respective National Assemblies In the remaining member states progress has been reported towards the implementation of the regional objective of the harmonisation of national Traffic Acts at least before the end of 1994.

(p) **Policy Reform**

Some steps have been taken towards reforming the management and financing of roads, especially with respect to road maintenance and rehabilitation, along the reforms being made under the auspices of the Road Maintenance Initiative (RMI) of the Sub-Sahara Africa Transport Programme (SSATP) Notable among the member states that are ahead in terms of policy reforms in this respect are Zambia, Zimbabwe and Tanzania

For example Zambia and Tanzania have or are in the process of setting up Road Boards which will direct the management of roads programmes including dedicated Road Funds Membership of the the Boards includes the private sector The

dedicated Road Fund will be subjected to an independent audit. In addition, Tanzania has made considerable progress towards the setting up of an autonomous Roads Authority. So far results from these policy reform efforts are yielding desired outcomes, especially in improved road maintenance. However, it is clear that the reform process requires substantial political support.

In order to support policy reform efforts already underway and facilitate exchange of experiences and knowledge, a Regional Restructuring Seminar on Road Management is planned to be held in the first half of 1995. This will be undertaken in collaboration with the World Bank through the RMI project

4 3 Civil Aviation

4 3 1 Thrust and Growth

Due to the poor state of the regional aviation industry, SATCC's major activity is the coordination of actions that ensure the availability of reliable and efficient services and infrastructure, as well as the development of regional manpower needed for efficient management.

A number of measures are being taken to realise the above objective The necessary infrastructure for the improvement of services is basically already in place. The priority action areas, therefore, include operational coordination and industry restructuring to bring about integration and attain desirable levels of efficiency and economic gains. This calls for the optimal utilisation of existing resources through the operation of lean and integrated airlines, which while being separate entities, cooperate so closely as to blur their separate identities.

During 1993/94, the implementation of the Long Term Regional Civil Aviation Strategy started with the finalisation and approval of the Terms of Reference for the proposed Southern Africa Regional Air Transport Authority (SARATA) The aim of establishing SARATA is to bring about a change in civil aviation policy by consolidating the regional air traffic market with a view to enhancing economic gains and promote safety and efficiency The Draft Accord for establishing SARATA is being processed for the approval of the relevant Regional Authorities.

Another reform which is necessary for a better future is the transformation of air transport entities into commercially operated enterprises. To this end, an airline restructuring seminar is scheduled for the

latter part of 1994. The seminar will address five key issues (i) global civil aviation changes and how they affect SADC airlines, (ii) airline ownership alternatives, (iii) regional cooperation and regulatory integration, (iv) management autonomy and accountability and (v) capital structure and financing options.

4 3 2 **Ongoing Co-operational Activities**

The civil aviation committee meetings continued to provide the important avenue for fostering co-operation Eight such meetings, including two of the newly-formed Airports Authorities and Civil Aviation Training and Development committees, took place during 1993 The reassessment of all the committees, including the rationale for their existence, their objectives and benefits vis-a-vis costs, is the subject of a current study The study is expected to propose the best and most cost-effective course of action

Generally, there is willingness to co-operate in the many areas available within the airline industry There is also goodwill and evidence of potential acceptability of regulatory integration The following activities provide clear evidence of this positive development

(a) **Integration of the Flight Network**

Persistent effort in this activity has created a better connected regional network By the end of 1993 there were six flight misconnections which have since been eliminated The timetables for Summer 1994 cited only two misconnections which have been reconciled With this accomplishment, the airlines' efforts are now directed towards timetable integration to ensure that all SADC points are adequately served and well connected with other regions The revival of the AFRAA Scheduling Committee which has been meeting back-to-back with the SADC Scheduling Committee is intended to achieve this.

(b) **Joint Fuel Purchase**

Joint negotiation of fuel prices at various locations beginning with Johannesburg, is ongoing under the leadership of Air Botswana The Task Force for this purpose will contact AFRAA to gain further knowledge and share their experience in this area After Johannesburg, the exercise will be carried out for other foreign airports Within SADC, each national carrier will negotiate at its country's airports on behalf of the other airlines

(c) **Joint Promotional Strategies**

Recognising the importance of market orientation as a management strategy and a vehicle for their turnaround, the SADC airlines have prioritised marketing issues in their collaborative approach. Some measures taken in this regard include the adoption of the SADC Airlines logo and slogan, which has already been introduced by some airlines on their equipment and stationery. The next stage will be to design and implement a joint promotional and marketing strategy with customer needs in mind.

(d) **Search and Rescue (SAR)**

Flight safety in general continues to receive special attention The need to exchange information and assist one another in case of an aircraft accident has led to the thought of establishing of a regionally coordinated Search and Rescue system In this regard, member states have been urged to establish national SAR organizations with clearly spelt-out SAR Plans and procedures as part of their national Civil Aviation Acts Project **AAA.4.17 -Establishment of Local User Terminal for SARSAT/COSPAS application** has also been approved and is now included in the SPA However, no funding has yet been secured for the project

(e) SADC Immigration Channels

Despite the decision to create separate immigration clearance channels for SADC nationals at all SADC international airports by 1st April 1993, no airport has done so principally because the abolition of visa requirements for SADC nationals is considered a prerequisite for the efficiency the separate immigration channels. The abolition of visa requirements among SADC member states is envisaged in the context of the proposed protocol on free movement of people in the region.

(f) **Preparation for Joint representation on the ICAO Council**

As per agreed procedure, Angola is expected to submit the details of its proposed candidate to the SATCC-TU before 31 July 1994 If Angola fails to do so, Botswana, as the next country alphabetically, will be requested to propose its candidate. Furthermore, logistical, administrative and financial preparations are being made in consultation with the Tanzania

representative to the council and with AFCAC, which is responsible for coordinating African candidatures to the ICAO Council

(g) **SADC Joint Flight Calibration Unit**

As it has been proposed to establish a Flight Calibration Unit to be co-owned by all SADC Member States, a feasibility study is being arranged to analyse in detail the benefits and costs, ownership arrangements and a relevant management structure.

(h) **CNS/ATM seminar in SADC organised by ICAO**

ICAO has recently organised two seminars on CNS/ATM outside SADC region. Attendance by SADC member states in these seminars has, however, been either poor or non-existent possibly due to distance and associated costs ICAO has, therefore, agreed to hold a similar seminar in the SADC region during the first quarter of 1995

(i) **Southern Africa Air Services Transit Agreement**

A two-year task of formulating an agreement that would grant SADC carriers the right to exercise the First and the Second Air Freedom Rights within the Community has been completed This draft Agreement is to be subjected to further scrutiny by legal experts before being processed for approval by the relevant authorities

(j) **SADC Civil Aviation Pouch**

Arrangements are ongoing to establish a "SADC Civil Aviation Pouch" to facilitate mail movement among the civil aviation organisations.

(k) **ICAO Designated AFTN and ATS/DS Switching Centres**

Because of the financial difficulties experienced by Malawi, Tanzania and Zambia in implementing the AFTN switching centre at Lilongwe and the two ATS/DS switching centres at Dar Es Salaam and Lusaka, it has been agreed that, in the absence of donor funding, these switches should be funded jointly by the member states Therefore, further work is ongoing to determine the needed investment and a method of sharing the costs and revenues, before the final recommendation is made

(l) **ATS Letters of Procedure**

SADC has adopted the term "ATS Letters of Procedure" to replace "Letters of Agreement" since the legal connotation of the latter term might have been contributory to the reluctance in signing the ATS procedures.

(m) **Airworthiness/Aircraft Maintenance Engineer**

Work is ongoing for the establishment of detailed information on qualifications and experience required for standardisation of the titles "Aircraft Maintenance Engineer" and "Airworthiness Engineer" to apply throughout the SADC region. These will replace the titles "Airworthiness Surveyor" and "Airworthiness Inspector" respectively in countries where these are in use.

(n) **Embarkation/Disembarkation Immigration Cards**

The ICAO Embarkation/Disembarkation Immigration Card has been adopted for use as a common card within SADC

(o) **Collection of Airport Service Charge**

It has been recommended to use the term "Passenger Service Fee" instead of "Airport Tax" to reflect the purpose of this fee and avoid the tax implications in the old term. Its methodology of collection is at present to be left to the individual DCAs in consultation with their national However, this should take into consideration the necessity of facilitating passenger movement and the need to generate revenues so as improve services Furthermore, it is urged that the money so collected should be set aside for improving airport services

4 3 3 **Progress on Implementation of Projects**

The SATCC civil aviation projects did not attract satisfactory donor support this year despite their important contribution to safety, regional development and international travel.

Following the streamlining and reduction of the civil aviation projects that was done in 1992, further attempts are being made to do the analytical projects in-house, using whatever resources that can be mobilised The following projects are expected to be accomplished in this manner:

AAA.4.03 Coordinated Use of Aircraft Maintenance Facilities

AAA.4.14 Feasibility Study of a Flight Safety Services Unit

AAA.4.10 Joint Use of Widebody Aircraft and Sub-Regional Cooperation

4 4 Telecommunications

4 4 1 Thrust and Growth

No new projects have been proposed for inclusion in the Telecommunication component of the SPA. However, some modifications have been made to the existing projects in order to accommodate the actions required to implement recommendations emanating from initial study and/or survey phases of the projects

As reported last year, a long-term strategy and programme of action for the telecommunications sector is to be prepared on the basis of the existing programme, the ongoing restructuring work and policy reform and the findings of the Regional Transport and Communications Integration Study for Southern Africa whose main results are expected in 1995 However, the following two important events have produced the general policy guideline and a framework for an interim strategy and programme for the sector

(a) **Telecommunications Policy for Africa** The draft African Green Paper", prepared by a group of African experts under ITU's supervision, was distributed to all African Telecommunications Administrations, as well as to regional and international organizations for comment. Further, discussion of the paper took place at two meetings of the African Information and Telecommunications Policy Study Group (AITPSG), which were organized by the ITU

(b) **The World Telecommunications Development Conference (WTDC)** which was held in Buenos Aires, Argentina in March 1994 adopted the Buenos Aires Plan of Action which aims at the reduction of the gap in telecommunications development between developed and developing countries

In line with the above mentioned developments, SATCC-TU has focussed its attention on the following issues

(a) the restructuring of the SATA Conference to render it more effective,

(b) the identification and prioritisation of network and operational issues (such as missing links and tariffs) which need to be tackled to improve the performance of the sector,

(c) the strengthening of the capacity of the telecommunication section of the SATCC-TU, to better respond to regulatory, policy and organisational reforms, as well as development issues and strategies; and

(d) the completion of ongoing studies and projects.

4.4 2 **Progress of Programme Implementation**

4 4 2 1 **Capital Investment Projects**

As regards capital investment projects, efforts continue to be made modernize the networks in order to respond to demand and to improve the quality of service offered. Angola and Mozambique have completed the implementation of the domestic satellite networks which are operating as the only backbone systems in these countries. Zimbabwe has continued with the implementation of its digitalization programme while Tanzania started its major Telecommunications Restructuring Programme which includes the upgrading, expansion and modernisation of the network in addition to policy and organisational reform

The implementation of the cross-border link between Mutare (Zimbabwe) and Chimoio (Mozambique) has been delayed since 1991/92 due to financing difficulties. Mozambique, as the coordinating country, is negotiating the financing of this important link with NORAD. Although an implementation schedule has not yet been finalized, it is, nonetheless, expected that the project will be completed during 1995.

Negotiations with NORAD and SIDA regarding the implementation of the link between Namibia and Botswana are also in progress This link will provide Namibia with access to the Regional Panaftel network

4 4.2.2 **Operational Coordination Activities**

Operational coordination activities continued to be directed towards the improvement of the quality of telecommunications service and the optimisation of the use of the regional network and other telecommunications resources. Studies, seminars and working group meetings have been organised to address issues related to regional network constraints and operational improvements The status of implementation of specific operational coordination activities during 1993/94 is indicated below:

(a) **Restructuring of the SATA Conference**

The SATA (Southern Africa Telecommunications Administrations) Conference is still the main and only forum for coordination of the SATCC telecommunications operational activities. The Conference, however, needs restructuring to become an effective instrument for the promotion of regional harmonisation, coordination and integration of telecommunications development and policy Consequently, a study on the Restructuring of SATA is to be undertaken during the second half of 1994 The study will be undertaken by a regional consultant, with backstopping from an international contracting firm. SATA has accepted the offer of Telkom South Africa to provide a consultant to join the team The findings of the study will be presented to and considered by the Chief Executives of the telecommunications operating and regulatory entities at a special meeting to be convened during the second half of 1994

(b) **Data Communications Strategy Study for the SADC Region**

The study on data communications strategy for the SADC region, executed by SATCC and Betelcom with financial support from the Belgium Government, was completed in the first quarter of 1994 The SADC Telecommunications personnel actively participated in the study through special Working Group meetings organized during the course of project execution The growth of telecommunications Services in the three countries of Botswana, Namibia and Zimbabwe, which are already operating packet switching network, was used in modelling the network scenarios considered in the feasibility study

The study concluded and recommended, as the most appropriate strategy to develop the SADC regional data communications, the implementation of a packet switching network in each country which do not yet have such network. The packet switching network so developed in each country must be fully interconnected to the region, sharing a transit node and international access. For this purpose, the critical transmissions links to the regional transmission backbone (which will constitute the regional highway) have been identified and proposed for upgrading

It has also been noted and acknowledged that the tariff structure and effective marketing of such a service plays a very important role in its

development Consequently, recommendations have been made on how the service should be organized and the relevant training required to be conducted regionally

(c) **Frequency Management and Radio Monitoring**

As a complement to the country reports which were finalised and considered in early 1993, a Regional Report on Frequency Management and Radio Monitoring was produced by Telestra of Australia, with financial support from AIDAB The Report, which provides the overall regional perspective, was presented and discussed in the Working group meeting convened in Windhoek, Namibia, on 14 - 16 March 1994.

The meeting recognized that SADC member states need to strengthen their frequency/spectrum management coordination in the region in order to effectively respond to the changes taking place in the region and worldwide Consequently, the following actions have been recommended

- the establishment of a Radio Spectrum Management Unit (RSMU) within the SATCC-TU to more effectively undertake the coordination activities and provide the necessary leadership in the efficient management and use of the spectrum,
- the installation of a Radio Direction Finding Facility in Namibia, which will triangulate with two others, for example in Mozambique and Malawi, to enable the identification of sources of interference;
- maintaining the Regional Working Group formed during the course of the implementation of the study, as a formal specialized coordinating forum which will meet regularly; and
- the establishment of the regional technical standards and engineering support facilities

In order to accommodate the implementation of the recommendations, some projects have had to be modified Such modifications are reflected in section C.9 below.

4 5 **Postal Services**

4.5 1 **Implementation of Postal Projects**

Implementation of the Management projects in the SADC Postal Development Programme have been given the highest priority Thus, some funds have been secured

or are under negotiatiors for the implementation of the following projects:

(a) **GM2 : Organisational Restructuring of Postal Administrations** This will involve the collection of data and preparation of guidelines or Terms of Reference for the restructuring exercise

(b) **GM3 : National Postal Master Plans** Assistance is to be provided to some Postal administrations.

GP2 : Mail Conveyance. A study on the EMS Tracking and Tracing is to be undertaken

A study is also expected to be undertaken on the designing and printing, in the region, of postage stamps for the SADC Postal Administrations The majority of SADC Postal Administrations have their postage stamps designed and printed at high cost overseas The Printing of postage stamps could be localised within the region by pooling resources and, thus, lead to the creation of employment opportunities.

Projects **GM1 on General Policies for Management of Autonomous Postal Administrations and GM2 on Organistional Restructuring of Postal Administrations** are closely linked GM1 is to be implemented under the auspices of the SATCC-TU, as a common effort by all the Administrations This will form the basis for implementating GM2 by the Member States individually

4 5 2 **Postal Operational Cordination Activities**

The tenth meeting of Directors of Postal services in the SADC Region was held in Maputo between 22-24 February 1994 South Africa Post office was also represented A stamp exhibition was also organized in conjunction with the meeting and Mozambique, South Africa, Sweden and Swaziland participated in the exhibition

Six SADC countries participated in the third conference on the development of the Expedited Mail Service (EMS), which was held in Nairobi, Kenya from 23 to 25 August 1993 In total, 28 African countries were represented at this conference which was a follow-up to previous EMS conferences in ABUJA (1990) and LOME (1991) The conference adopted a resolution in which specific measures are to be taken by all member states of the Pan-African Postal Union (PAPU), to improve and accelerate the delivery of EMS items in both domestic and international networks The conference further adopted a recommendation on the proposed payment of terminal dues occasioned by mail imbalances between Postal administrations The

proposals will be decided upon during the forthcoming Universal Postal Union Congress scheduled to be held in August/September 1994. It is anticipated that the SADC Region will be adequately represented so as to take a united stand on issues affecting the provision and expansion of Postal Services at national, regional and international levels

The 8 sub-committees of the postal sector, which were established to look at specific areas of operational weaknesses and to make recommendations on how these weaknesses may be corrected, have been meeting on an ad hoc basis. It is hoped that all sub-committees will meet in 1994/95 so that each subcommitte's report may be presented to the next meeting of Directors of Postal Services in February 1995. It is significant that as the Postal Protocol to the SADC Treaty is being developed, a multilateral agreement should be developed for signature by all Postal administrations within the SADC Region. Such a multilateral agreement, when it comes into force, will standardise and enhance the provision of Postal Services in an integrated approach

The meeting of Directors of Postal Services was presented with the reports on marketing, improvement of quality of service (conveyances times and elimination of delaying factors for regarding surface mails to and from landlocked countries) and management tools improvement. It is expected that the next meeting of Directors of Postal services will be presented with interim reports by the sub-committees on counter services improvements, Training, Expedited Mail Service (EMS) and philatelic services

4 6 <u>Meteorology</u>

4 6 1 Investment Programme

The SATCC Meteorology Programme forms the basis of meteorology development in the SADC region The programme aims at the continued strengthening of the National Meteorological Services to ensure that they are able to provide accurately and timeously information related to weather and climate for the benefit of the users and, hence, the overall economic and social development activities. The main outputs which are expected to result from the implementation of the programme are

(a) a well-maintained network of surface and upper air observation stations to enhance the preparation and provision of user-oriented products for agriculture, aviation, water resources and energy activities;

(b) operational data processing facilities to enhance the preparation and provision of products and information,

(c) operational meteorological telecommunications facilities for the rapid and reliable collection, exchange and distribution of the required observations data as well as processed products;

(d) adequate trained personnel at operational, application, research and management levels; and

(e) the establishment of the Regional Drought Monitoring Centre (RDMC) in Harare, Regional Telecommunications Hub (RTH) in Lusaka and the Regional Maintenance Facility (RMF) in Gaborone.

The current investment programme in meteorology consists of 15 projects with an estimated total cost of USD 24 7 million The foreign cost of the total investment is USD 24 4 million and the funding gap amounts to USD23 9 million or 98% During the reporting period no response has been forthcoming except for the ongoing negotiations with the Belgian government for the funding of RDMC-Harare. Consequently there has been very little implementation of the major activities in this programme during the report period

4 6 2 **Operational Co-ordination Issues**

The operation and co-ordination of the meteorology sector is guided and monitored by the annual meetings of the Directors of Meteorological Services of SADC member countries.

The Tenth Annual SATCC Meeting of Directors of Meteorological Services in SADC countries was held in Maputo, Mozambique from 15 to 17 March 1994 The meeting was also attended by representatives from the South African Weather Bureau, the World Meteorological Organization (WMO), the International Civil Aviation Organization (ICAO) and the Finnish Meteorological Institute (FMI) as observers The meeting made decisions and recommendations on the following issues:

(a) **SATCC Ten Year Meteorology Programme**

A draft Ten Year Meteorology Programme for SADC Region (1995-2004) was reviewed It was noted that the document contained programme of action to strengthen the meteorology subsector and its effectiveness in supporting the weather sensitive economic sectors in the region The identified objective and necessary strategies for development provide suitable guidance to the SADC

member states and National Meteorological Services on the desirable framework for future development The document was, therefore, approved in principle Consequently, the draft programme is to be finalised taking in account all the comments from the interested parties.

(b) **Closure of Australia OMEGA Navigation Station on 30 September 1994**

The meeting learnt with regret from the Australia Maritime Safety Authorities that the Omega Radio Station in Australia will close on 30 September 1994, due to cuts in funds by the USA Government and the unwillingness of the Australia government to operate the station The Omega station is critical to the computation of the upper wind speed and direction. These parameters are required at the national, regional and world meteorological centres for computation of meteorological products.

There are altogether 30 Vaisala Digicora Systems in operation in SADC countries including South Africa which depend on Omega station in Australia. The closure of the Australian beacon will render the 30 Digicora upper air systems in the region useless This constitutes an investment of USD 200,000 per station and operating cost of USD 400 per days Considering the importance of the Australia Beacon to SADC Countries in particular, and the world in general, an appeal statement has been issued with a view to convincing the Australia and USA Government to delay the closing period of the beacon.

(c) **Regional Telecommunications Hub-Lusaka (RTH)**

Although the RTH-Lusaka has been automated since October 1992 and is capable of providing all the SADC Countries with the necessary meteorological information and products, many SADC Countries have yet to establish links with Lusaka The meeting once again urged those countries which have not yet connected to RTH-Lusaka to take the necessary measures to do so.

(d) **Regional Maintenance Facility - Gaborone (RMF)**

Despite the successful operations of the Regional Maintenance Facility in Gaborone since March 1993, only Zambia has been able to send their equipment to be repaired and calibrated at the centre The reasons for low participation were attributed to non availability of the modalities

of using the centre. Working modalities of the RMF Centre, which were developed by SATCC/TU and the Botswana Meteorological Department, have now been agreed upon.

(e) **Drought Monitoring Centre - Harare (RDMC)**

It is acknowleged that the programme of staff secondment to the DMC by the host and participating countries has continued to be the backbone of the successful operation of the centre It is also accepted that there had been a commendable improvement in the quality of the centre's products and, in particular, the Ten Day Drought Watch Bulletin for Southern Africa Member states and the RDMC have been urged to further improve data collection through the use of E-Mail communication system

Efforts are still being made by SATCC/TU, WMO, RDMC and the host government of Zimbabwe to obtain additional funds for the continuation of the operation of the Harare RDMC Negotiations are ongoing with the Belgian government and UNDP, who have shown positive indications The two donors have, however, raised questions of dublication between the activities of the RDMC and those of the Regional Early Warming Unit (REWU) both located in Harare, and the sustainability of the centre once the donors' contribution comes to an end In this respect, SATCC/TU has been mandated to work out modalities for eventual incorporation of the centre into the SADC Structure and take up the matter of dublication with the appropriate authority in SADC, in order to sort out the apparent misunderstanding

(f) **African Centre for Meteorological Application and Development (ACMAD)**

WMO has provided information concerning the ACMAD, particularly with regard to the ratification of the ACMAD Constitution and payment of contributions It has been agreed that every effort should be made by SADC Countries to ensure that they ratify the ACMAD Constitution, since this is very vital for to the operation of the Centre

4 7 **<u>Human Resources Development (HRD) Programme</u>**

C.7.1 **Overview**

The mounting pressure for the Transport and Communications sector to transform itself into a competitive, efficient and commercially viable service

industry, through institutional reforms, has given an even greater impetus and placed the human capital investment and development on the top of the regional agenda of action. To realise and sustain these efforts, the sector, therefore, requires to optimise the development and utilisation of its human resources by increasing their productivity through better education; skills development in management, technical, entrepreneurship and appropriate technology and motivation.

At present, shortages of suitably trained professionals, managers, entrepreneurs and policy analysts, as well as an environment which is not conducive to the full application of skills are among the most critical constraints to the development of the transport and communications industry

The major thrust in the next decade will, therefore, be to gain better understanding and skills on the reform process. This will be achieved through the engagement of governments, donors, managements and operators in dialogue through seminars and or workshops aimed at developing strategies and programmes for removing any constraints to the development process To compliment these initiatives, deliberate actions need to be taken at national and regional levels to build/strengthen, coordinate and harmonise human resources development policies and programmes. The Technical Unit is expected to perform a central role in harmonising the various regional HRD activities

To address one of the main specific issues of global concern in the sector, restructuring seminars have been planned in each sub-sector. The objective of these seminars is to engage governments, managements and cooperating partners in the review of policy options and reforms to secure commitment and participation in various reform activities. In this context, the various HRD interventions will be so designed as to have some built-in flexibility to address any emerging needs and concerns of the region, with particular reference to implications arising from the restructuring initiatives

To institute measures to optimise the use of the regions' training facilities and resources, a regional system will be established for sharing of materials, course participation, instructors and other training resources to reduce or avoid unnecessary duplication of efforts as well as reducing dependence on external resources

As regards implementation of specific HRD programmes, the lack of resources, in particular funds, continued to retard the overall implementation of the agreed actions in the various sub-sectoral work programmes. Except for the railways, the other sub-sectors are suffering from low or no regional training activity due to the lack of resources arising from the absence of necessary financial support. Notably, the implementation of the Road Traffic and Transport Training Plan has delayed for more than two years due to lack of resources However, it is hoped that some activities will commence in the ensuing year. The component on Senior Management Training has now received financing from the European Union to be executed over a four-year period On the whole, the major thrust will, therefore, be on scouting for resources to support agreed programmes

4 7 2 **Developments and Status in each Subsector**

(a) Ports and Shipping

The Human Resources Development interventions in the ports and shipping sub-sector have and continue to be carried out in the region in a rather uncoordinated manner The activities include, inter-alia, the rehabilitation of the port training schools and maritime institutes in Angola, Mozambique and Tanzania The activities undertaken so far have tended to address individual member country needs

An urgent need to initiate and develop a strategy and plan to implement and coordinate the regional HRD activities, through a quick study, still exists The study should ascertain the current status of training, needs and demands in ports, shipping,clearing, and forwarding in all Member States, including land-locked countries, and South Africa The study should thus, recommend appropriate actions The exercise should include an examination of the existing facilities to determine measures to encourage sharing of facilities and resources through regional cooperation The exercise should also ascertain accessibility to existing maritime training facilities in Tanzania, Mozambique and Angola by land-locked countries

(b) **Railways**

Within the framework of the Southern Africa Development Community (SADC), various training measures in the railway sector have been implemented at regional level and coordinated by the Southern Africa Transport and Communications

Commission(SATCC). Most of these activities revolve around a six-year SATCC Railway Training Project whose main purpose has and continues to be for the improvement of technical and managerial skills in the job performance of course participants on a sustainable basis. This programme complements national initiatives. A total of 308 railway personnel have benefitted so far from this German and Swiss governments supported railway training project. The initial three-year training programme ended in December 1993 with another three-year extension likely to commence in 1994

According to the initial strategy of the project, the core programme includes general management development, the conducting of specialist courses for managers as well as the installation and implementation of the Monitoring and Evaluation System to assess the impact of training on the job performance of the course participants.

As regards the future strategy, apart from continuing with the implementation of the courses, the programme will involve a number of other aspects which include institutional capacity building initiatives at regional and national levels to address These are, inter-alia

i) Enabling the project to become self-sustaining at the end of the sixth-year of donor support by taking measures such as

- Ensuring that enough regional experts, lecturers, instructors and administrators are trained and developed,
- Ensuring that the Railway Administrations recognize and make proper use of the training equipment and materials provided under the project;
- Production and ensuring availability of manuals and course materials to support the application of management skills and job performance, and
- Institutionalising the regional human resources development and training activities coordinated by SATCC This will include the identification and strengthening of specialist training centres for the different categories of training to be coordinated through the engagement of a Regional Railway Training Expert on permanent SATCC/TU

establishment The post will be filled during the second part of 1994

ii) Establishment of Monitoring and Evaluation measures which are essential to support the sustainability of the programme in the medium and long term. The conceptual framework has now been developed, ready for actual implementation It is now possible to embark on the assessment of impact levels of training through consultancy services

(c) Roads, Road Traffic and Transport

Road Traffic and Transport

In the previous report, it was reported that the Implementation Plan for the SATCC Road Traffic and Transport Training Programme was slowly receiving some support to take off The component on senior management training is planned to be implemented with support funding from European Union The specific objectives of the project have been outlined as follows

- To strengthen and improve the performance of the professional cadre of senior managers in the transport carrier operations in the private, parastatal and public sector of the road transport industry
- To strengthen and complement ESAMIs training capability and capacity in this vital field by involving a European Training Institution to provide required Technical Assistance.
- To sustain the training programme after the phasing out of external funding by integrating it within the existing structure of ESAMI and also through establishing training linkages with other relevant regional or national training institutions

A total of 400 personnel are expected to benefit directly from this project The first four-week senior management course is planned for November/December 1994 The courses will be open to the whole road transport industry be it private or public

However, it should be noted that the Federation of Associations of Road Transport Operators have formed a Training Working Group which will, among other things, mobilise resources in order to facilitate and accelerate the implementation of the human resources development programme in the

sub-sector. This group includes the Republic of South Africa.

Road Infrastructure

Concerning the road infrastructure sub-sector, the manpower study has recommended, among other things, an urgent need for governments to relinquish control and establish independent road authorities, leaving them to concentrate on programme planning and contract supervision with reduced responsibility in physical execution of projects HRD regional interventions, which will await the outcome of the decisions to be made on these recommendations, are expected to concentrate on the development of the technical and managerial personnel in the departments or authorities, the development of local contractors and consultants as well as other personnel involved in the support services

(d) **Civil Aviation**

SATCC, in collaboration with ICAO, plans to carry out a study to determine the training needs and develop appropriate strategies and programmes The objective of this exercise is to contribute towards improving skills for enhanced performance and productivity of personnel in the SADC aviation industry Specifically, the project, which is expected to be carried out with support funds from the Nordics, will, inter-alia

- Review and identify training requirements and capability;
- Design training strategy and programme,
- Identify basic course contents for appropriate curriculum development and detailed design of training programmes, and
- Design training programmes for at least two most urgent programmes

(e) **Telecommunications**

Efforts to secure funding to implement some of the actions recommended in the Telecommunications Manpower study report continue Not much progress has been made to date However, NORAD has expressed some interest in financing some components of the recommended programme This is being followed up by the Technical Unit

(f) **Postal services**

Two projects are expected to be undertaken by SATCC to address the HRD issues in the regional

postal programme, namely the upgrading of the Multi-Country Training Centre (MTC) in Malawi and the Development of a Regional Implementation Plan for Management, Supervisory and Clerical Personnel for the SADC Postal sector. In both activities, funding has still not been firmed up. However, negotiations are still ongoing with some donors who have shown interest to assist

While upgrading the MCTC aims at enabling it to offer training courses to the Senior Postal Management personnel, the HRD study is expected to specify the training needs of senior management and operations personnel in the postal sector and formulate a comprehensive regional HRD and training implementation plan The plan should be designed to also ensure the promotion of regional cooperation in skilled manpower supply and use of local facilities In addition, the study is expected to examine the issue of English language training for Angola and Mozambique

(g) **Meteorology**

Essentially, most activities are focused on concluding the on-going training activities as already developed New initiatives are not envisaged until the completion of the ongoing work on the development of the Ten-Year SATCC Meteorology Strategy and Programme for the period 1994 to 2004 This is expected to indicate some areas needing training interventions

(h) **Development of SATCC-TU Staff**

The plan to adopt a systems approach to the training and development of the SATCC-TU staff has been developed and this will now be used as a basis for sourcing and soliciting for regional and external support. Essentially, the thrust of this scheme will be to enhance skills and knowledge in the technical and analytical work and keeping staff abreast of the everchanging concerns and demands in their respective roles and responsibilities The ultimate aim of this is to improve the overall performance and productivity of the SATCC-TU.

4 8 **New Projects**

The following three new projects have been approved by Council and included in the SPA

(a) **MAL.4.03 Kamuzu International Airport (KIA) Runaway Rehabilitation**

The need for this project has risen because after over 10 years of service, the runway is showing signs of stress demonstrated by worsening cracks on the surface of the runway and at its joints with the taxiway, creating a potential safety hazard These cracks allow water to seep through the sub-base thereby weakening the stength of the runway.

The project will ensure the safety of aircraft on the runway and also extend the life of the runway by several years.

(b) **ZAM.3.02 Improvement of the Mpulungu Port**

This project has the objective of improving the lake port of Mpulungu on Lake Tanganyika so as to enable it to better serve the groming traffic flowing between the SADC region and the nothern neighbouring countries of Burundi, Rwanda and Eastern Zaire

(c) **MOZ.2.14 Rehabilitation of the Maputo - Ressano Garcia Railway Line**

Due to the changed geo-political situation in the region and the consequential fast re-establishment of the South African traffic transitting the port of Maputo, it has been recommended to include this project into the SPA, within the existing Maputo Port Transport development programme

4 9 <u>Modification of Projects</u>

Telecommunications

Project AAA.0.02: Frequency Management and Radio Monitoring has been recommended to be modified to include the following elements emanating from the first study phase of the project:

- establishment of a Regional Spectrum Management Unit (RMSU) within SATCC-TU,
- establishment of a Radio Direction Finding Facility in Namibia which will compliment those in Mozambique and Malawi to enable the identification of interferences
- A regional training programme on Frequency Management and radio Monitoring
- establishment of the regional technical Standards and Engineering support services

Project AAA 5.08: SADC regional Pocket Switching has similarly proposed to be modified to include projects elements arising from the study on Data Communications Strategy for the SADC region These involve the

establishment of a pocket switching network in the six countries which do not yet have the facility, namely Angola, Lesotho, Malawi, Swaziland, Tanzania and Zambia.

5 CURRENT STATUS

5 1 Summary of Status of Funding

In this section the 208 projects of the SATCC Programme of Action are listed by transport corridor system or sub-sector The information provided include summary of costs, funding status, disbursed funds as of 31 December 1993 where available and a statement on status or progress of implementation

5 2 Operation Coordination

The total cost of the 35 operational coordination projects amounts to US$145 3 million They are relatively well funded with about US$98 million secured or under negotiations, leaving a funding gap of US$47 3 million

5 3 Training Projects

The training programme includes 9 projects, whose total cost is US$136 8 million. Of this US$54 9 million, or 40%, is secured or under negotiation More progress is expected in this area especially in railway and road and transportation programmes During the year under review 1993, one project was completed, provision of Technical Assistance and Management Training to Swaziland Railways Also Phase I of Railway Training Programme was completed whilst Phase II has just started

5.4 Maputo Port Transport System

The total cost of the 18 main projects concerning the Maputo Transport System is estimated at US$1142 20 million, of which US$533 40 million, or 47% is secured including funding under negotiation

5.5 Beira Port Transport System

The Beira Port Transport System programme includes 6 projects Most of these are divided in several sub-projects The total cost of the programme is US$447 60 million of which US$403 90 million, or 90%, is secured or under negotiation Almost all the projects have been completed with the exception of a dredging project

5 6 Nacala Port Transport System

The cost of the 5 main projects concerning the Nacala Transport System is estimated at US$328 1 million Almost all projects have been completed

5 7 **Dar es Salaam Port Transport System**

The main 8 projects in the Dar es Salaam Port Transport System are estimated to cost a total of US$909 8 million of this US$599.2 million or 66%, is secured or under negotiation.

5 8 **Lobito Port Transport System**

The Lobito Port Transport System programme includes 5 main projects The total estimated cost is US$594 7 million, which US$125 4 million, or 21%, is secured or under negotiation The progress on this programme has been slow due to security situation

5.9 **Intra-Regional Surface Transport Systems**

Altogether 40 projects are included in this category, with a total cost estimated at US$1.738.0 million, of which US$988.0 million, or 57%, is secured or under negotiation

5 10 **Civil Aviation**

The total estimated cost of the 29 civil aviation projects in the programme is US$204.3 million, of which US$108 million, or 53%, is secured including funding under negotiation.

5 11 **Telecommunications**

The 40 telecommunications projects included in the programme are estimated to cost a total of US$1 197 million, of which US$610.30 million, or 51% is secured including funding under negotiation

5 12 **Meteorology**

The meteorology projects included in the programme are nine (9) The total cost is estimated at US$19 0 million and US$0 9 million, or only 5% is secured

5 14 **Postal Services**

The SATCC programme includes 4 projects in postal services with a total cost of US$10 7 million. No funds have so far been secured for the reformulated postal projects However, some negotiation for some human resources development projects are currently under negotiations.

Table PS1 SADC Ports Service to Dry Cargo Ships 1993 compared with 1992

Port	No of deepsea Ships handled		Average Waiting time (days / ship)		Average Service time (days / ship)		Total time in Port (days / ship)	
	1993	1992	1993	1992	1993	1992	1993	1992
DSM	513	487	0 9	1	4	4 3	4 9	5 3
Nacala	-	224	0 3	0 4	3 6	3 5	3 9	3 9
Beira	365	297	3 4	- -	9 2		12 6	- -
Maputo	306	261	0 8	0 5	8 9	8 8	9 7	9 3
Walvis Bay	184	-	- -	- -	- -	-	-	- -

Table PS 2 SADC Ports Dry Cargo Ships Productivity 1993 compared with 1992

Port	No of deepsea Ships handled		Total Dry Cargo handled (000 ton)		Tonnage per shipday (ton / day)		Containers per shipday (TEUs / day)	
	1993	1992	1993	1992	1993	1992	1993	1992
DSM	513	487	2453	2346	1257	1226	193	176
Nacala		224	229	243		- -	-	-
Beira	365	297	1467	1300	698	680	-	-
Maputo	306	261	1936	1758	1783	1951	110	197
Walvis Bay	184	- -	1179	1139	-	-	-	- -

Key DSM = Dar es Salaam
= data not available

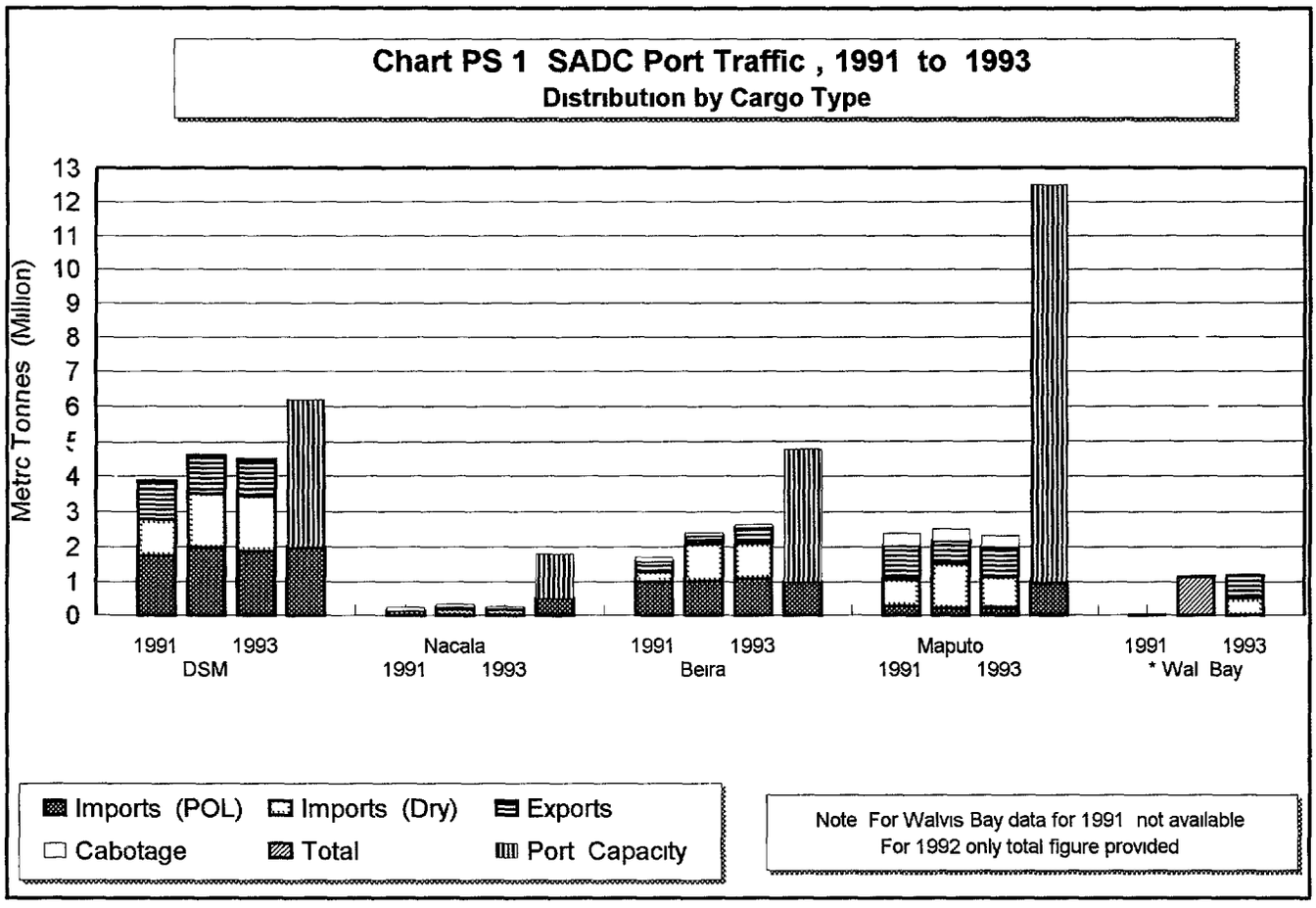


Chart PS 1 SADC Port Traffic , 1991 to 1993
Distribution by Cargo Type
Metric Tonnes (Million)
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1991 1993
DSM
Nacala
1991 1993
1991 1993
Beira
Maputo
1991 1993
1991 1993
* Wal Bay
Imports (POL)
Imports (Dry)
Exports
Cabotage
Total
Port Capacity
Note For Walvis Bay data for 1991 not available
For 1992 only total figure provided

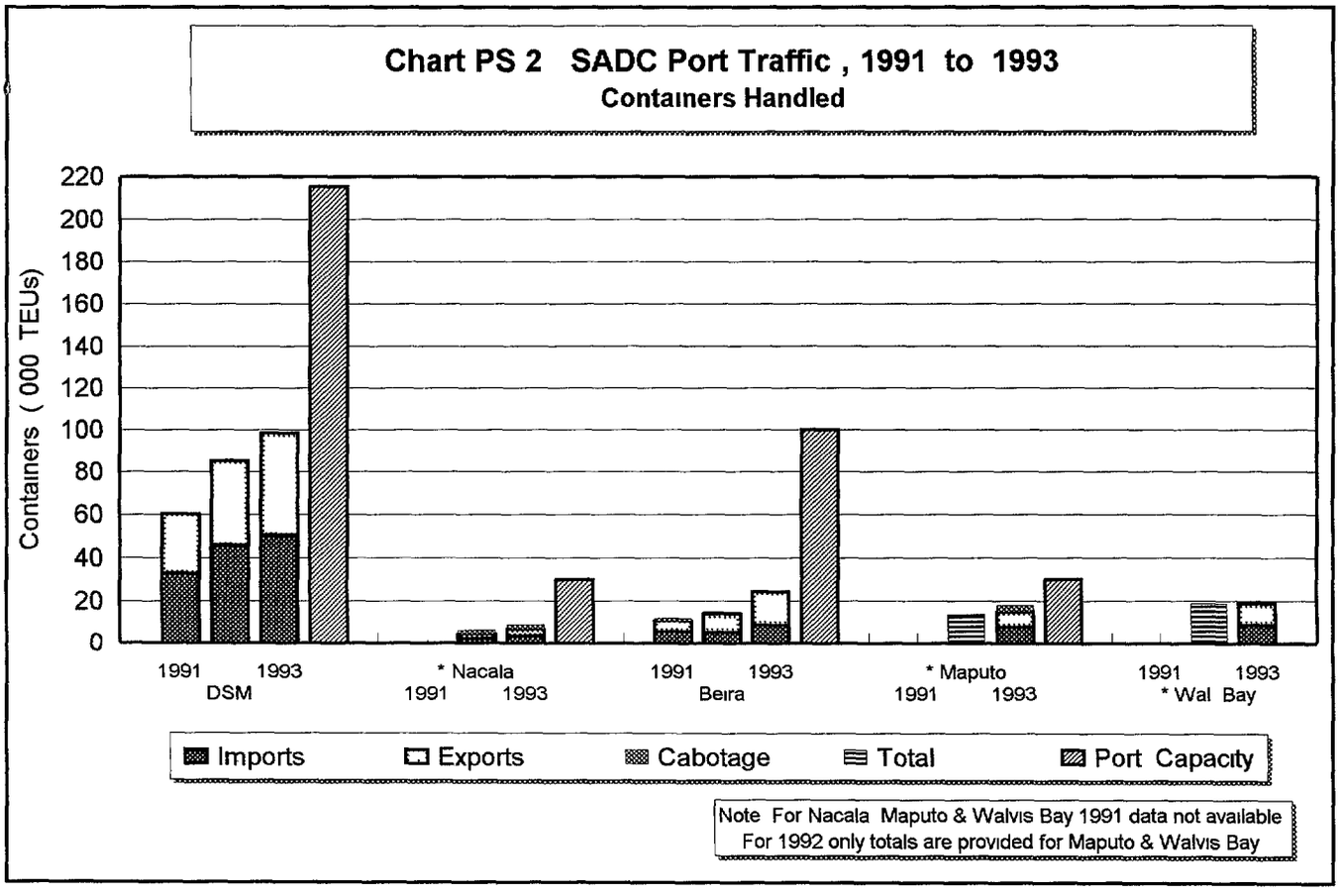
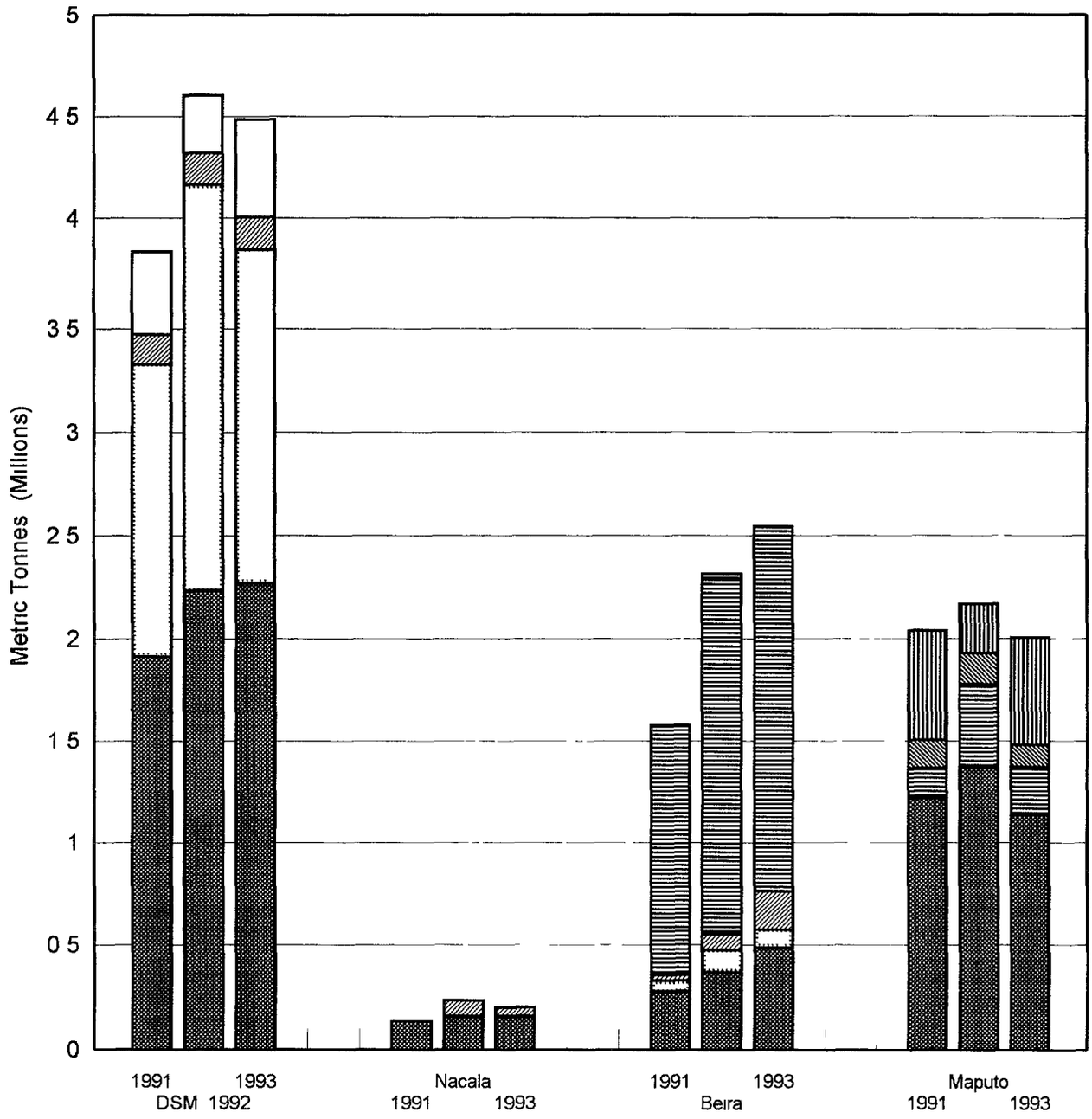


Chart PS 2 SADC Port Traffic , 1991 to 1993
Containers Handled
Containers (000 TEUs)
220
200
180
160
140
120
100
80
60
40
20
0
1991 1993
DSM
* Nacala
1991 1993
1991 1993
Beira
* Maputo
1991 1993
1991 1993
* Wal Bay
Imports
Exports
Cabotage
Total
Port Capacity
Note For Nacala Maputo & Walvis Bay 1991 data not available
For 1992 only totals are provided for Maputo & Walvis Bay

Chart PS 3 SADC Port Traffic 1991 to 1993
Distribution by User Countries



National Zambia Malawi Zimbabwe
Swaziland RSA Other

TABLE RL 1 SADC RAILWAYS PERFORMANCE ON A CORRIDOR BASIS

(000 Metric Tonnes)

	1990	1991	1992	1993
Goba Line				
Total Traffic of which	366 1	136 6	187 2	154 3
Swaziland	366 1	136 6	187 2	154 3
Other	0 0	0 0	0 0	0 0
Ressano Garcia Line				
Total Traffic of which	990 6	702 4	289 7	693 6
RSA	747 5	599 6	283 3	693 2
Zimbabwe	243 0	84 2	0 0	0 0
Swaziland	0 1	18 6	6 4	0 4
Other	0 0	0 0	0 0	0 0
Limpopo Line				
Total Traffic of which	0 0	25 8	417 9	302 4
Zimbabwe	0 0	25 8	417 9	302 4
Other	0 0	0 0	0 0	0 0
Machipanda Line				
Total Traffic of which	850 1	699 0	848 2	1025 9
Zimbabwe	583 2	446 4	743 0	958 5
Malawi	32 7	17 9	10 4	0 3
Zambia	34 7	8 7	3 2	11 0
Mozambique	199 5	226 0	91 6	56 1
Nacala Line				
Total Traffic of which	92 4	88 5	87 3	125 1
Malawi	29 3	38 6	62 5	90 6
Mozambique	63 1	49 9	24 8	34 5
Tazara Line				
Total Traffic of which	996 5	926 9	962 4	1079 4
Zambia	604 1	536 4	472 5	680 9
Tanzania	0 0	0 0	127 9	148 7
Malawi	0 0	0 4	48 0	80 2
Zimbabwe	0 0	3 7	1 5	2 4
Domestic	366 7	346 4	266 8	117 0
Zaire	25 7	40 0	45 7	50 2
Total Traffic	3295 7	2579 2	2792 7	3380 7

Table RL 2 SADC and Spoornet - Statistics on Railway Scale and Traffic Characteristics

Rail	Km of Line			No of Locomotives			No of Wagons		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
BR	887	887	887	35	35	35	1055	1055	1055
MR	789	789	789	51	51	51	814	814	814
CFM C	317	317	317	22	22	22	2859	3030	3030
CFM N	877	877	877	33	33	33	877	877	877
CFM S	696	696	696	49	49	49	3638	3638	3638
TZR	1860	1860	1860	85	100	100	1494	1782	1734
TRC	2600	2600	2600	59	59	65	2368	2122	2122
TNL	2382	2382	2382	67	59	85	2000	1818	1627
SR	300	300	300	9	9	9	222	222	166
ZRL	1273	1273	1273	70	70	60	6742	6742	5492
NRZ	2759	2759	2759	385	352	312	12427	12427	12427
SPN	21367	21365	20934	3761	3763	3667	155831	153396	150162

	No of Coaches			Tonnage Conveyed (000 MT)			Net Tonne Kms (Millions)		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
BR	43	43	43	2223	2365	2852	852 0	979 1	1265 8
MR	38	38	38	418	337	340	76 1	56 4	58 8
CFM C	94	94	94	699	848	1029	170 5	245 4	311 6
CFM N	37	37	37	88	87	125	77 4	87 5	64 8
CFM S	78	78	78	1384	1524	1917	101 3	282 4	272 2
TZR	97	97	97	1012	902	1079	1360 8	1310 4	1545 6
TRC	100	100	100	922	924	1205	961 0	937 0	1263 0
TNL	169	169	169	1678	1697	1681	1198 5	1225 7	1108 8
SR				4033	4356	4203	674 5	757 1	723 8
ZRL	75	75	75	3100	3500	3400	1081 0	1025 0	1074 0
NRZ	378	378	378	14377	13654	12496	5395 0	5643 0	5466 0
SPN	4094	4220	4186	173624	169086	167746	93767 0	89248 0	91359 0

	Passengers (000)			Passenger Kms (Millions)			Traffic Units (Millions)		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
BR	394	431	355	N/A	N/A	N/A	852 0	979 1	1265 8
MR	1501	1282	859	101 1	87 7	65 4	177 2	144 1	124 2
CFM C	384	115	124	7 0	1 9	2 0	177 5	247 3	313 6
CFM N	187	11	117	4 7	2 2	16 7	82 1	89 7	81 5
CFM S	1203	708	1394	28 8	20 9	51 6	130 1	303 3	323 8
TZR	1584	1925	2220	560 0	698 1	829 6	1920 8	2008 5	2375 3
TRC	1714	1442	2314	795 0	661 0	N/A	1756 0	1598 0	N/A
TNL	210	162	125	55 0	48 3	34 7	1253 5	1274 0	1143 4
SR							674 5	757 1	723 8
ZRL	788	904	1181	204 9	240 7	297 4	1285 9	1265 7	1371 4
NRZ	2428	2215	2349	571 4	659 8	588 1	5966 4	6302 8	6054 1
SPN	3528	2887	2350	1205 4	1037 8	894 7	94972 4	90285 8	92253 7

	No of Staff		
	1991	1992	1993
BR	2028	2020	2024
MR	4020	3733	3658
CFM C	5250	5178	4978
CFM N	3038	2218	2195
CFM S	3118	2833	2553
TZR	6926	7011	6756
TRC	13460	11733	10700
TNL	2396	2063	1999
SR	1106	1074	747
ZRL	8491	8544	N/A
NRZ	16799	16343	15362
SPN	109427	105900	81334

Key

BR = Botswana Railways
MR = Malawi Railways Limited
CFM C = Caminhos De Ferro De Mocambique (Centro)
CFM N = Caminhos De Ferro De Mocambique (Norte)
CFM S = Caminhos De Ferro De Mocambique (Sul)
TZR = Tanzania Zambia Railway Authority
TRC = Tanzania Railways Corporation
TNL = TransNamib Rail
SR = Swaziland Railway
ZRL = Zambia Railways Limited
NRZ = National Railways of Zimbabwe
SPN = Spoornet
N/A = Not Available
Traffic Units (TU)= (Ton Kms + Passenger Kms)

Table RL 3 SADC and Spoornet - Statistics on Railway Performance

Rail	Traffic Units per Line Km (000)			Traffic Units per Locomotive (000)			Ton Kms per Wagon (000)		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
BR	960 5	1103 9	1427 0	24342 9	27975 4	36164 9	807 6	928 1	1199 8
MR	224 6	182 7	157 4	3474 5	2825 8	2434 6	93 5	69 3	72 2
CFM C	560 0	780 1	989 3	8068 5	11240 9	14254 5	59 6	81 0	102 8
CFM N	93 6	102 3	92 9	2487 9	2718 2	2469 7	88 3	99 8	73 9
CFM S	187 0	435 8	465 2	2655 6	6189 8	6608 2	27 8	77 6	74 8
TZR	1032 7	1079 8	1277 0	22597 6	20084 8	23752 6	910 9	735 4	891 4
TRC	675 4	614 6	N/A	29762 7	27084 7	N/A	405 8	441 6	595 2
TNL	526 2	534 8	480 0	18708 7	21593 1	21174 4	599 2	674 2	681 5
SR	2248 4	2523 8	2412 6	74947 3	84126 4	80419 2	3038 4	3410 5	4360 1
ZRL	1010 1	994 3	1077 3	18369 7	18081 3	22856 5	160 3	152 0	195 6
NRZ	2162 5	2284 5	2194 3	15497 2	17905 8	19404 3	434 1	454 1	439 8
SPN	4444 8	4225 9	4406 9	25251 9	23993 0	25157 8	601 7	581 8	608 4

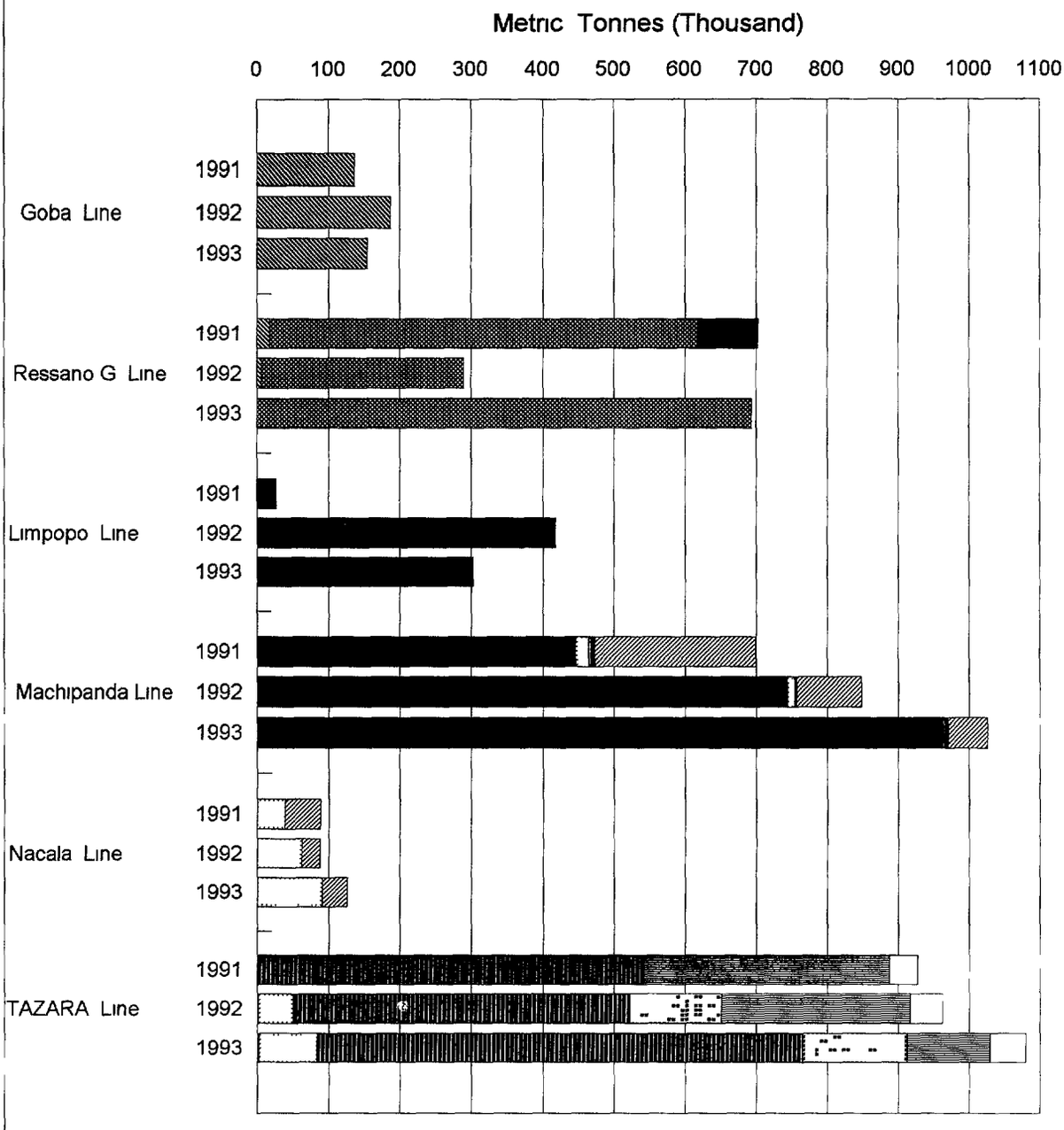
	Passenger Kms per Coach (000)			Passenger Kms as % of TUs			Traffic Units per Staff (000)		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
BR	N/A	N/A	N/A	N/A	N/A	N/A	420 1	484 7	625 4
MR	2660 0	2307 2	1720 1	57 0	60 8	52 6	44 1	38 6	33 9
CFM C	74 6	20 2	21 3	3 9	0 8	0 6	33 8	47 8	63 0
CFM N	127 0	59 5	451 4	5 7	2 5	20 5	27 0	40 4	37 1
CFM S	369 6	267 9	661 5	22 2	6 9	15 9	41 7	107 1	126 8
TZR	5773 0	7196 7	8552 7	29 2	34 8	34 9	277 3	286 5	351 6
TRC	7950 0	6610 0	N/A	45 3	41 4	N/A	130 5	136 2	N/A
TNL	325 6	285 6	205 1	4 4	3 8	3 0	523 2	617 5	572 0
SR	Nil	Nil	Nil	Nil	Nil	Nil	609 9	705 0	968 9
ZRL	2731 7	3209 2	3965 2	15 9	19 0	21 7	151 4	148 1	N/A
NRZ	1511 7	1745 6	1555 9	9 6	10 5	9 7	355 2	385 7	394 1
SPN	294 4	245 9	213 7	1 3	1 1	1 0	867 9	852 6	1134 3

	Working Ratio (%)			Operating Ratio (%)			Ratio Pass Fares to Freight Rates (%)		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
BR	83 6	77 8	77 4	95 4	90 9	90 0	N/A	N/A	N/A
MR	86 5	105 6	108 4	95 6	118 4	119 4	23 1	21 8	31 8
CFM C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFM N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFM S	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TZR	67 5	70 7	67 7	76 3	76 2	71 6	60 8	46 9	9 5
TRC	73 3	56 1	N/A	N /A	N / A	N/A	31 0	24 2	N/A
TNL	97 0	93 6	90 0	98 7	95 2	91 3	66 5	78 5	75 5
SR	86 9	68 6	80 1	90 8	71 4	82 4	Nil	Nil	Nil
ZRL	80 2	94 8	100 8	83 5	99 7	N/A	11 2	10 1	5 8
NRZ	81 9	57 5	71 9	85 7	73 8	75 6	43 1	37 5	33 4
SPN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Key

BR = Botswana Railways
MR = Malawi Railways Limited
CFM C = Caminhos De Ferro De Mocambique (Centro)
CFM N = Caminhos De Ferro De Mocambique (Norte)
CFM S = Caminhos De Ferro De Mocambique (Sul)
TZR = Tanzania Zambia Railway Authority
TRC = Tanzania Railways Corporation
TNL = TransNamib Rail
SR = Swaziland Railway
ZRL = Zambia Railways Limited
NRZ = National Railways of Zimbabwe
SPN = Spoornet
N/A = Not Available
Traffic Units (TU)= (Ton Kms + Passenger Kms)

Chart RL 1 SADC Railways Performance on a Corridor Basis
Tonnages Moved 1991 to 1993



Swaziland | RSA | Zimbabwe | Malawi | Zambia
Mozambique | Tanzania | Domestic | Zaire

Goba Ressano Garcia & Limpopo Lines exclude Domestic Traffic

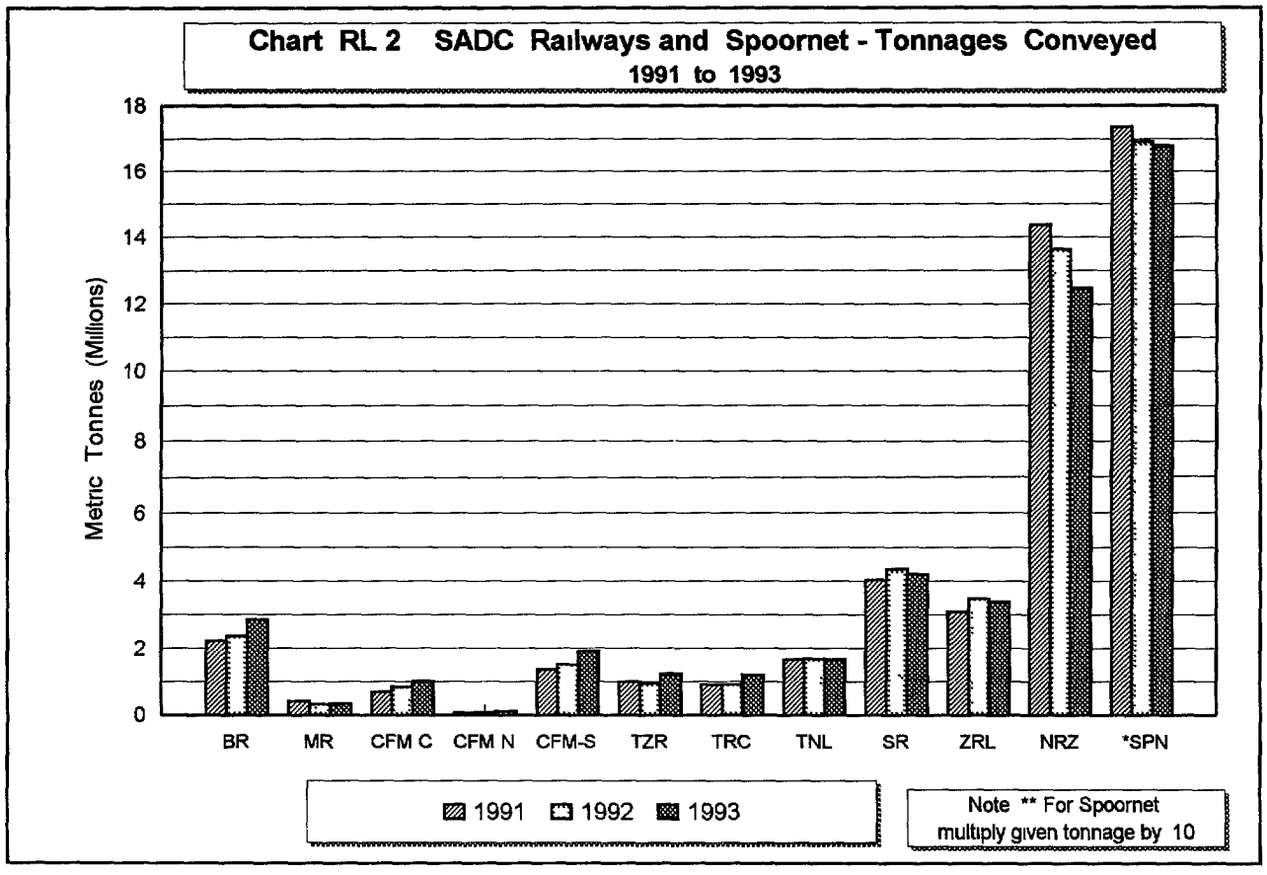


Chart RL 2 SADC Railways and Spoornet - Tonnages Conveyed
1991 to 1993
Metric Tonnes (Millions)
18
16
14
12
10
8
6
4
2
0
BR
MR
CFM C
CFM N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
*SPN
1991
1992
1993
Note ** For Spoornet multiply given tonnage by 10

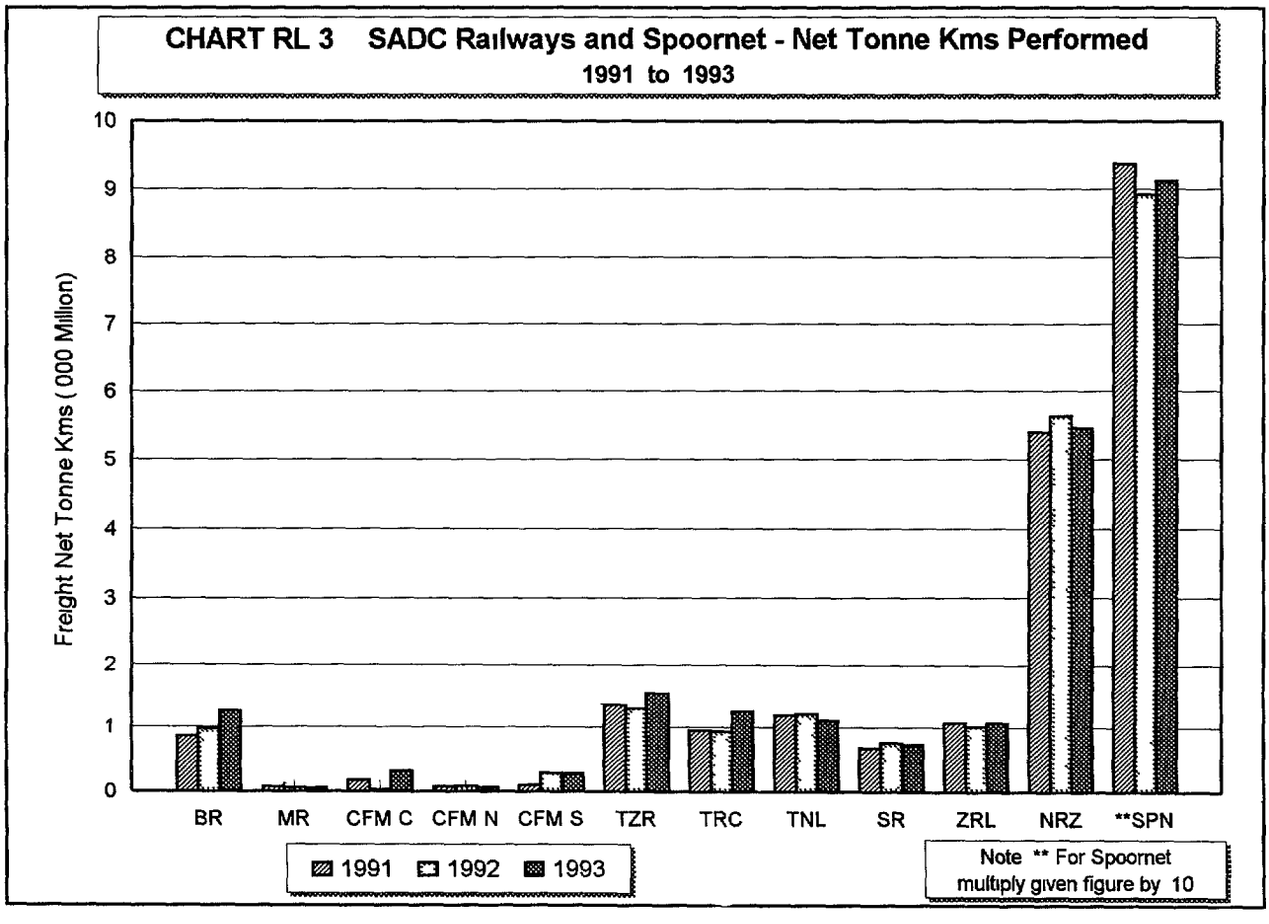


CHART RL 3 SADC Railways and Spoornet - Net Tonne Kms Performed
1991 to 1993
Freight Net Tonne Kms (000 Million)
10
9
8
7
6
5
4
3
2
1
0
BR
MR
CFM C
CFM N
CFM S
TZR
TRC
TNL
SR
ZRL
NRZ
**SPN
1991
1992
1993
Note ** For Spoornet multiply given figure by 10

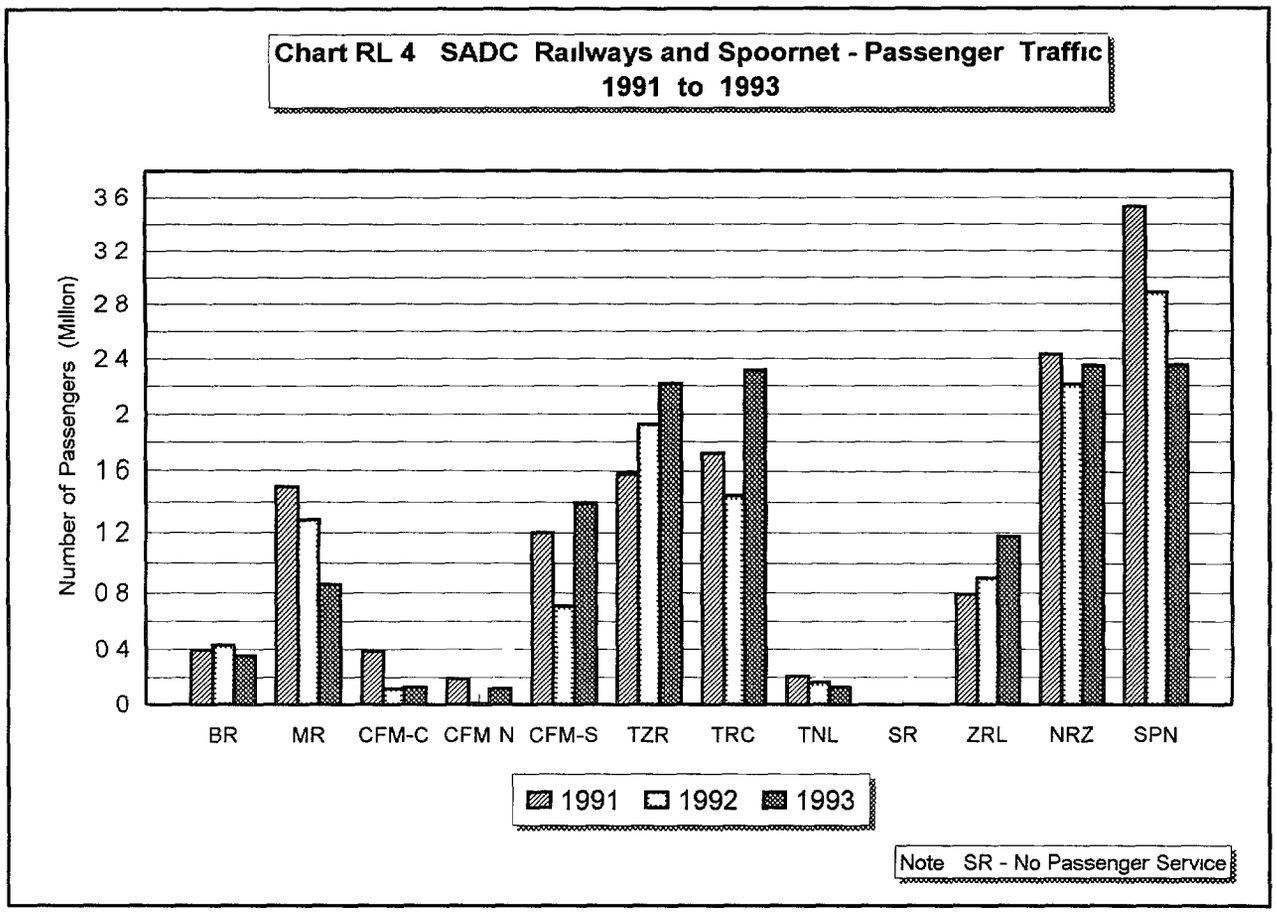


Chart RL 4 SADC Railways and Spoornet - Passenger Traffic
1991 to 1993
Number of Passengers (Million)
3 6
3 2
2 8
2 4
2
1 6
1 2
0 8
0 4
0
BR
MR
CFM-C
CFM N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993
Note SR - No Passenger Service

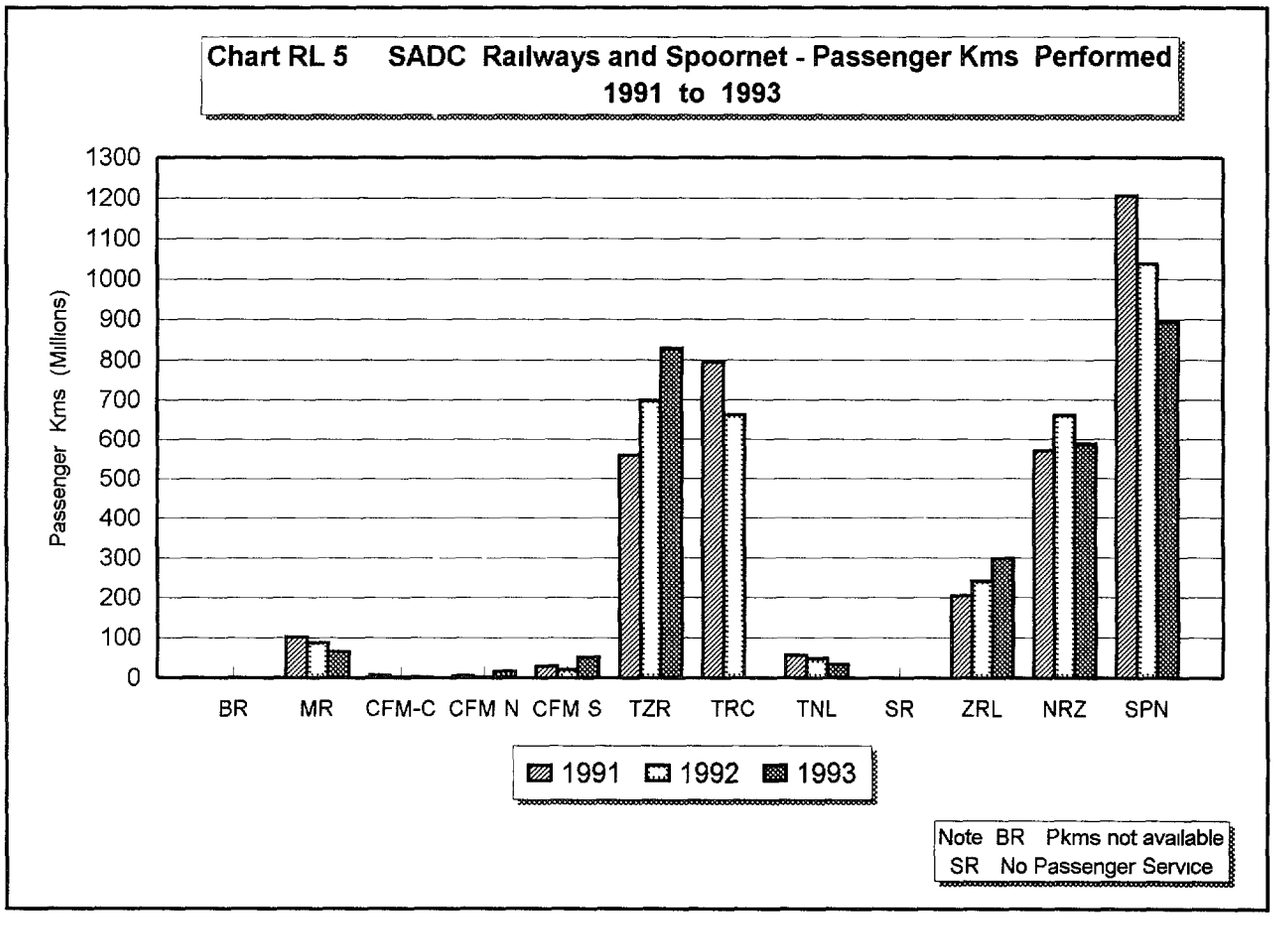
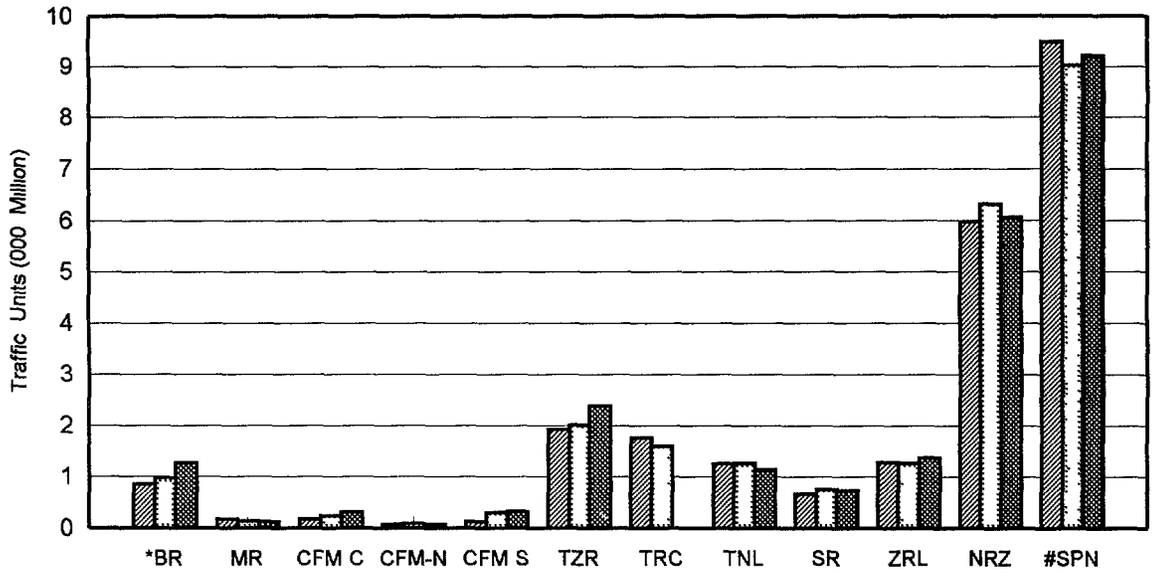


Chart RL 5 SADC Railways and Spoornet - Passenger Kms Performed
1991 to 1993
Passenger Kms (Millions)
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
BR
MR
CFM-C
CFM N
CFM S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993
Note BR Pkms not available
SR No Passenger Service

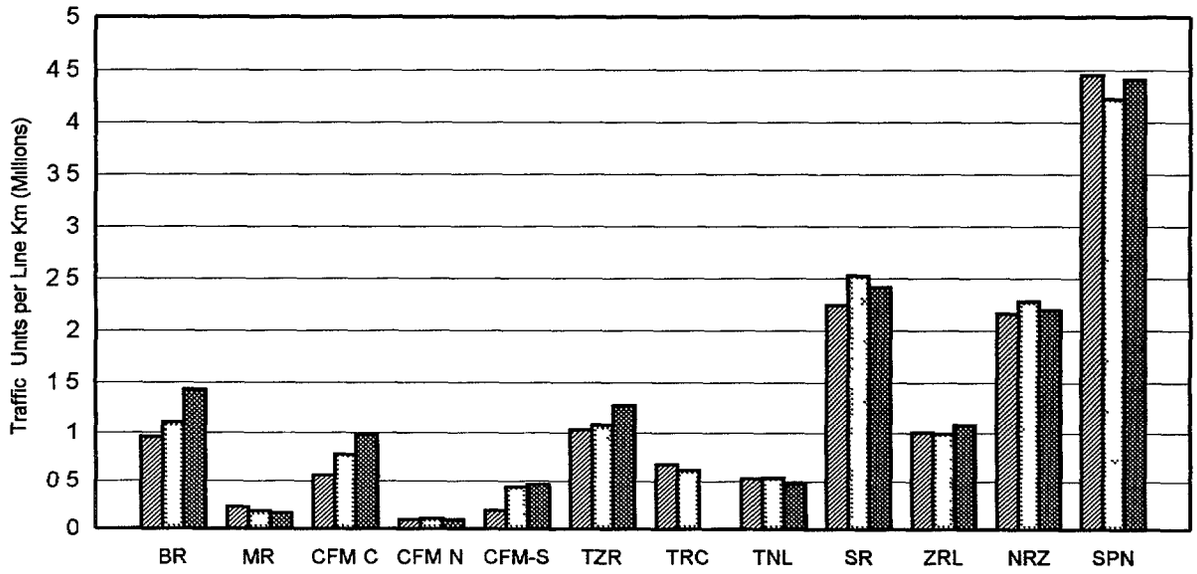
Chart RL 6 SADC Railways and Spoornet - Traffic Units Performed (TKms + PKms) 1991 to 1993



1991 1992 1993

Note For Spoornet multiply given figure by 10
* BR figure excludes Pkms

Chart RL 7 Line Density (Traffic Units per Line Km) 1991 to 1993



1991 1992 1993

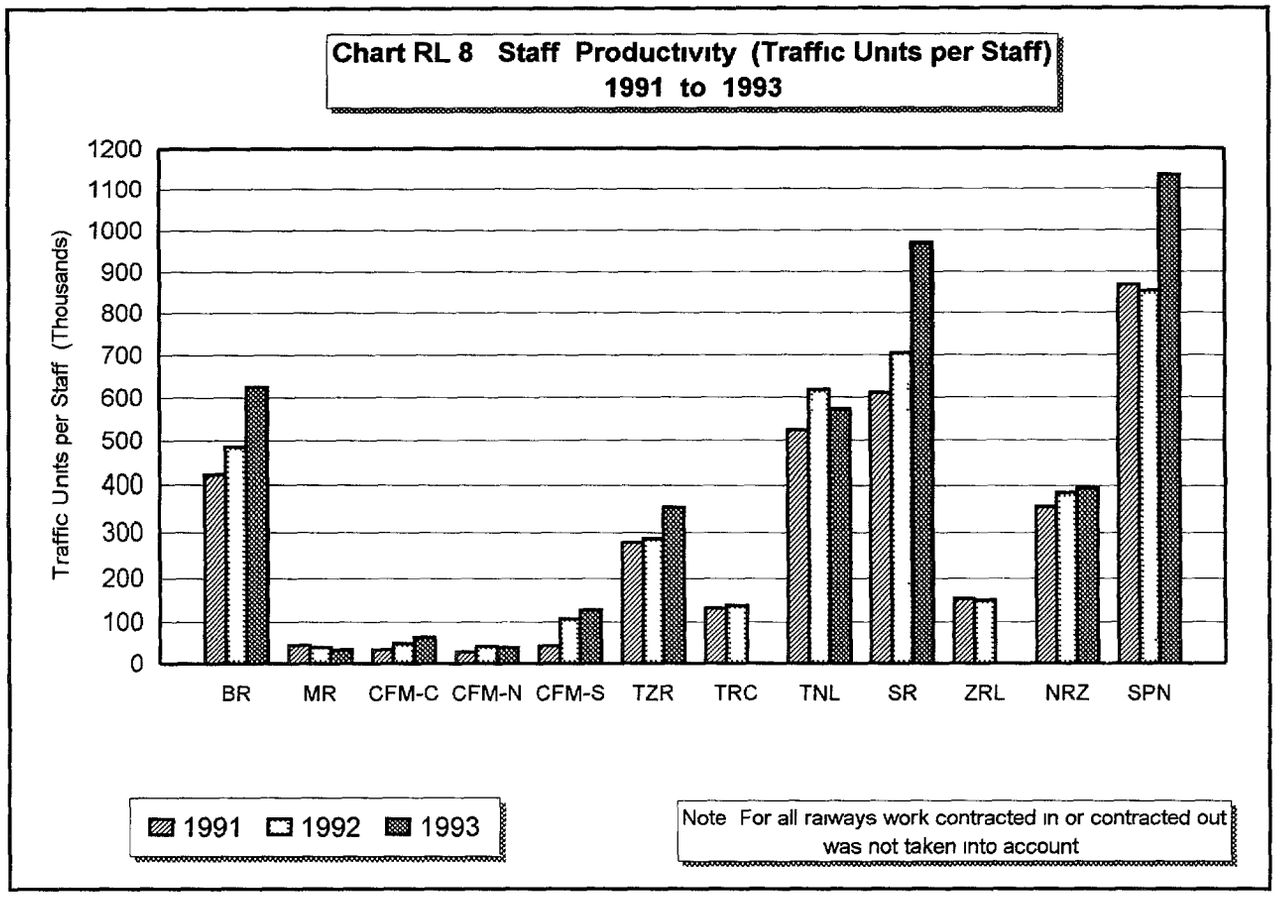


Chart RL 8 Staff Productivity (Traffic Units per Staff)
1991 to 1993
Traffic Units per Staff (Thousands)
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
BR
MR
CFM-C
CFM-N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993
Note For all railways work contracted in or contracted out was not taken into account

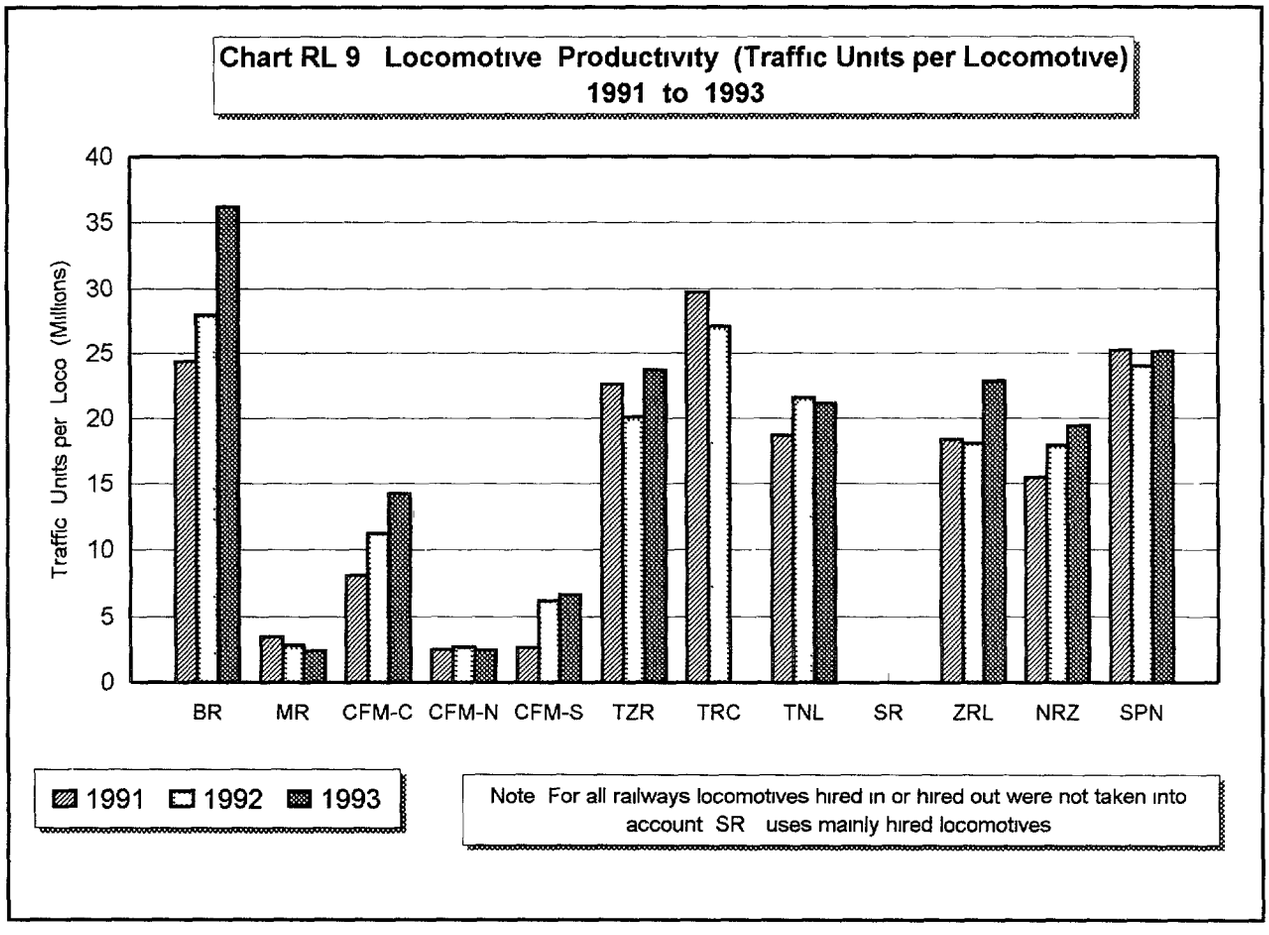


Chart RL 9 Locomotive Productivity (Traffic Units per Locomotive)
1991 to 1993
Traffic Units per Loco (Millions)
40
35
30
25
20
15
10
5
0
BR
MR
CFM-C
CFM-N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993
Note For all railways locomotives hired in or hired out were not taken into account SR uses mainly hired locomotives

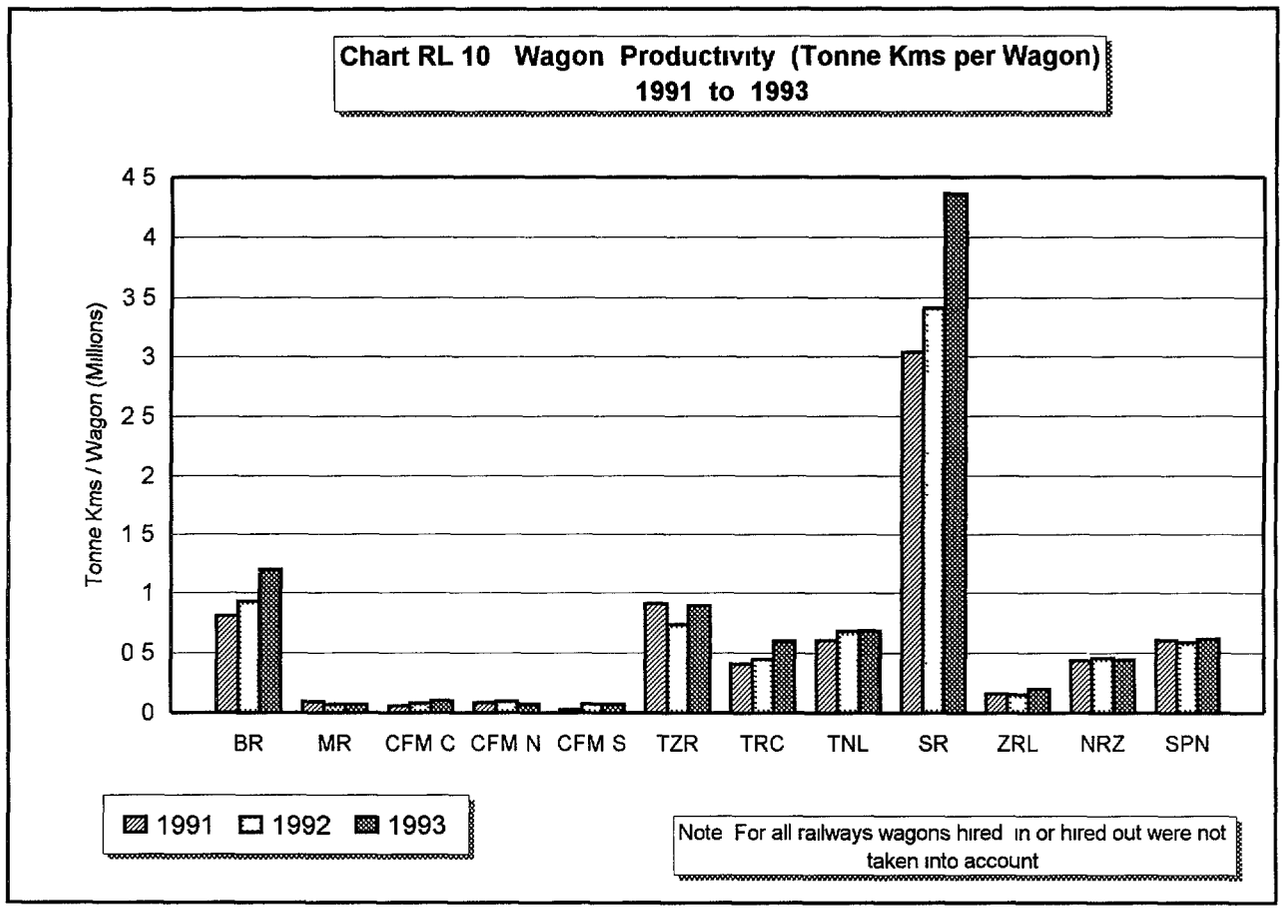


Chart RL 10 Wagon Productivity (Tonne Kms per Wagon)
1991 to 1993
Tonne Kms / Wagon (Millions)
4 5
4
3 5
3
2 5
2
1 5
1
0 5
0
BR
MR
CFM C
CFM N
CFM S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993
Note For all railways wagons hired in or hired out were not taken into account

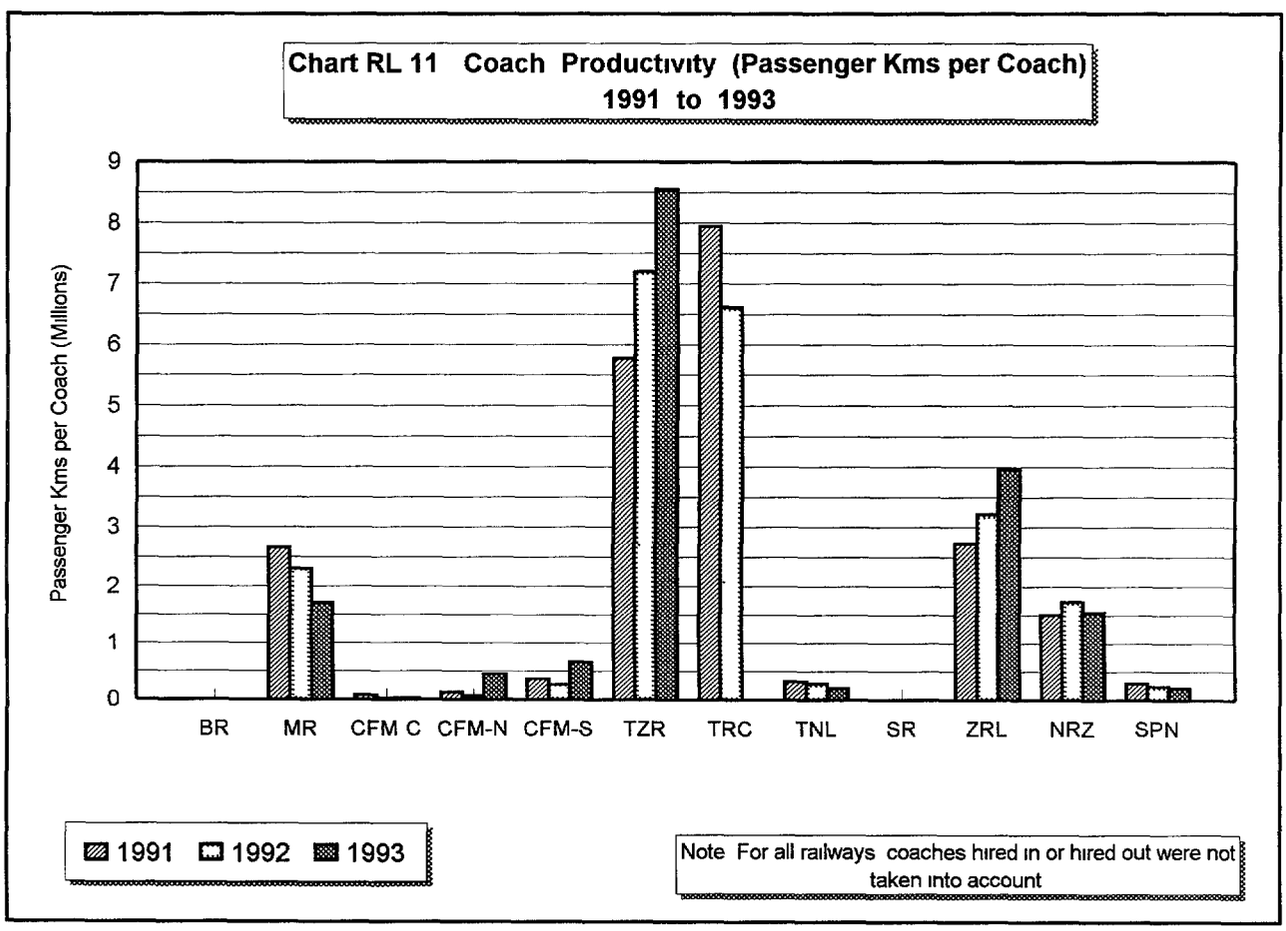


Chart RL 11 Coach Productivity (Passenger Kms per Coach)
1991 to 1993
Passenger Kms per Coach (Millions)
9
8
7
6
5
4
3
2
1
0
BR
MR
CFM C
CFM-N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993
Note For all railways coaches hired in or hired out were not taken into account

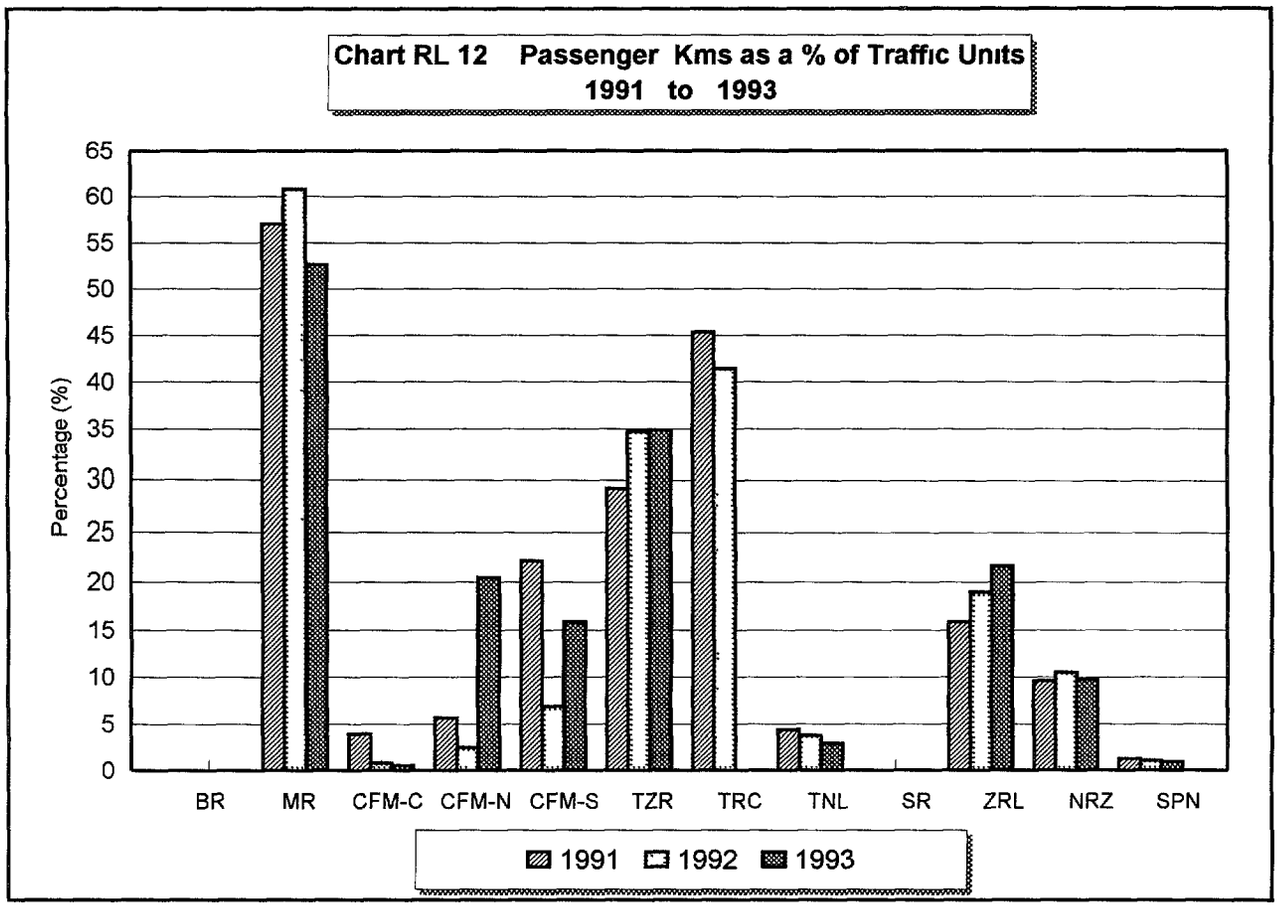


Chart RL 12 Passenger Kms as a % of Traffic Units
1991 to 1993
Percentage (%)
65
60
55
50
45
40
35
30
25
20
15
10
5
0
BR
MR
CFM-C
CFM-N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
SPN
1991
1992
1993

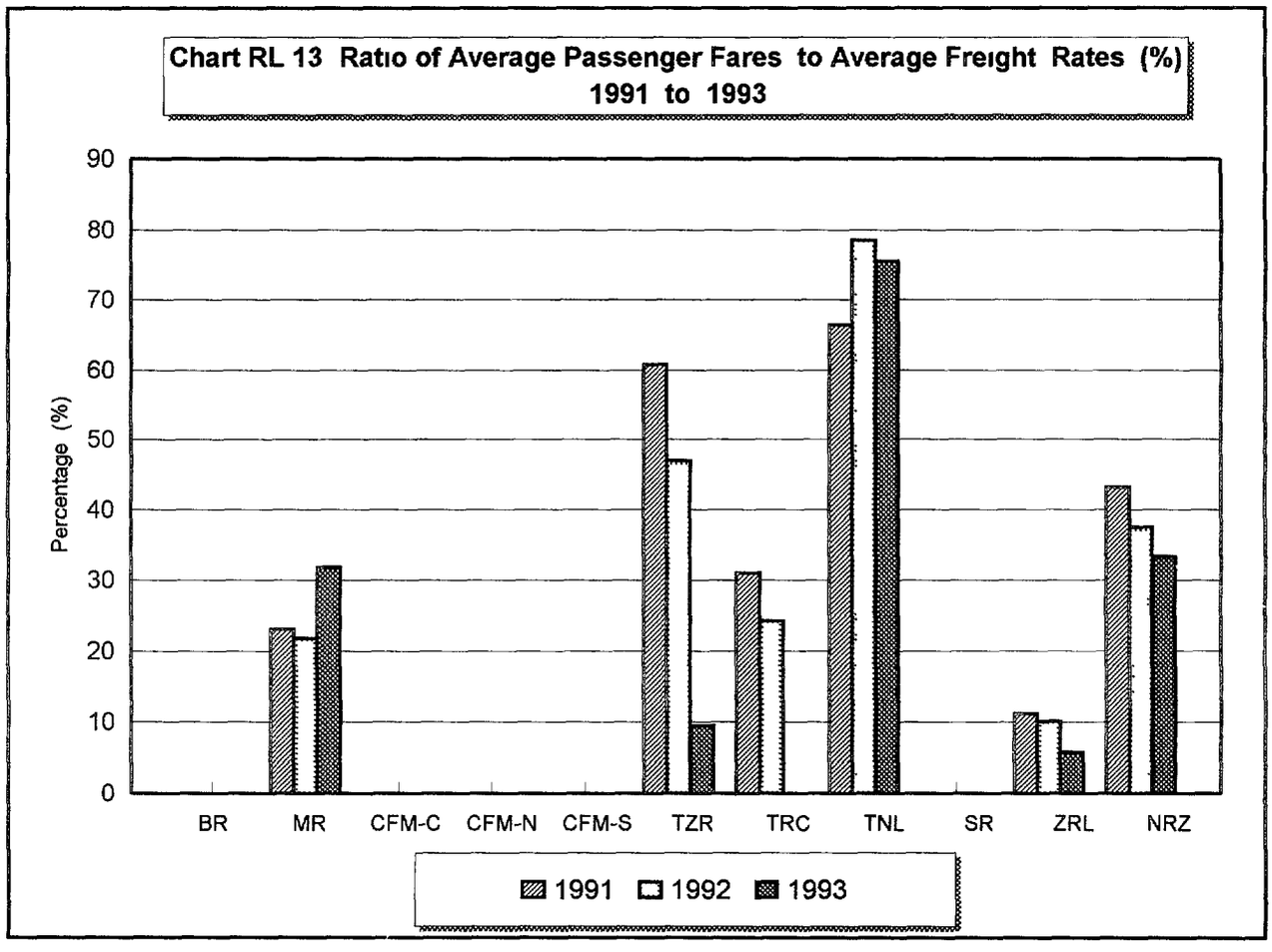


Chart RL 13 Ratio of Average Passenger Fares to Average Freight Rates (%)
1991 to 1993
Percentage (%)
90
80
70
60
50
40
30
20
10
0
BR
MR
CFM-C
CFM-N
CFM-S
TZR
TRC
TNL
SR
ZRL
NRZ
1991
1992
1993

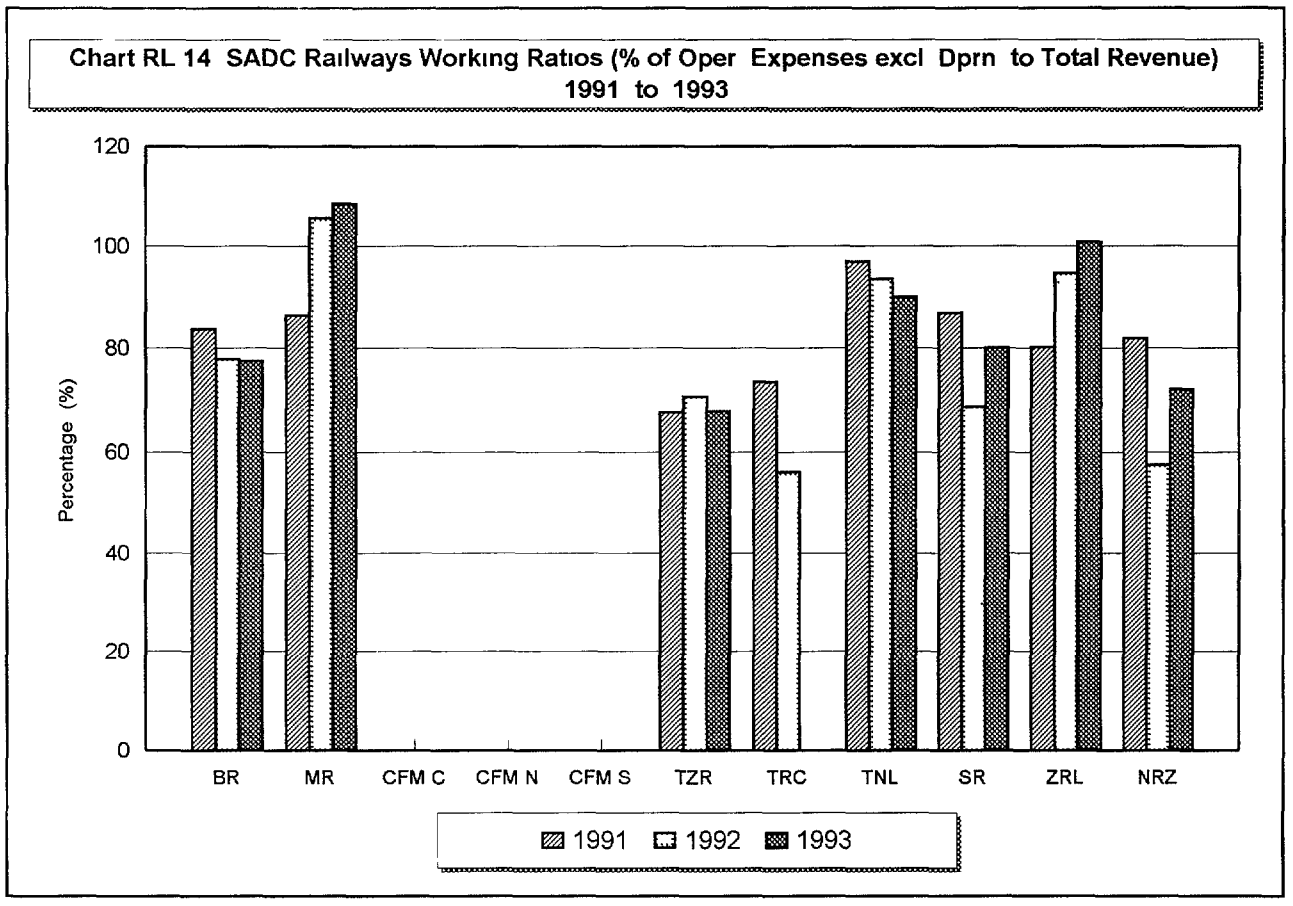


Chart RL 14 SADC Railways Working Ratios (% of Oper Expenses excl Dprn to Total Revenue) 1991 to 1993
Percentage (%)
120
100
80
60
40
20
0
BR
MR
CFM C
CFM N
CFM S
TZR
TRC
TNL
SR
ZRL
NRZ
1991
1992
1993

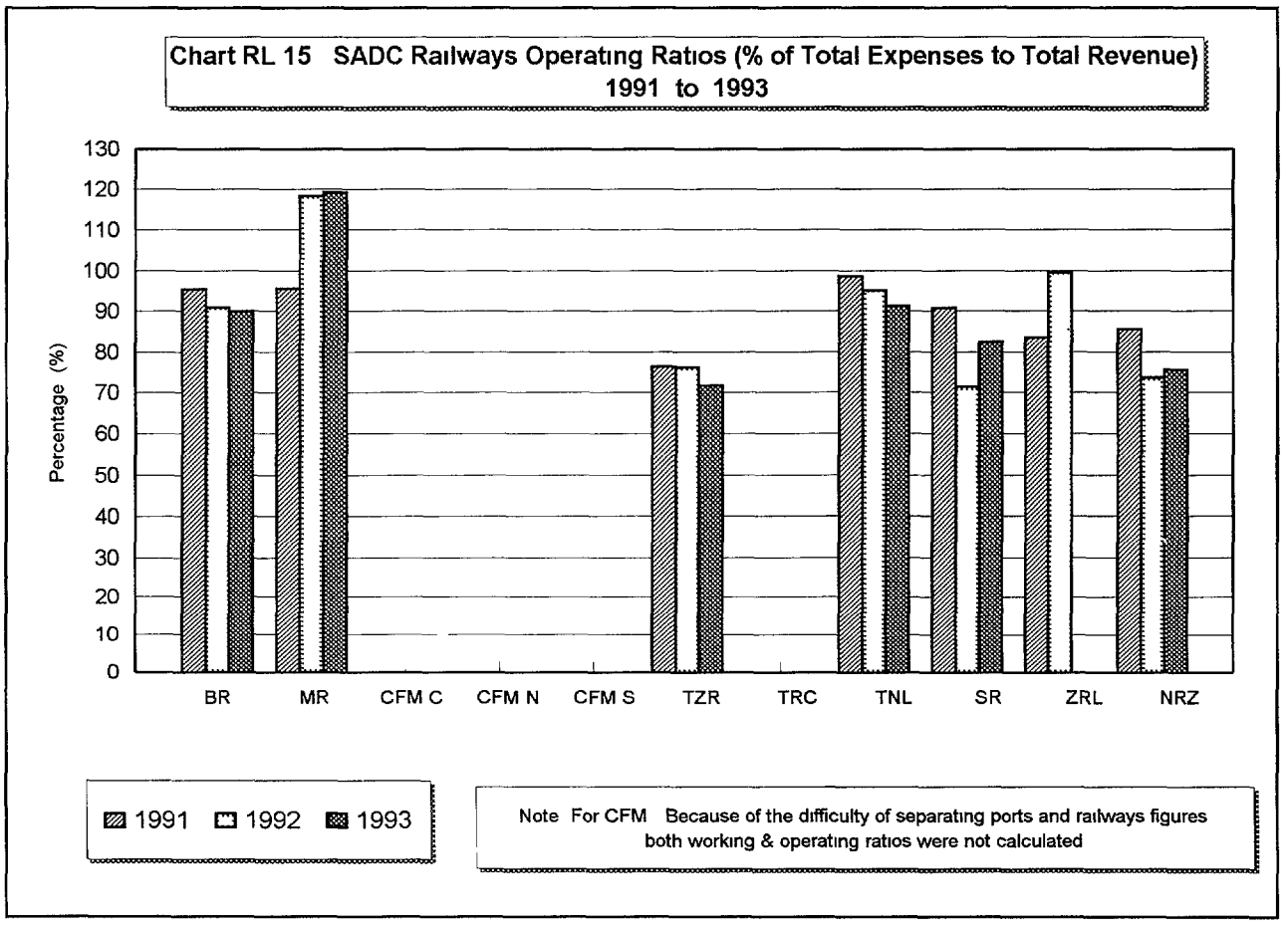


Chart RL 15 SADC Railways Operating Ratios (% of Total Expenses to Total Revenue) 1991 to 1993
Percentage (%)
130
120
110
100
90
80
70
60
50
40
30
20
10
0
BR
MR
CFM C
CFM N
CFM S
TZR
TRC
TNL
SR
ZRL
NRZ
1991
1992
1993
Note For CFM Because of the difficulty of separating ports and railways figures both working & operating ratios were not calculated

MATRIX 1 Authority of the Chief Executive Officer

	Area of analysis	Railway 1	2	3	4	5	6	7	8	9	10
1	Set freight rates	p+	p+	p+	f	p+	p+	p+	p-	p+	p+
2	Set passenger fares	-	p-	p+	p+	p-	p+	p-	p-	p	p-
3	Discontinue passeger service	-	p+	f	p+	n	p	p-	p-	p	p-
4	Hire and fire senior management staff	n	p	p	f	n	n	n	n	n	n
5	Set salaries	p+	p-	p	p-	p	p+	p+	p-	p	n
6	Introduce incentive schemes	n	p	p	p	n	n	p+	p-	n	n
7	Performance agreements or MOU	-	yes	-	-	yes	-	-	-	-	-
8	Contracting some rail operations	p+	p	f	p+	p	p	f	p-	p-	p
9	Substantive organisational restructuring	p	p	p	p+	n	p	f	n	p	p-

key

f full
p- partial (low)
p+ partial (high)
n none

MATRIX 2 Composition of the board

	Railway									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Size (including observers)	7	8	10	11	9	-	9	10	13	15
Background										
Govt	4	0	3	0	4	0	6	10	3	2
Rly management	1	1	2	1	1	#10	1	1	1	1
Private business	1	8	1	10	3	0	2	0	2	9
Transport industry	1		1						1	2
Trade Union		1	1		1					1
CEO appointed by										
govt	*		*		*	*	*	*	*	
board		*		*						*

 # Management committee

MATRIX 3 Government Policy

area of analysis	Railway 1	2	3	4	5	6	7	8	9	10
Legislative changes for restructuring										
not needed	*	*	*	*			*			
underway					*			*		
needed						*			*	*
Is govt committed to change ?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Have other state enterprises been restructured ?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is there a national transport policy ?	no	no	no	no	no	no	no	no	no	no
Does it provide level playing field ?	no	no	no	no	no	no	no	no	no	no
Is truck overloading enforced ?	no	no	no	no	no	yes	no	no	yes	no
Is there unlimited truck competition ?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

MATRIX 4 Degree and Pace of Restructuring and Commercialisation

RAILWAY

Area of Analysis	Done 1	2	3	4	5	6	7	8	9	10	Underway 1	2	3	4	5	6	7	8	9	10	Planned 1	2	3	4	5	6	7	8	9	10
Reorganisation																														
Board restructuring		x	x	x	x						x															x		x	x	
Org restructuring	x	x	x	x					x						x										x	x		x		x
Debt restructuring	x	x	x	x																					x	x		x		x
Asset consolidation	x		x						x																					x
Workshop rationalisation			x															x							x	x		x		x
Authority structure change	x	x	x																		x				x	x		x	x	x
Personnel																														
Staff reduction	x	x	x	x	x				x		x					x				x	x				x	x		x		x
Mktg / comm skills dev	x	x	x	x						x															x	x	x	x		
Communicate changes	x	x	x	x											x											x		x		x
Job grading review	x		x													x									x			x		x
Prod incentive schemes		x											x								x					x		x		x
Marketing & Operations																														
Marketing department est	x	x	x	x	x	x	x		x	x																				
Determine market share	x	x		x																						x		x		
Develop costing system	x	x	x	x			x			x					x			x								x				
Pass service reduction			x		x				x						x	x				x						x		x		x
Operation improvement	x	x	x	x											x	x				x						x		x		x
Wagon tracking system	x	x	x	x	x										x													x		
Joint operations																														
Joint marketing																														

Table AT 1 Performance Measures for SADC Airlines

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993
SADC airlines									
Pax (Thousands)	2666	2576	2489	2435	2468	2649	2555	2420	2313
RPKm (Millions)	3331 5	3159 5	2963 2	3371 7	3491 4	3958 3	4456 4	3733 0	3714 1
ASKm (Millions)	4993 6	4980 2	4710 3	5126 1	5666 4	6465 6	7356 7	6488 1	6630 8
Pax LF (%)	66 7	63 4	62 9	65 8	61 6	61 2	60 6	57 5	56 0
Freight (ktons)	17304	16689	17674	32711	42643	45563	45949	41578	37054
Fleet value (USD Millions)	298 8	329 3	411 6	485 8	565 0	639 7	566 8	686 6	862 6
Operating Revenue (USD Millions)	631 3	525 1	613 0	666 5	712 3	811 5	857 2	554 7	641 4
Operating Expenditure (USD Millions)	584 5	466 8	546 0	642 2	705 0	833 3	785 0	623 0	654 3
Operating Result (USD Millions)	46 8	58 3	67 0	24 3	7 3	-21 8	72 2	-68 3	12 9
Employees (No)	12884	12962	12416	14318	13969	13534	13239	12850	11484
RPKm per Employee (Millions)	0 26	0 24	0 24	0 24	0 25	0 29	0 34	0 29	0 32
RexEx Ratio	1 08	1 12	1 12	1 04	1 01	0 97	1 09	0 89	0 98
Yield (Cents / RPKm)	18 9	16 6	20 7	19 8	20 4	20 5	19 2	14 9	17 3
South African Airways									
Pax (Thousands)	4208	2242	3456	5003	5396	5256	4723	4236	4155
RPKm (Millions)	8686	4509	6574	8748	9117	9012	8410	8432	8564
ASKm (Millions)	14110	7049	9878	13037	14245	13949	14362	14100	14567
Pax LF (%)	62	64	67	67	64	65	59	60	59
Freight (ktons)	54786	55980	57687	58342	59876	58706	54889	52445	53677
Fleet value (USD Millions)	815 8	761 4	693 7	734 6	867 8	886 4	1078 2	1056 0	1077 0
Operating Revenue (USD Millions)	571 0	435 0	622 0	697 0	1030 0	973 0	1093 5	1209 5	1100 0
Operating Expenditure (USD Millions)	602 0	455 0	595 0	664 0	889 6	941 4	1096 1	982 5	987 0
Operating Result (USD Millions)	-31 0	-20 0	27 0	33 0	140 4	31 6	2 6	227 0	113 0
Employees (No)	11687	11540	11540	10380	11279	10200	11380	10670	10500
RPKm per Employee (Millions)	0 7	0 4	0 6	0 8	0 8	0 9	0 7	0 8	0 8
RexEx Ratio	0 95	0 96	1 05	1 05	1 16	1 03	1 00	1 23	1 11
Yield (Cents / RPKm)	6 6	9 6	9 5	8 0	11 3	10 8	13 0	14 3	12 8
Global									
Pax (Millions)	899 0	960 0	1028 0	1082 0	1119 0	1165 0	1134 0	1167 1	1213 8
RPKm (Billions)	1367 0	1452 0	1589 0	1705 0	1780 0	1894 0	1843 3	1952 6	2070 0
Yield (Cents / RPKm)	8 2	8 6	9 3	9 8	10 0	10 5	11 1	10 9	11 2

Key RPKm = Revenue Passenger Kilometres
L F = Load Factor
RexEx Ratio = Revenue to Expenditure Ratio

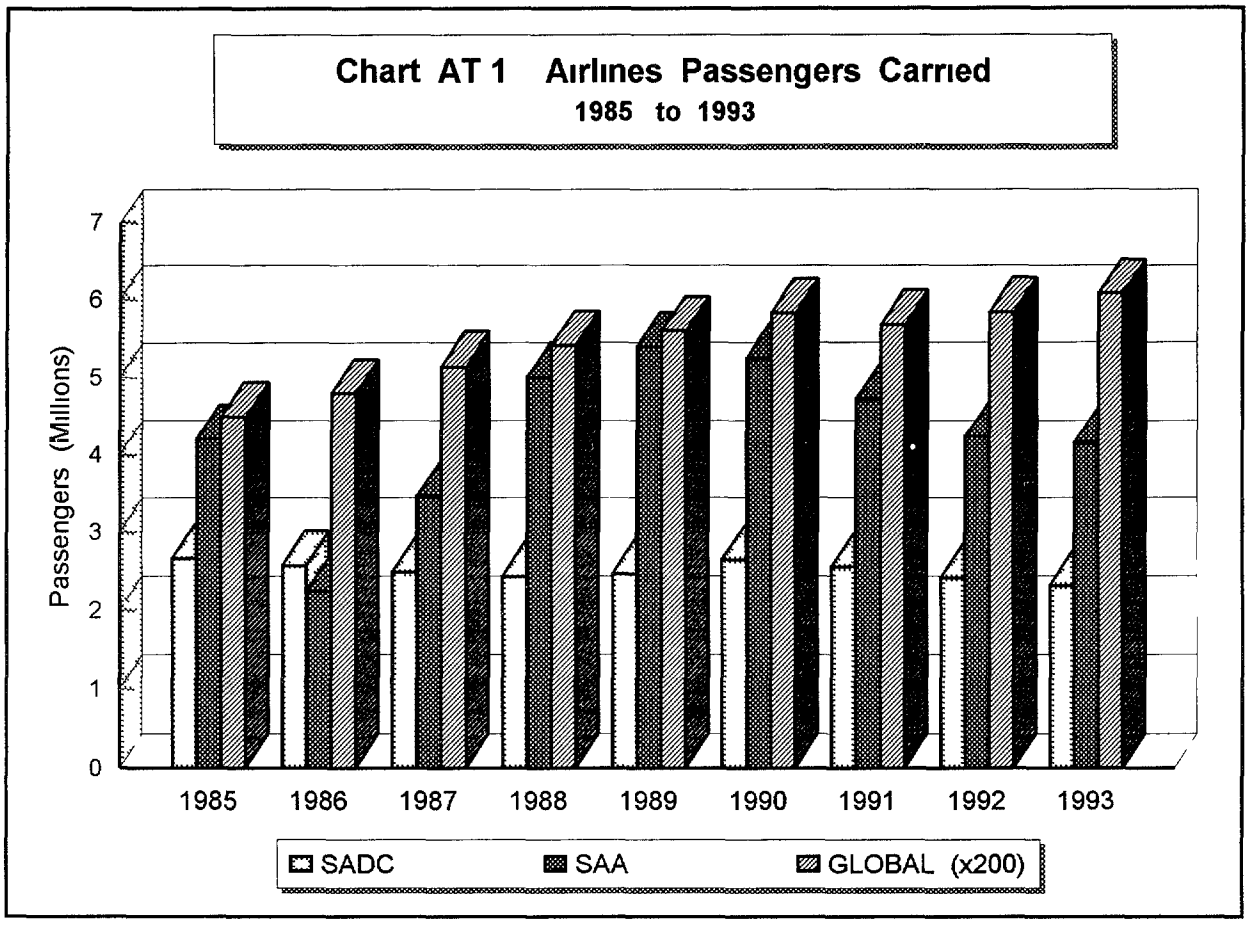


Chart AT 1 Airlines Passengers Carried
1985 to 1993
Passengers (Millions)
0
1
2
3
4
5
6
7
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA
GLOBAL (x200)

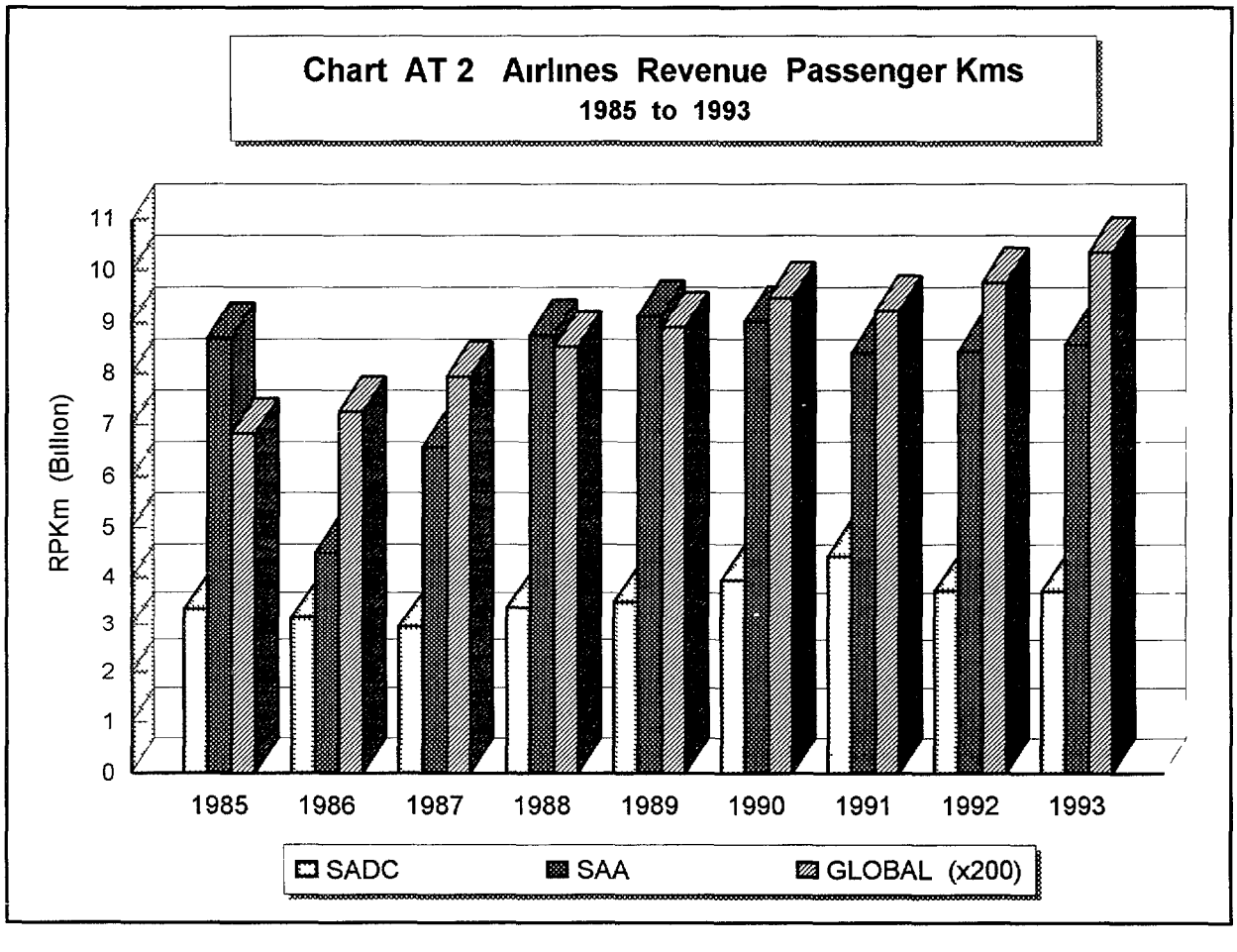


Chart AT 2 Airlines Revenue Passenger Kms
1985 to 1993
RPKm (Billion)
0
1
2
3
4
5
6
7
8
9
10
11
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA
GLOBAL (x200)

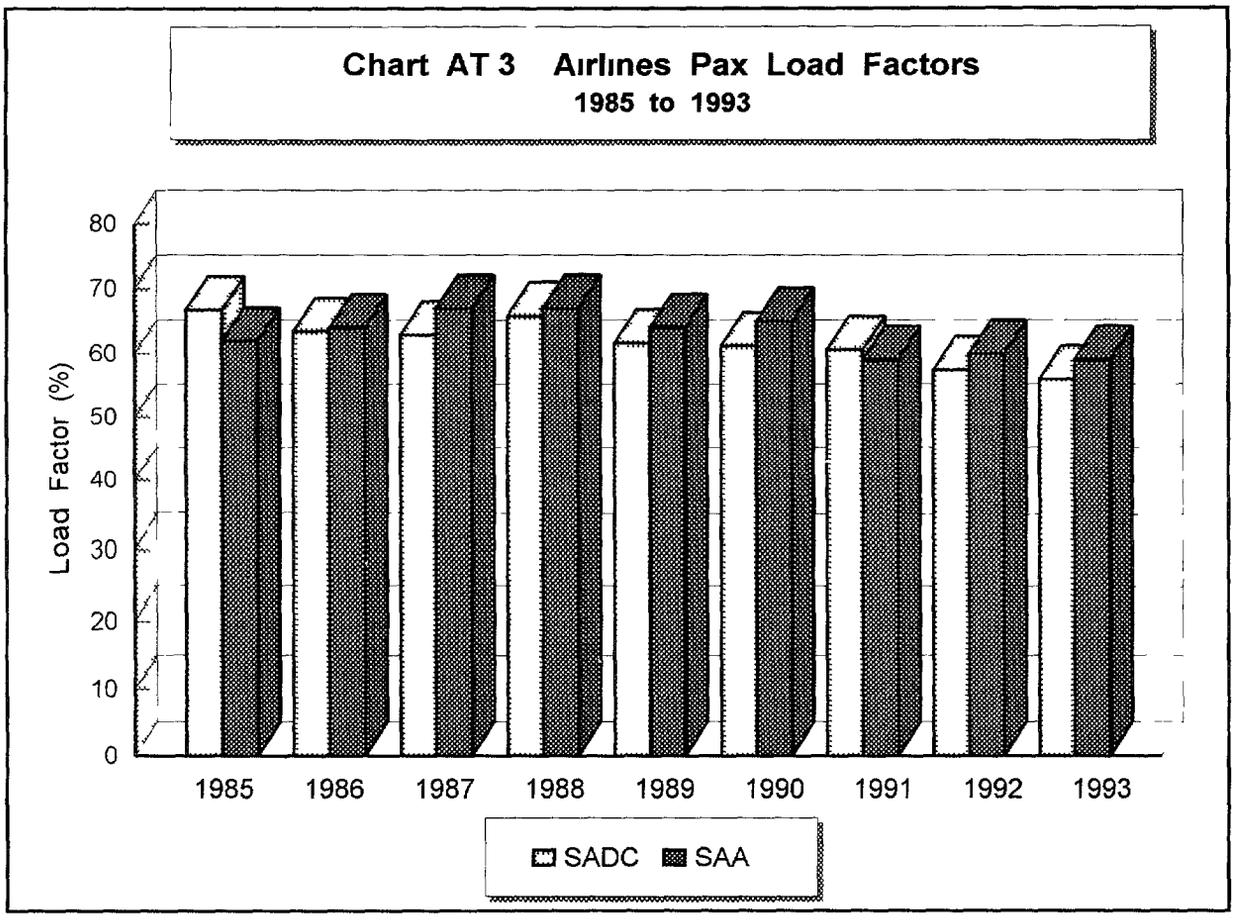


Chart AT 3 Airlines Pax Load Factors
1985 to 1993
Load Factor (%)
80
70
60
50
40
30
20
10
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA

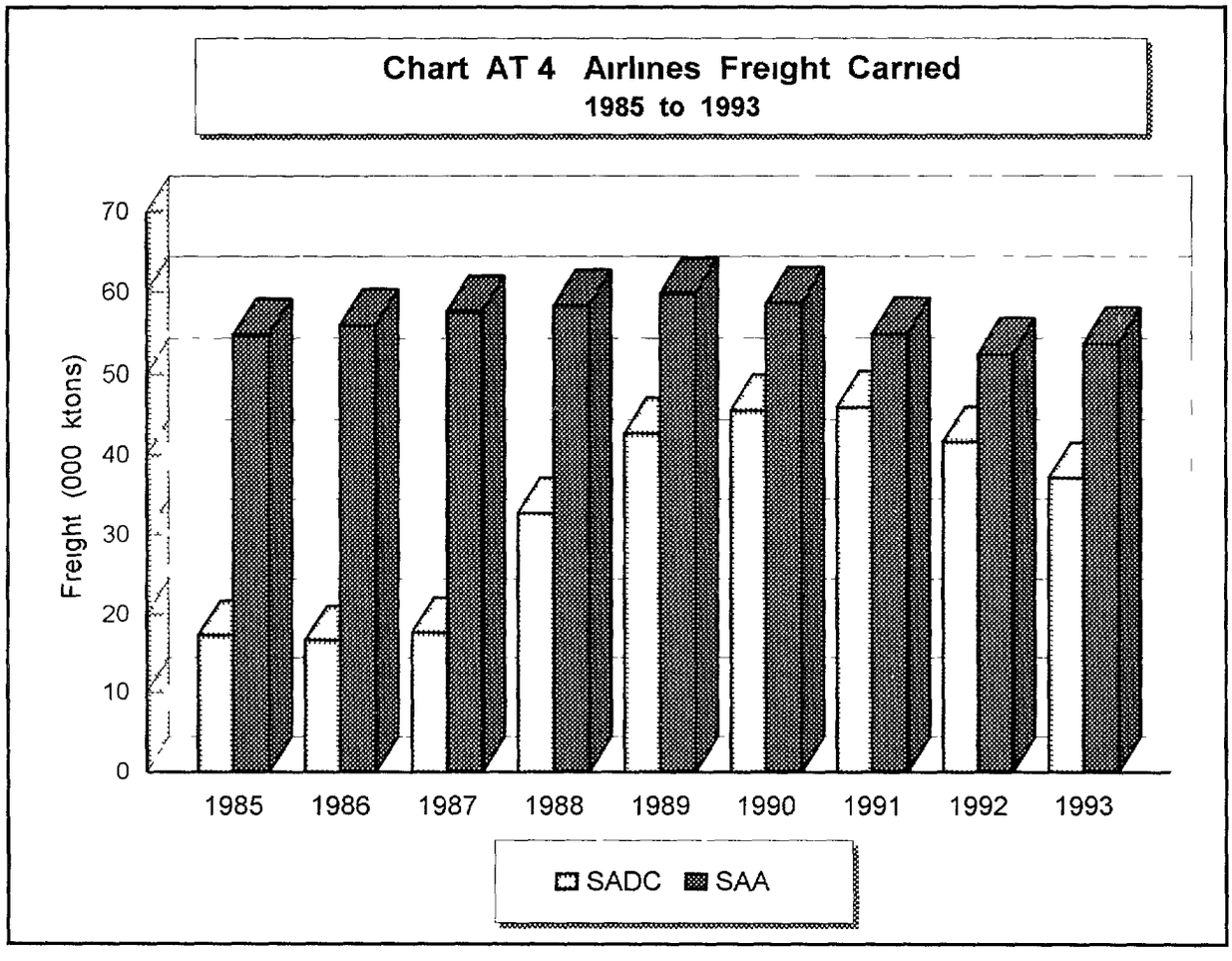


Chart AT 4 Airlines Freight Carried
1985 to 1993
Freight (000 ktons)
70
60
50
40
30
20
10
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA

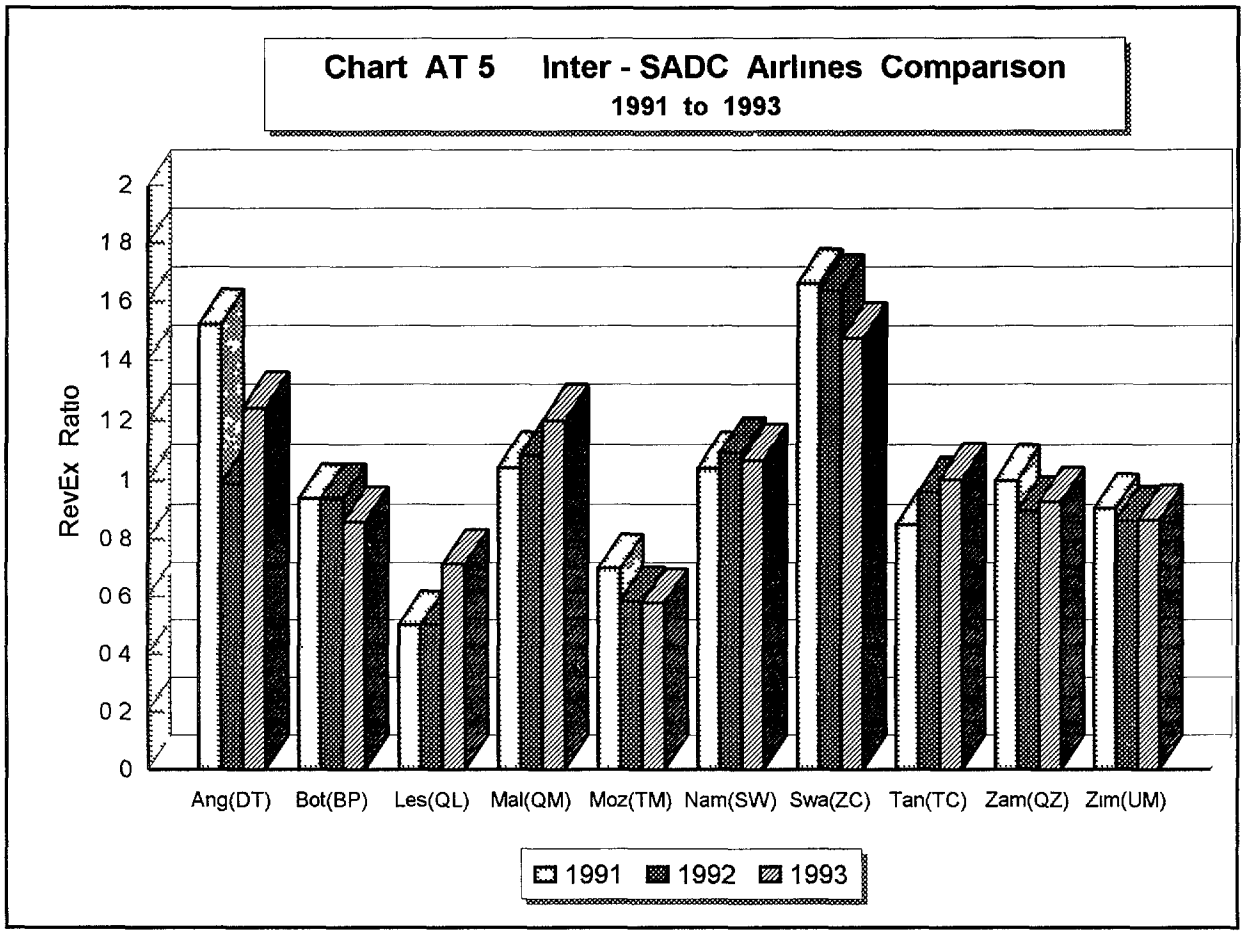


Chart AT 5 Inter - SADC Airlines Comparison
1991 to 1993
RevEx Ratio
2
1 8
1 6
1 4
1 2
1
0 8
0 6
0 4
0 2
0
Ang(DT)
Bot(BP)
Les(QL)
Mal(QM)
Moz(TM)
Nam(SW)
Swa(ZC)
Tan(TC)
Zam(QZ)
Zim(UM)
1991
1992
1993

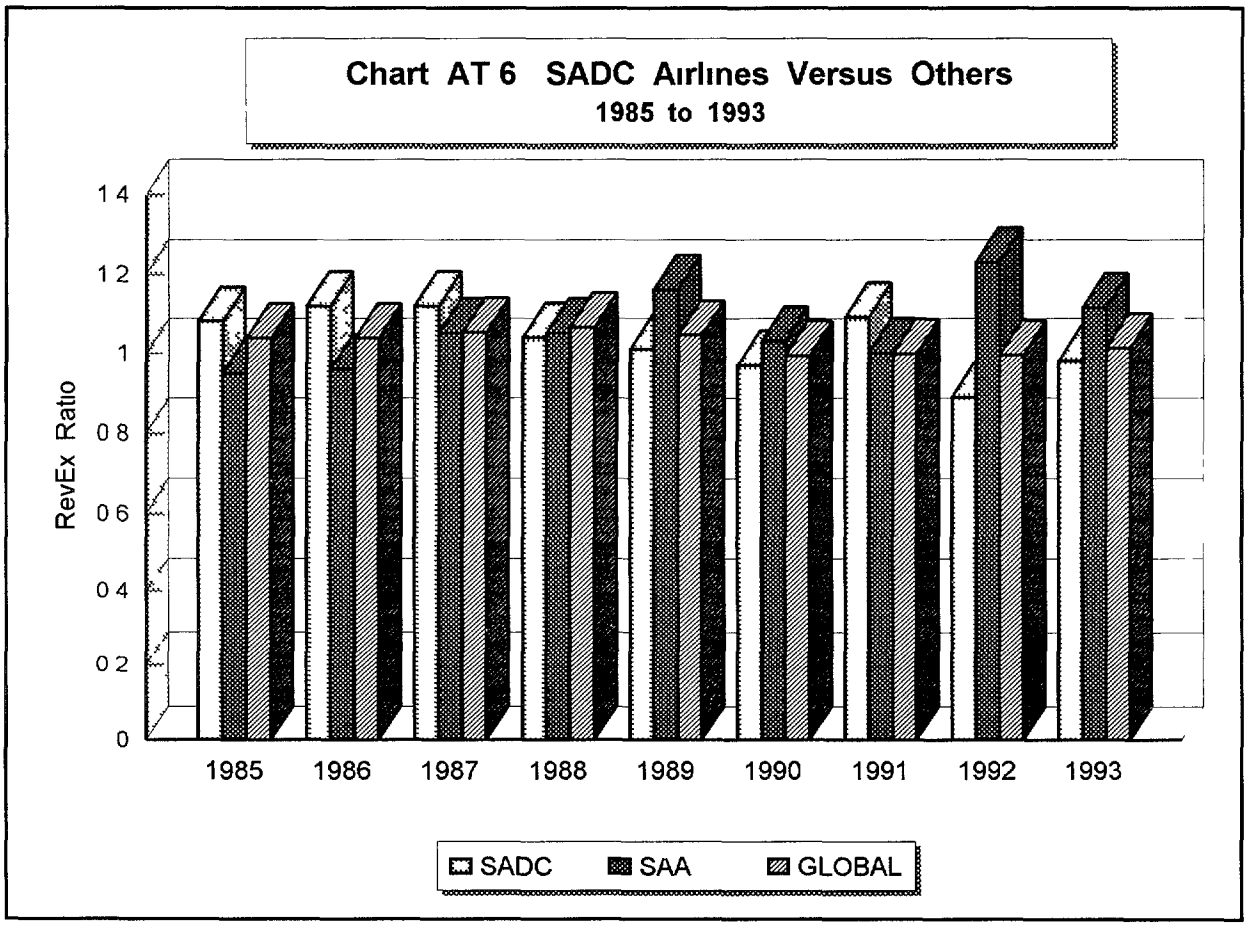


Chart AT 6 SADC Airlines Versus Others
1985 to 1993
RevEx Ratio
1 4
1 2
1
0 8
0 6
0 4
0 2
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA
GLOBAL

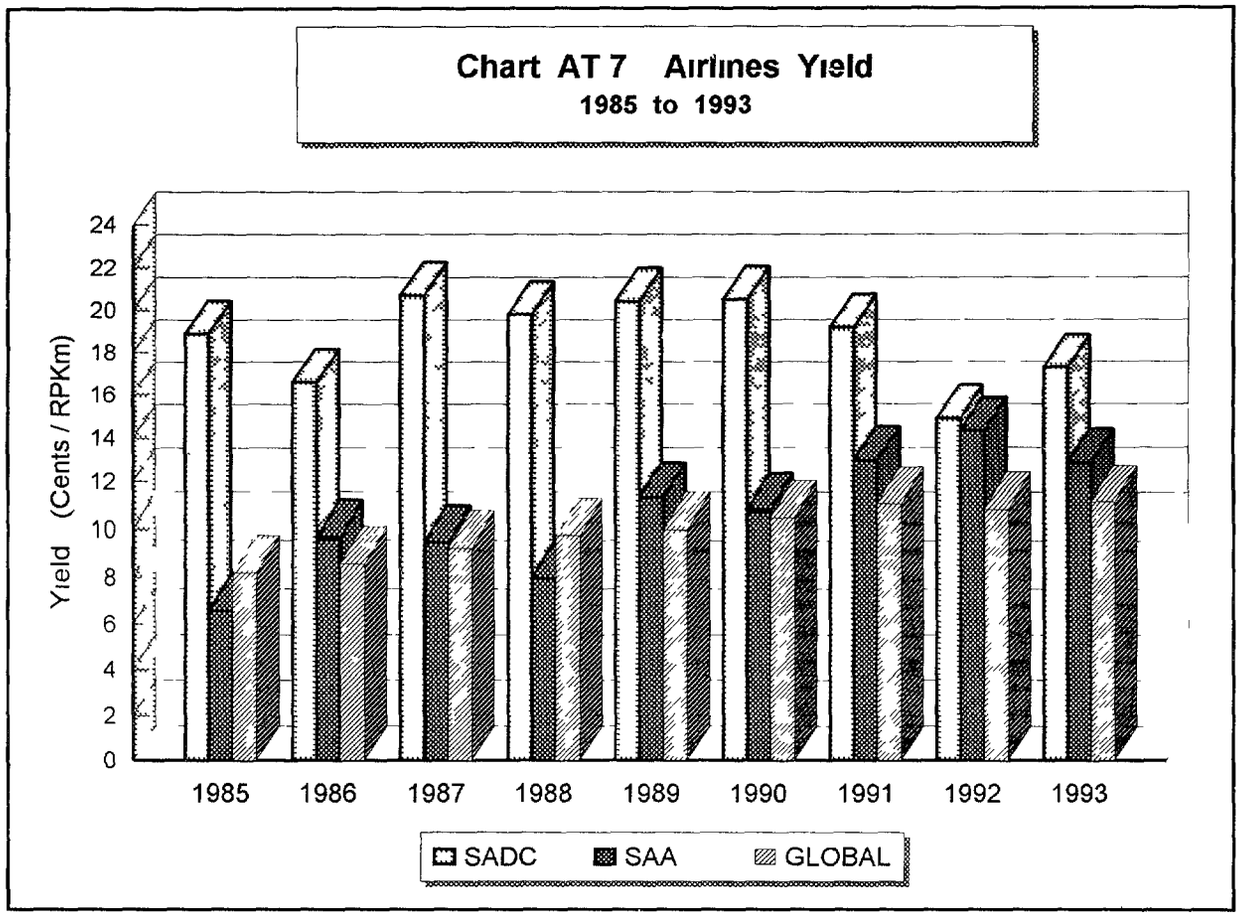


Chart AT 7 Airlines Yield
1985 to 1993
Yield (Cents / RPKm)
24
22
20
18
16
14
12
10
8
6
4
2
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA
GLOBAL

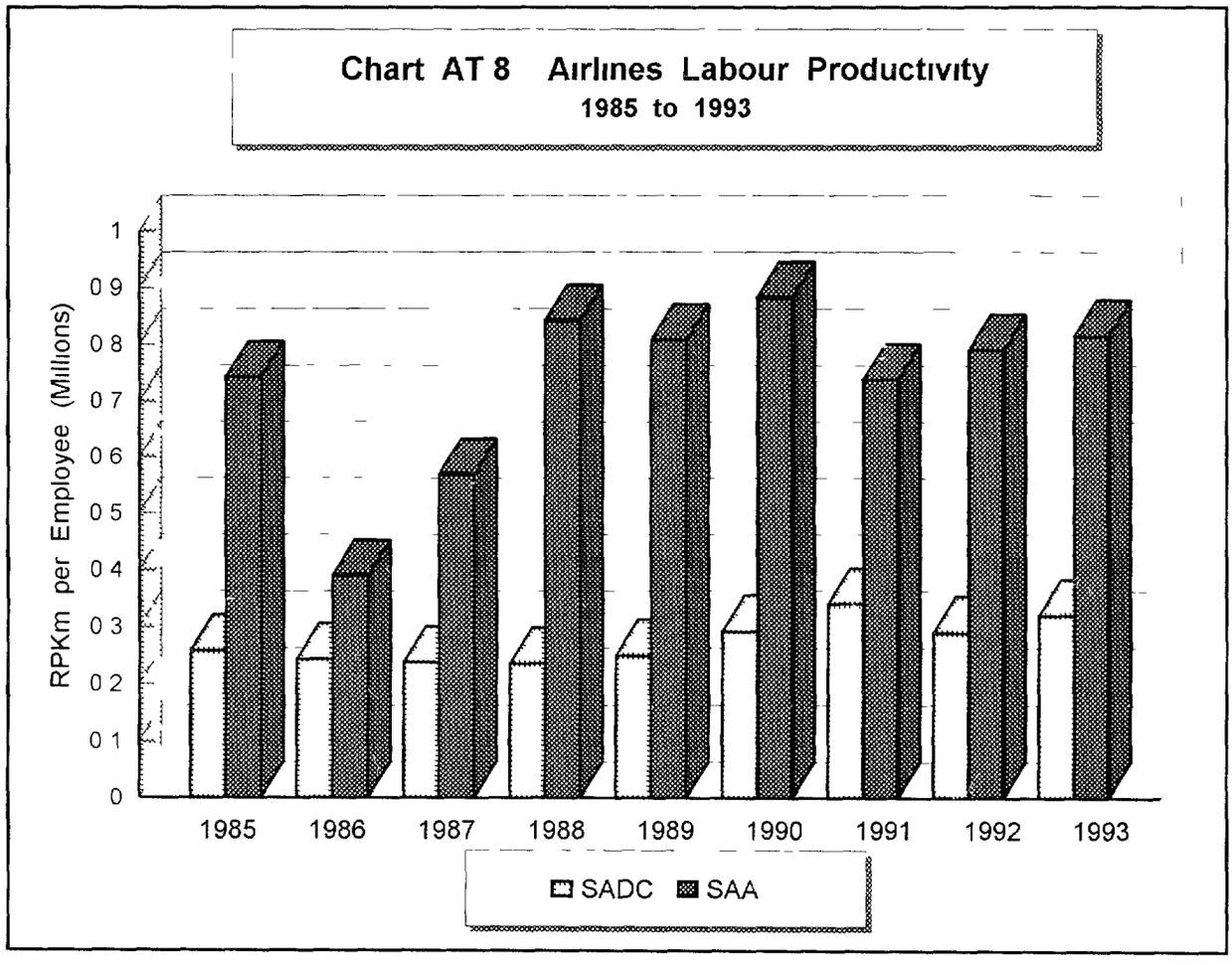


Chart AT 8 Airlines Labour Productivity
1985 to 1993
RPKm per Employee (Millions)
1
0 9
0 8
0 7
0 6
0 5
0 4
0 3
0 2
0 1
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
SADC
SAA

Table TL 1 General Telecommunications Statistics - 1993

Country	Exchange Capacity (DELs)	Working DELs	Waiting List (DELs)	Population (Million)	DELs Per 100 Population	Staff (No)	Staff Per 1000 DELs
Angola	86292	65356	19240	10 90	0 60	2706	41 40
Botswana	50600	36901	11230	1 30	2 84	1650	44 71
Lesotho	22100	12810	8500	1 77	0 72	823	64 25
Malawi	74609	34396	21500	9 00	0 38	2031	59 05
Mozambique	88474	62089	46810	17 20	0 36	2486	40 04
Namibia	74000	64950	3800	1 78	3 65	1900	29 25
Swaziland	18818	15169	9050	0 88	1 72	450	29 67
Tanzania	129400	90249	195000	27 32	0 33	4900	54 29
Zambia	109990	76960	73213	8 45	0 91	3345	43 46
Zimbabwe	185674	163800	97000	10 50	1 56	5300	32 36
Total SADC	839957	622680	485343	89 10	0 70	25591	41 10
South Africa	4486000	3943284	121000	39 30	10 03	61990	15 72
Africa (1)		10076100	3732400	684 30	1 47	265300	26 33
Sub - Saharan Africa (2)		2008814		509 42	0 39		58 00
Europe (1)		197648900	9454000	559 00	35 36	1311600	6 64
Americas (1)		193458200	4440200	743 30	26 03	1099600	5 68
Asia (1)		122186900	11758200	3165 70	3 86	1680200	13 75
World (1)		573933600	46444000	5472 40	10 49	5161800	8 99

Key
(1) 1992 Figures
(2) 1991 Figures

Table TL 2 Intra - SADC Telephone Traffic -1993 (Paid Minutes x 100 000)

	To Angola	Botswana	Lesotho	Malawi	Mozambique	Namibia	Swaziland	Tanzania	Zambia	Zimbabwe	SADC	RSA
From												
Angola	-	0 007	0 006	0	0 02	0 02	0 005	0 03	0 007	0 03	0 125	0 005
Botswana	0 50	-	1 80	1 30	0 34	0 08	1 78	0 45	3 81	34 18	44 24	190 0
Lesotho	0	2 04	-	0 20	0 12	0 19	1 40	0 02	0 04	0 51	4 52	89 2
Malawi	0 01	0 01	0 32	-	1 10	0 50	0 30	0 65	2 4	7 04	12 33	15 3
Mozambique	0 44	0 22	0 22	1 10	-	0 13	6 57	0 68	0 38	8 03	17 77	42 27
Namibia	1 01	2 29	0 30	0 47	0 14	-	0 38	0 01	1 39	2 73	8 72	326 8
Swaziland	0 01	1 08	1 78	0 30	6 75	0 27	-	0 22	0 71	1 62	12 74	94 3
Tanzania	0 03	0 15	0 03	0 84	0 24	0 04	0 09	-	2 42	0 68	4 52	0 03
Zambia	0 69	7 69	0 16	2 84	0 18	1 22	1 15	2 24	-	12 76	28 93	26 9
Zimbabwe	0 56	24 65	0 58	6 18	3 81	0 16	0 30	1 09	15 03	-	52 36	180 6
Total	3 25	38 137	5 196	13 23	12 7	2 61	11 975	5 39	26 187	67 58	186 255	965 405

Table TL 3 SADC Telecommunications Tariffs (1992)
(USD)

	Connection Charge	Monthly Rental	National (per minute)	SADC (3 minutes)	Africa (3 minutes)	World (3 minutes)
Angola	100 0	1 2	0 259 0 646 1 034 1 810 2 586	7 00	8 30	10 90
Botswana	100 0	8 0	0 104 0 525 1 470	2 41 3 15 8 30		10 50 18 90
Lesotho	86 7	5 0	0 080 0 180 0 250 0 360	1 80 3 60	5 40 7 20	9 00 10 80
Malawi	100 0	5 0	0 050 0 125 0 250 0 375 0 750 1 000	6 00	9 00	9 00
Mozambiqu	52 5	5 3	0 025 0 125 0 500			
Namibia	57 0	7 5		2 00	9 00	9 00
Swaziland	20 0	2 0	0 040 0 053 0 210 0 370			10 00
Tanzania	76 7	5 7	0 034 0 230 0 517 1 035			
Zambia	8 3	0 9	0 043 0 260 0 390 0 780 1 040 1 300	8 40	6 30	5 50
Zimbabwe	14 5	1 4	0 030 0 090 0 180 0 270 0 360 0 540 0 720	2 00	5 00	6 70

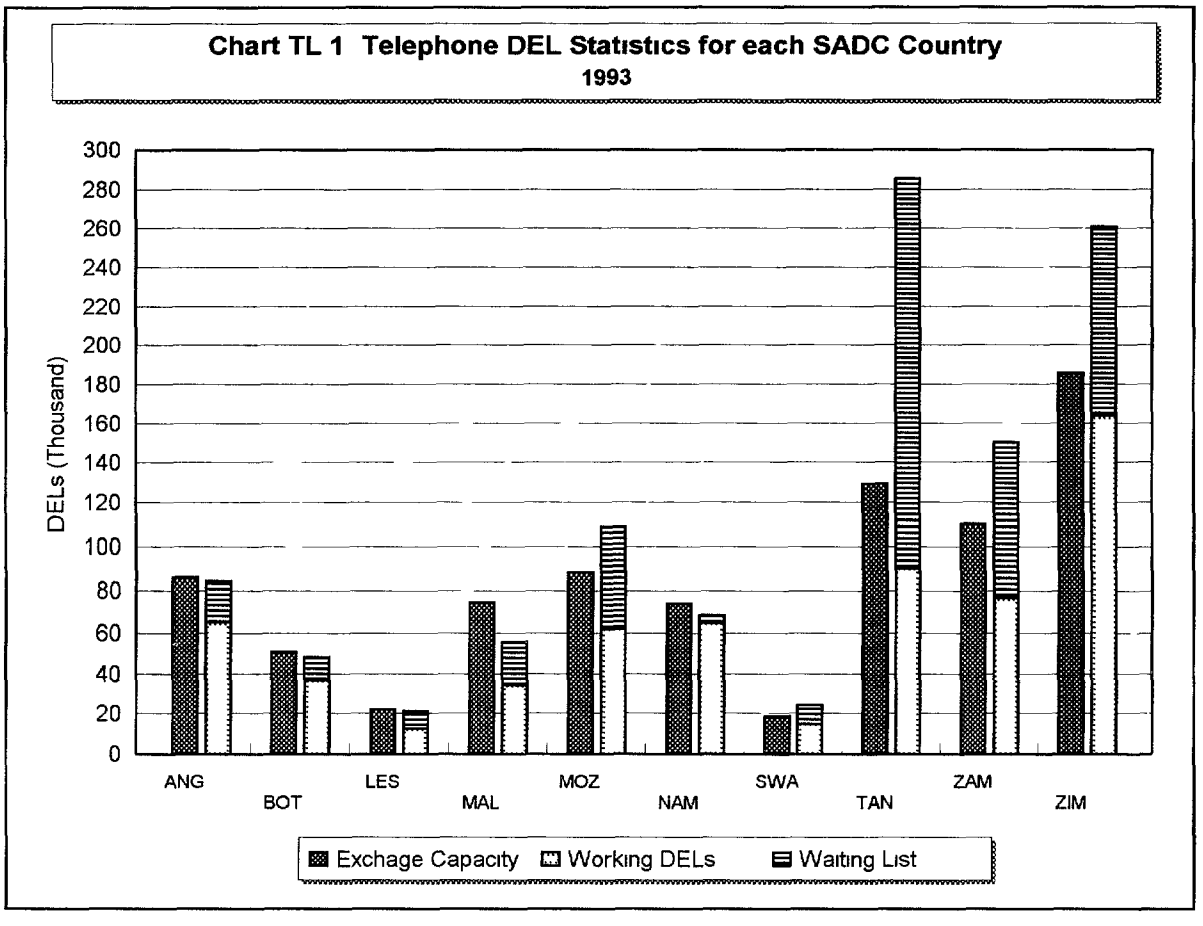


Chart TL 1 Telephone DEL Statistics for each SADC Country
1993
DELs (Thousand)
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
ANG
BOT
LES
MAL
MOZ
NAM
SWA
TAN
ZAM
ZIM
Exchage Capacity
Working DELs
Waiting List

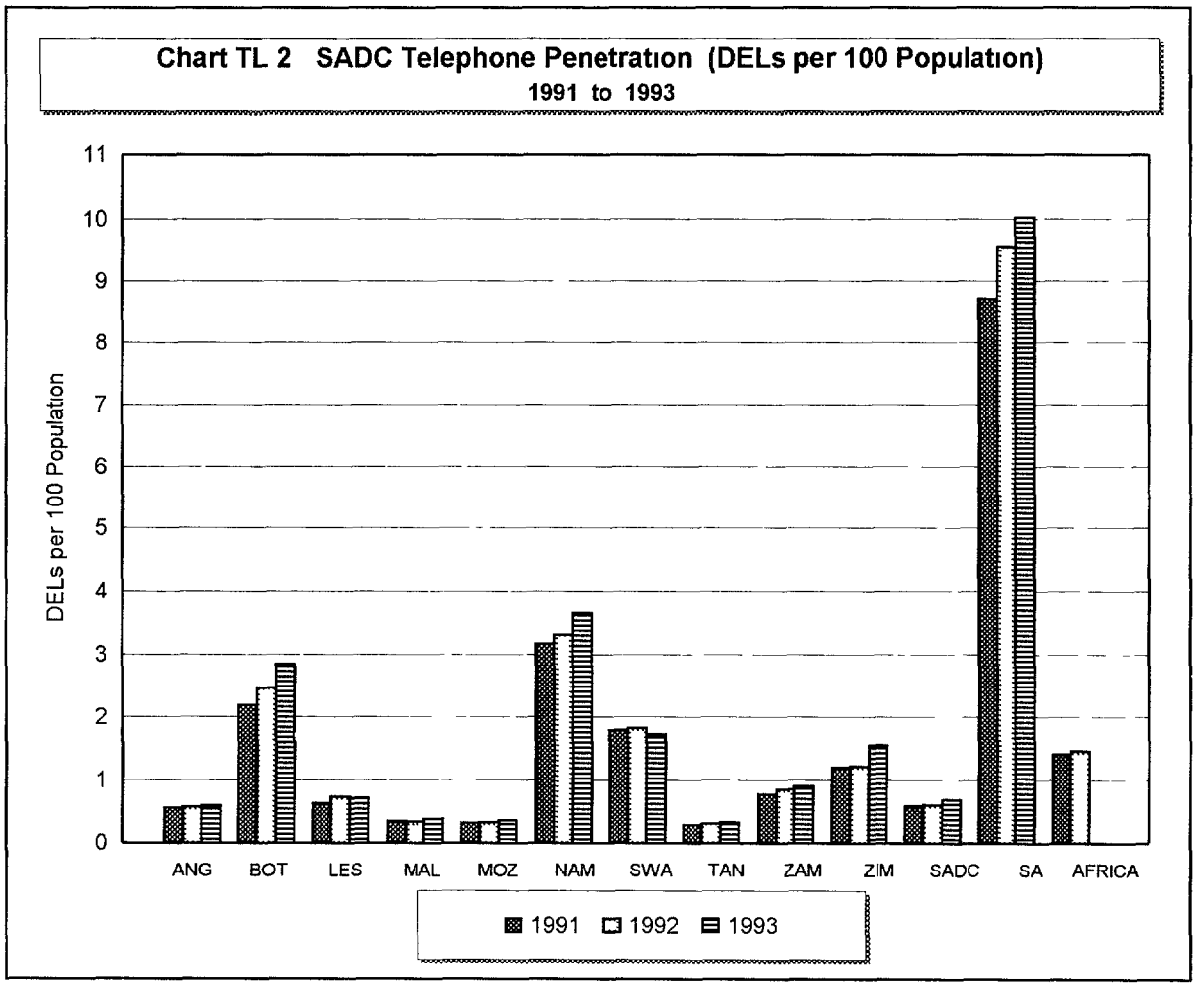
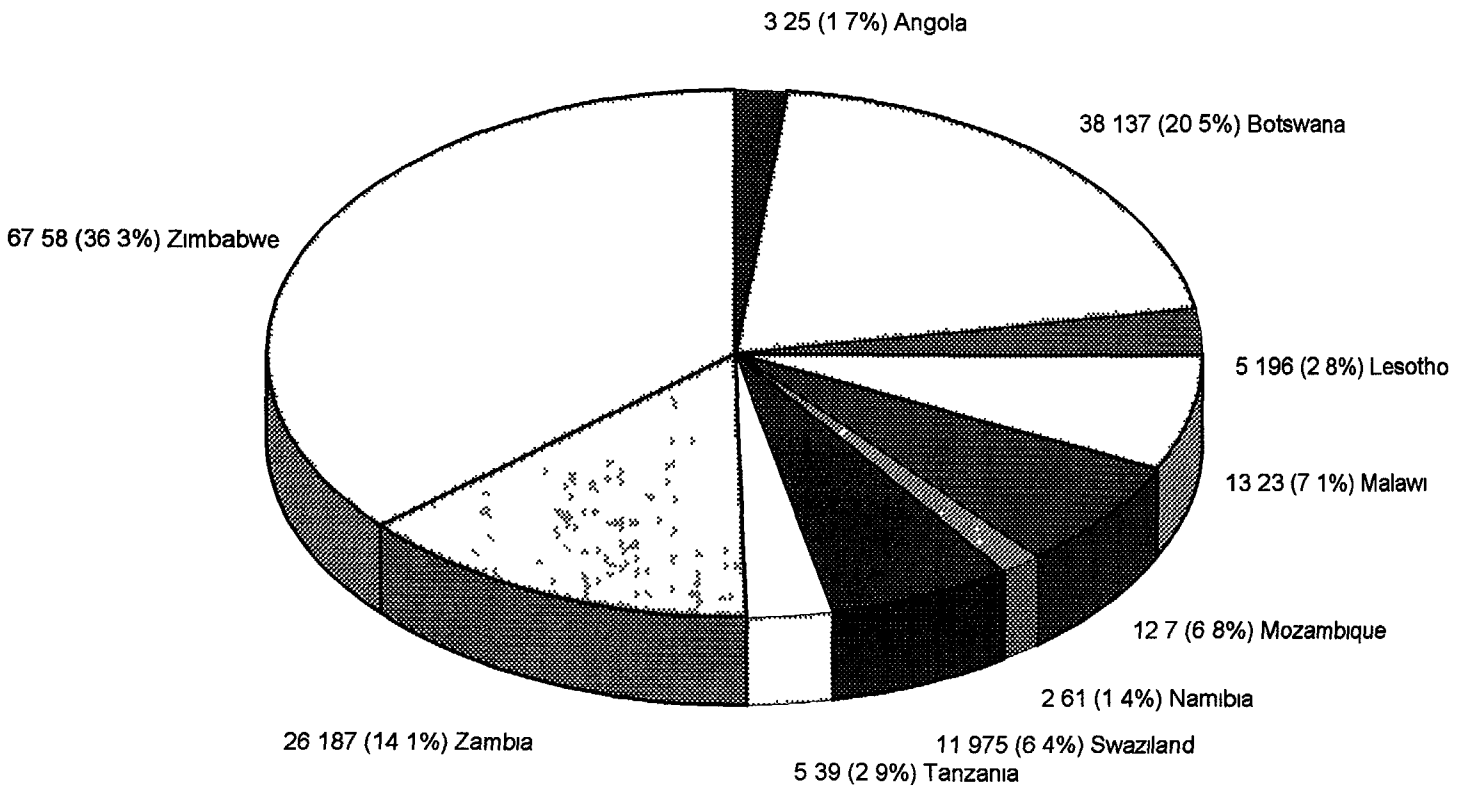


Chart TL 2 SADC Telephone Penetration (DELs per 100 Population)
1991 to 1993
DELs per 100 Population
11
10
9
8
7
6
5
4
3
2
1
0
ANG
BOT
LES
MAL
MOZ
NAM
SWA
TAN
ZAM
ZIM
SADC
SA
AFRICA
1991
1992
1993

Chart TL 3 Intra - SADC Telephone Traffic (Paid Minutes x 100 000) 1993



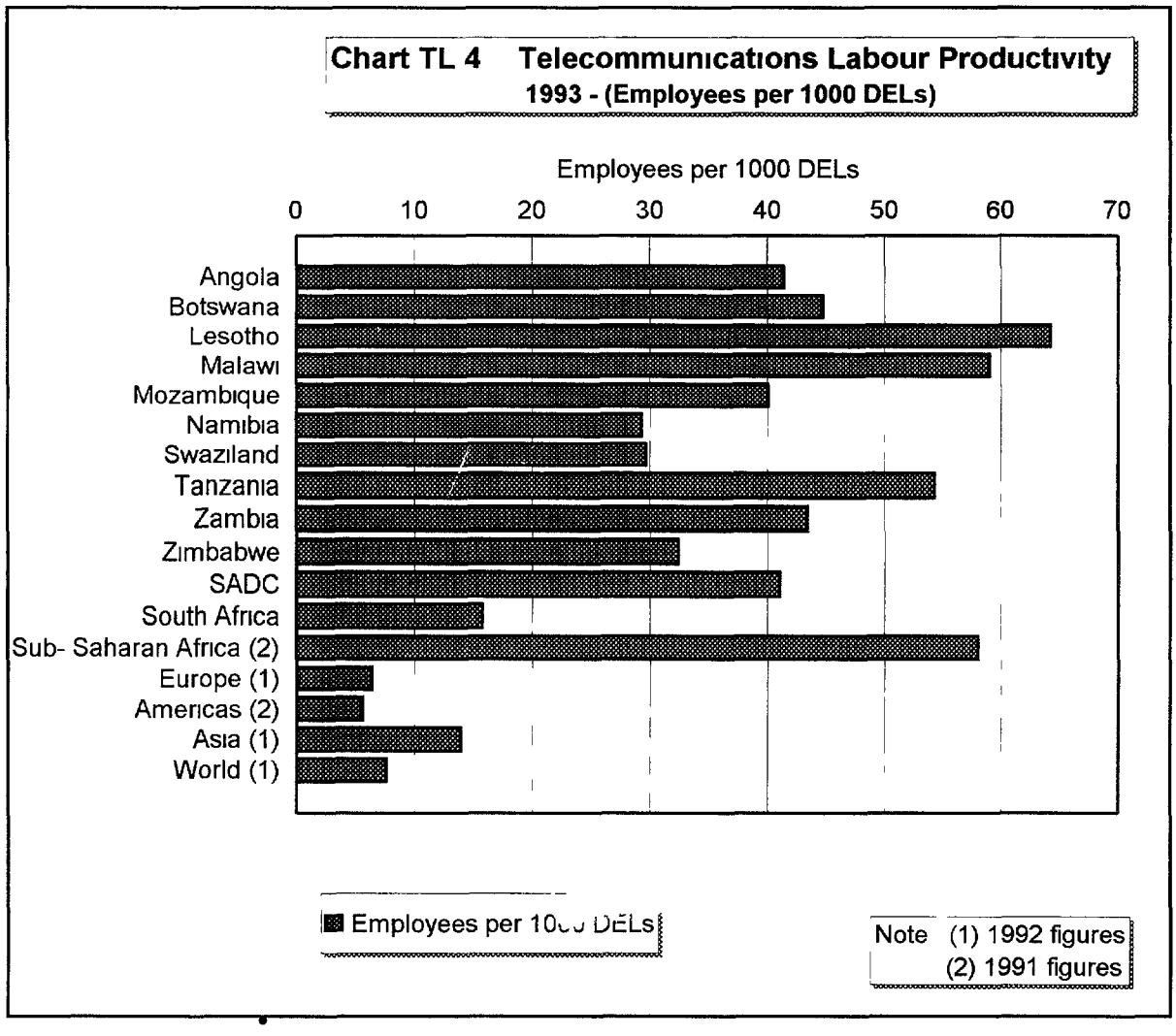


Chart TL 4 Telecommunications Labour Productivity
1993 - (Employees per 1000 DELs)
Employees per 1000 DELs
0
10
20
30
40
50
60
70
Angola
Botswana
Lesotho
Malawi
Mozambique
Namibia
Swaziland
Tanzania
Zambia
Zimbabwe
SADC
South Africa
Sub- Saharan Africa (2)
Europe (1)
Americas (2)
Asia (1)
World (1)
Employees per 1000 DELs
Note (1) 1992 figures
(2) 1991 figures

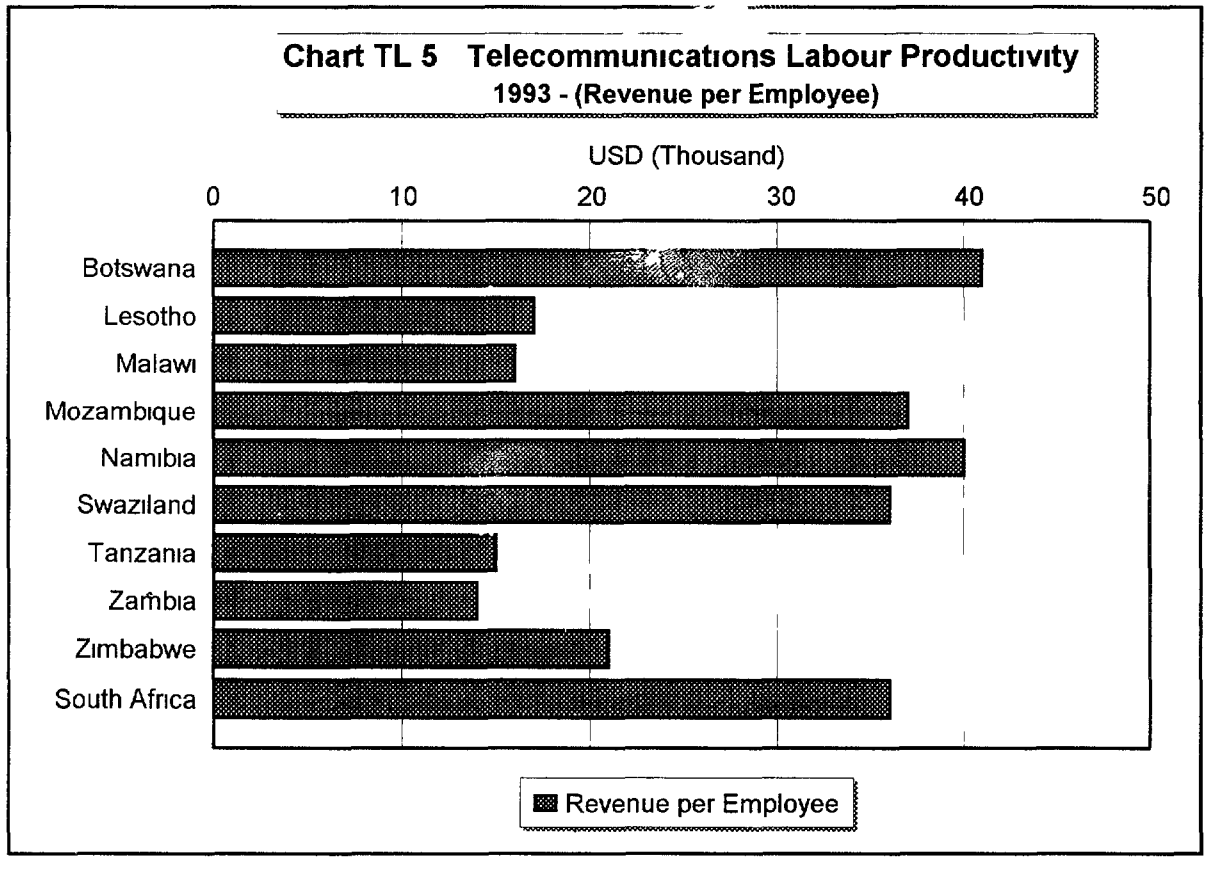


Chart TL 5 Telecommunications Labour Productivity
1993 - (Revenue per Employee)
USD (Thousand)
0
10
20
30
40
50
Botswana
Lesotho
Malawi
Mozambique
Namibia
Swaziland
Tanzania
Zambia
Zimbabwe
South Africa
Revenue per Employee

Chart TL 6 Cost of 3 Minutes Call To / From RSA

(USD)

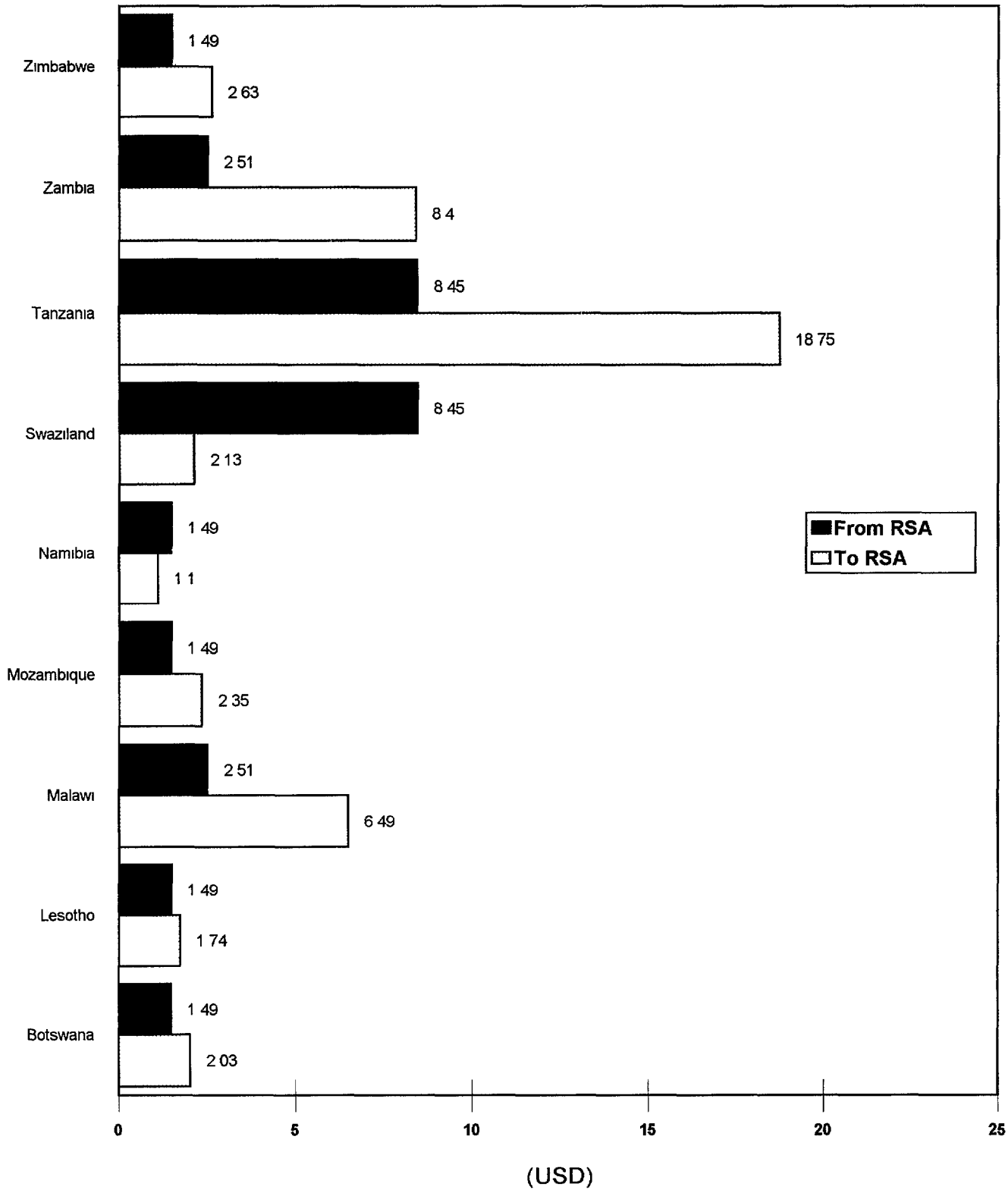


Table PO 1 Some SADC Postal Services Performance Statistics for 1992 and 1993

	Angola		Botswana		Lesotho		Malawi		Mozambique		Namibia		Swaziland		Tanzania		Zambia		Zimbabwe	
	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
1 Number of Post Offices	76	76	90	90	44	44	157	157	193	193	74	74	41	41	203	203	138	138	176	176
2 Number of Postal Agencies	84	84	78	78	143	143	296	296	288	288	90	90	29	29	537	537	430	430	268	268
3 Total Staff	1027		1159	1144	427		1268		957		450		289	289	2104	2104	1914		2864	
4 Total Mail Posted (LC / AO)	976000		21539057	27210103	18910000		51260000		2597970		23102896		11296032	16591752	68915927	60373779	40173000		257351000	
5 Total Mail Received (LC / AO)	1127000		6578227	10176478	26870600		82000000		6045928		34654342		11204937	13745665	91524983	59950476	21299000		52465000	
6 EMS Items Posted	205		11715	15865	1685		1691		21283		N/A		2814	3675	11276	11276	10602		59561	
7 EMS Items Received	42		6529	8119	909		3543		7612		154		1426	1447	8776	8776	4262		10980	
8 Airmail Average Transit Time Within the SADC Region			3 Days	3 Days	3 Days		2 3 Days		2 3 Days				4 Days	4 Days	7 Days	3 Days	2 3 Days			
9 Private Boxes ('000)	33		45	55	22		31		19		19		21	26	105	105	50		32	
10 Population (Million)	10 9	10 9	1 3	1 3	1 7	1 7	9 0	9 0	17 2	17 2	1 8	1 8	0 88	0 88	27 3	27 3	8 45	8 45	10 5	10 5
11 Area (Square Kilometres)	1246700	1246700	582000	582000	30355	30355	119139	119139	799380	799380	823000	82300	17364	17364	945000	945000	755000	755000	350245	350245
12 Private Boxes per 100 Population	0 30	0 00	3 46	4 23	1 29	0 00	0 34	0 00	0 11	0 00	1 06	0 00	2 39	2 95	0 38	0 38	0 59	0 00	0 30	0 00
13 Area Served by each Post Office (Square Kilometres)	14842	14842	3464	3464	212	212		402	3098	3098	9144	9144	248	248	1277	1277	1752	1752	1367	1367
14 Letters per 1000 Population	90	0	16569	20931	11124	0	5696	0	151	0	12835	0	12836	18854	2524	2211	4754	0	24510	0
15 Mail Volume per Staff (000)	2		24	33	107		105		9		128		78	105	76	57	32		108	
16 Total Parcels Posted			12689	12097									3272	2994	92984	44966				
17 Total Parcels Received			163119	193499									32229	31352	94550	73685				

Key
LC / AO = Letters and Cards / Any Other

Figures

Figure 1 Regional Surface Transport Networks and Airports

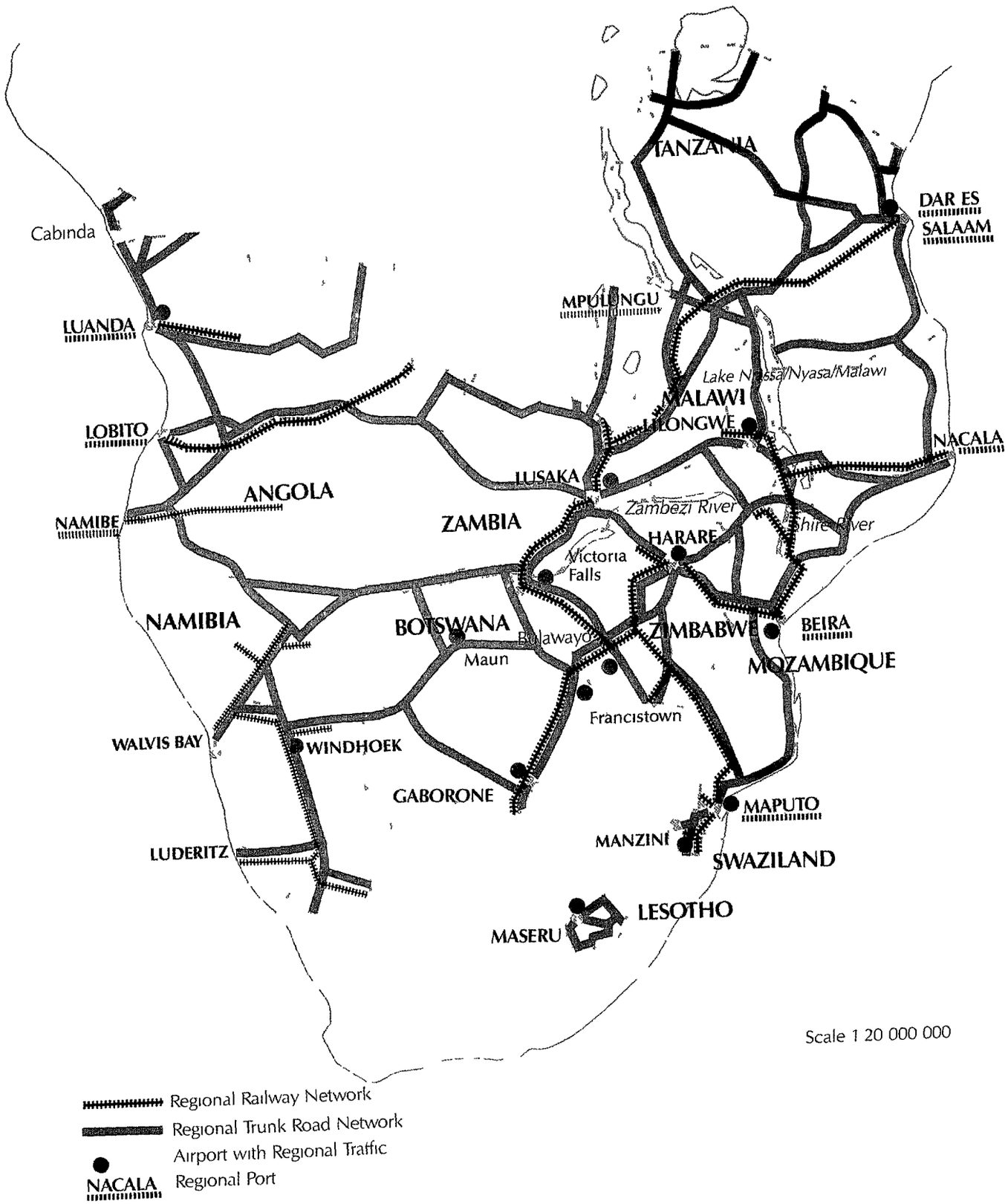


Figure 2 Railway, Road, Port and Water Transport Projects

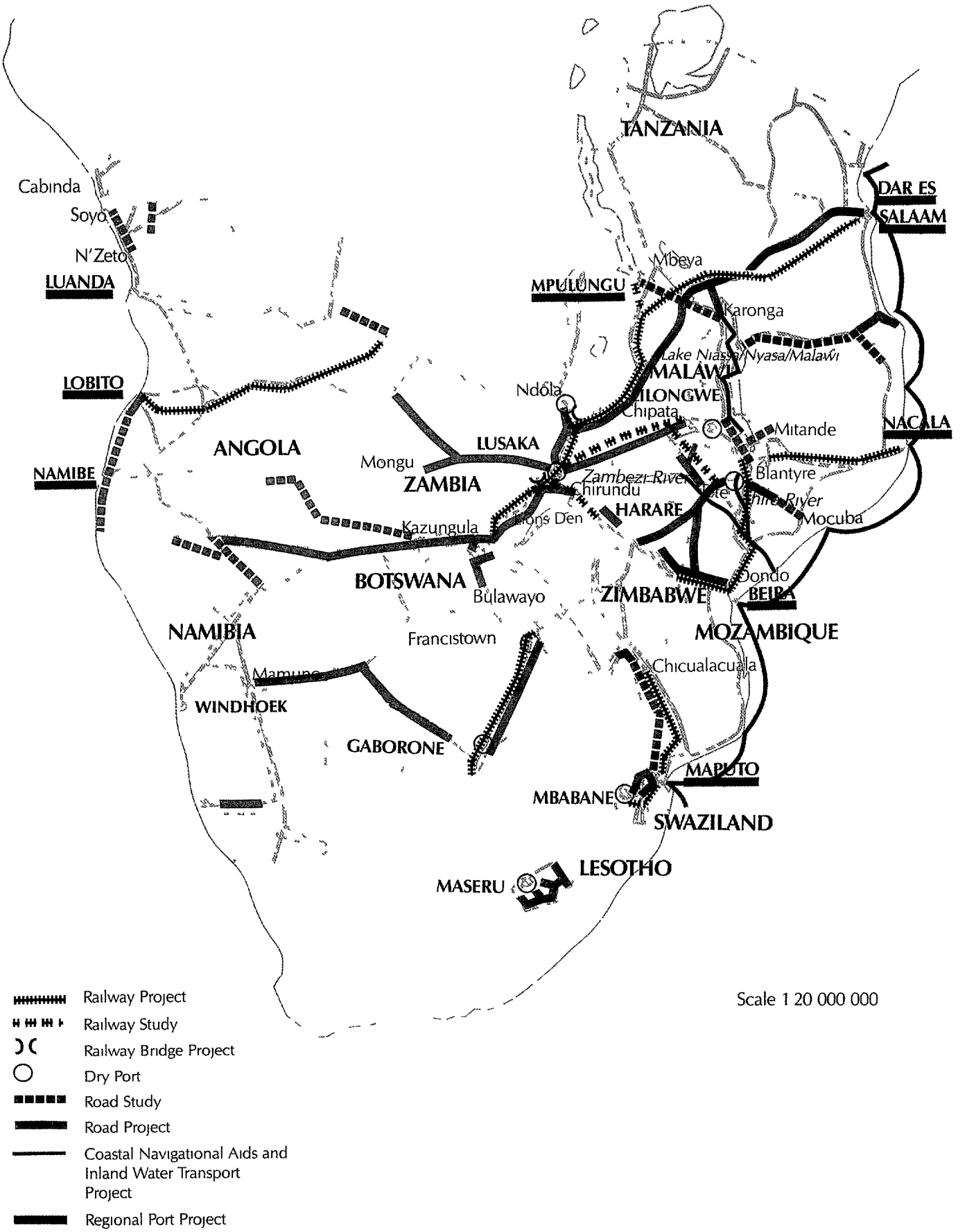
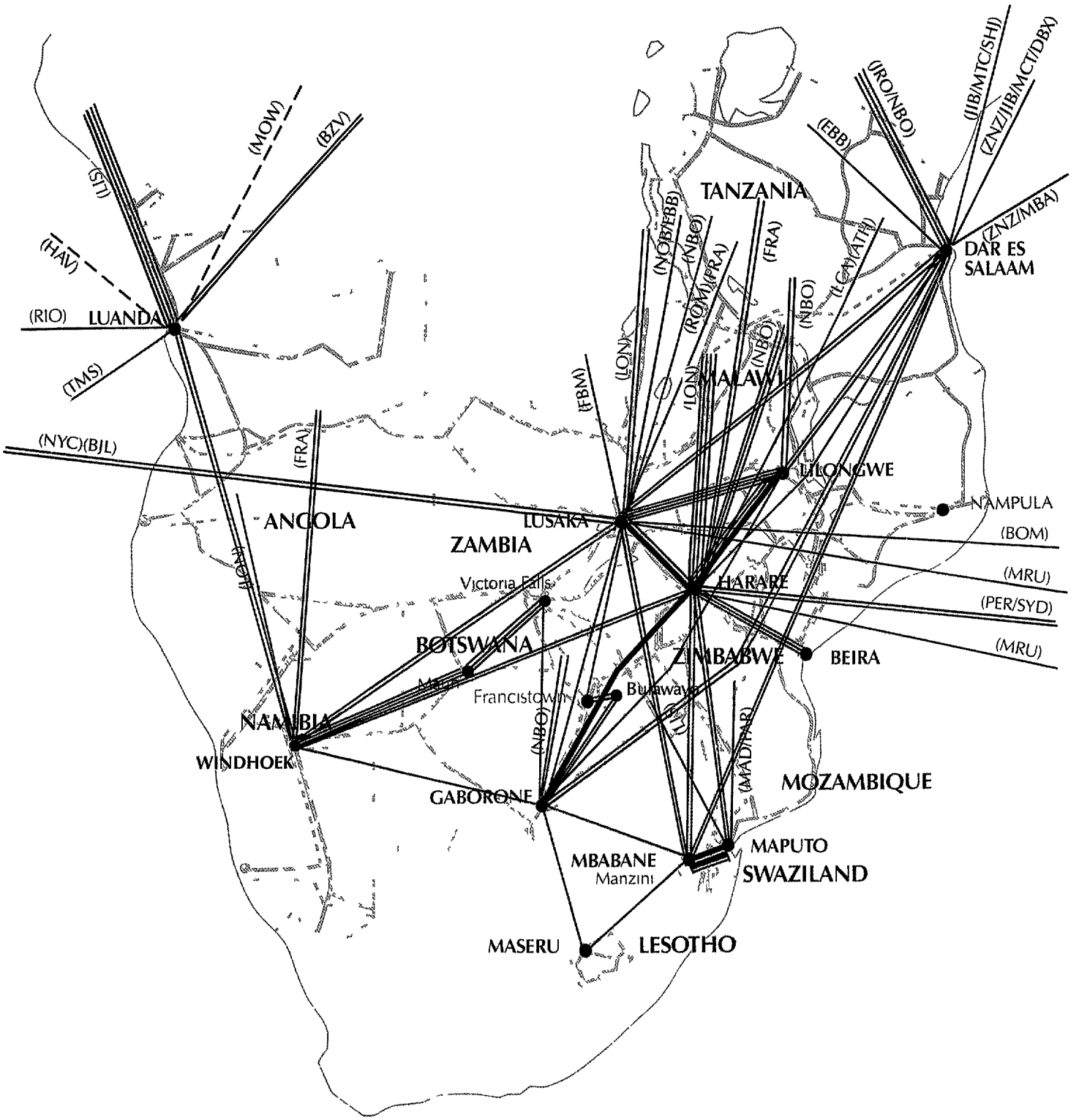


Figure 3 Regional and Overseas Fligths by SADCC National Airlines



Weekly Regional connections

5 pairs of connections

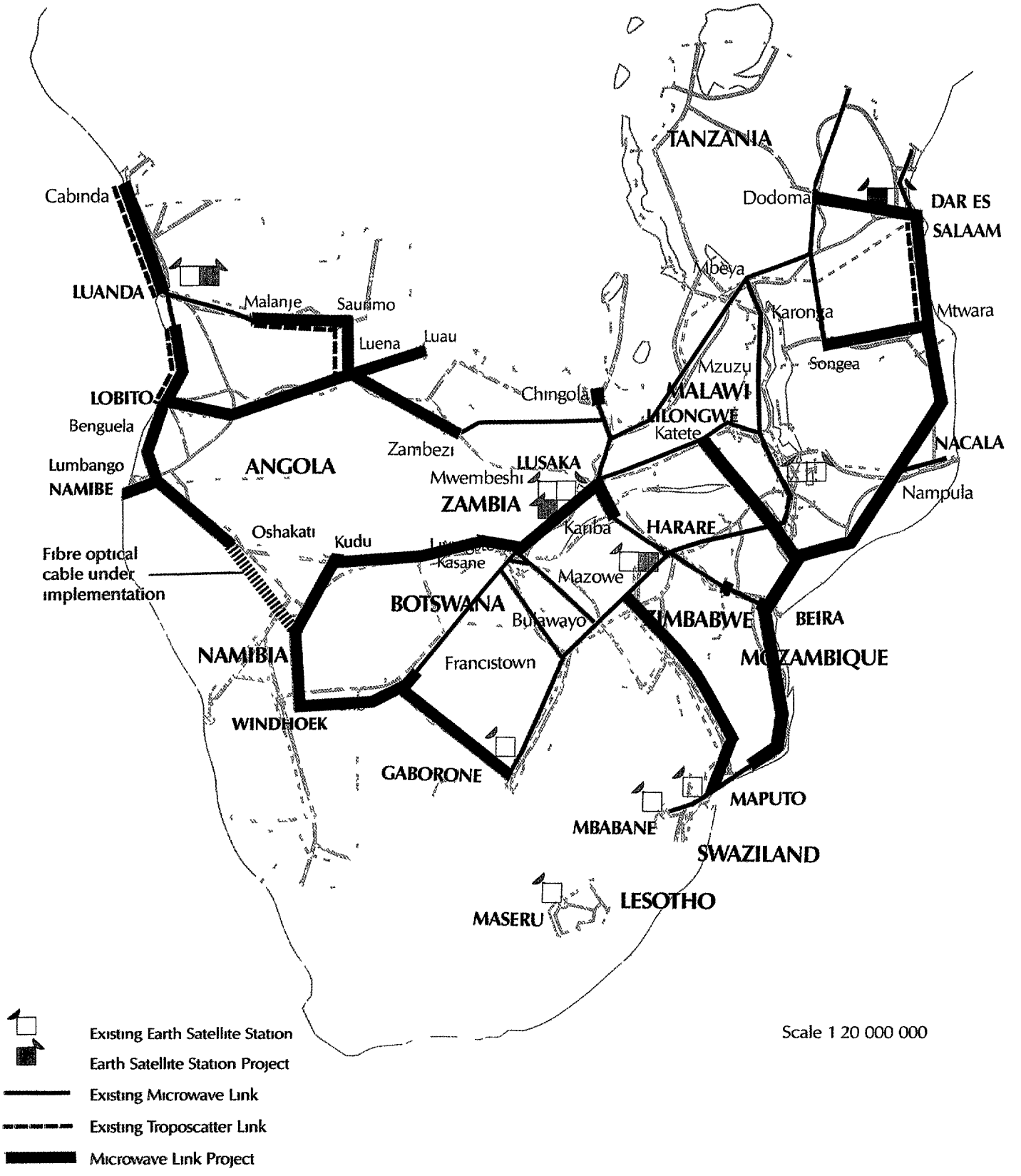
1 pair of connections

Weekly connections to and from destinations outside the SADCC-Region

1 pair of connections

109C

Figure 4 Telecommunications System Projects



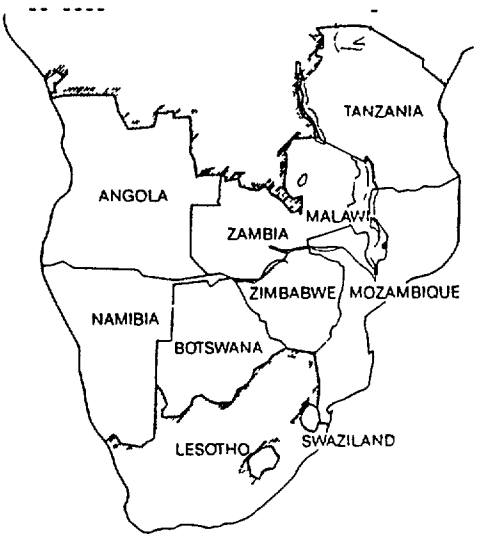
Summary Status of Projects

109 E

Multi Modal/Operational Coordination

109F

AAA 0 02 Operational Coordination Development Programme



Estimated Costs
Total USD 33 8 million
Foreign USD 33 8 million
Local USD 0 0 million

Funding Secured
Foreign USD 27 1 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 5 0 million

Financing Gap
Total USD 1 7 million

Executing Agency
SATCC

Start
Duration

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

Status DANIDA provides technical assistance to the Working Group on Road Infrastructure Current agreement covers the period 1991 1993 Total grant is DKr 4 4 million (US$ 0 7 million)

NORAD provides technical assistance to the Working Groups on Road Traffic and Transport Current agreement covers the period 1991 1993 Total grant is NKr 5 0 million (US$ 0 7 million)

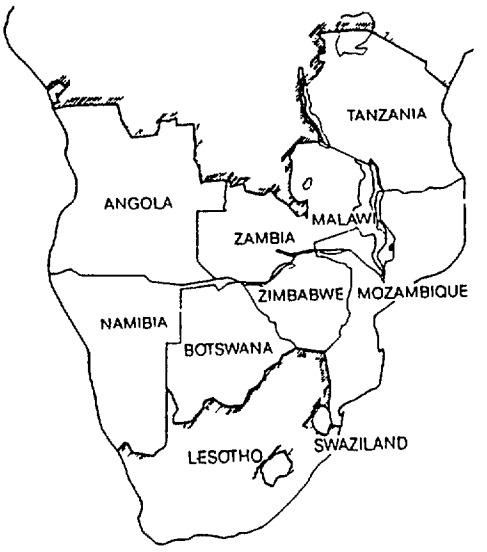
Australia through the trust fund provided Techncial Assistance to Telecommunication frequency Management (AUD 765 000)

USAID provided technical assistance to the Seminar on Telecommunications Policy, regulation and restructuring (US 0 2 million) funds required to implement the remaining projects

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01	Road Infrastructure	0 7	0 7	0 0	0 7	0 0	0 0
02	Road Traffic & Transport	0 7	0 7	0 0	0 7	0 0	0 0
03	Railway Administrations	30 0	30 0	0 0	25 0	5 0	0 0
04	Civil Aviation Administrations Techn Assist for the Implem of the Yamoussoukro Declarat	0 3	0 3	0 0	0 0	0 0	0 3
*05	National Airlines	0 0	0 0	0 0	0 0	0 0	0 0
*06	Port Administration	0 0	0 0	0 0	0 0	0 0	0 0
*07	Shipping Clearing and Forwarding	0 0	0 0	0 0	0 0	0 0	0 0
*08	Telecommunications	0 5	0 5	0 0	0 5	0 0	0 0
09	Cost Recovery of the SATCC Meteorology Programme	0 0	0 0	0 0	0 0	0 0	0 0
*10	Postal Services	0 0	0 0	0 0	0 0	0 0	0 0
11	Frequency Management and Radio Monitoring Programme	1 9	1 9	0 0	0 5	0 0	1 4
12	Workshop/Seminar on Telecommunication Policy, Regulation and Restructuring	0 2	0 2	0 0	0 2	0 0	0 0
		33 8	33 8	0 0	27 1	5 0	1 7

September 1994

AAA 0 02 Civil Aviation Administrations Techn Assist for the Implem
(04) of the Yamoussoukro Declarat



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 3 million

Executing Agency
SATCC

Start 1994
Duration 2 Years

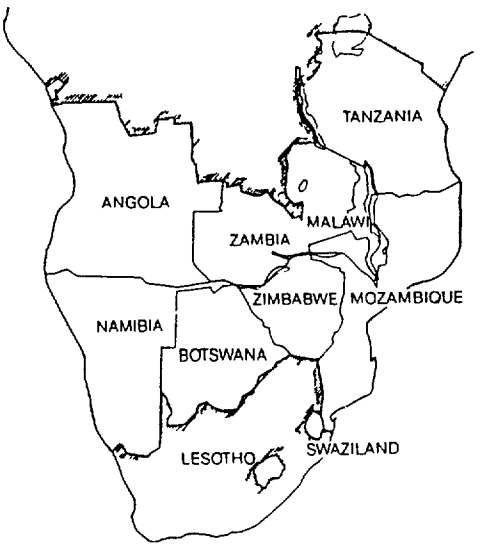
Objectives To assist airline working groups with experts when needed for the implementation of the Yamoussoukro Declaration

Description Various airline working groups involved in the SATCC preparations, for implementating the Yamoussoukro Declaration are in need for expert assistance above the capacity that is available at SATCC/TU
Some of the activites include finalisation of studies made on airline joint marketing strategy, joint use of aircraft maintenance facilities common principles of accounting, establishment of SATCC Civil Aviation data bank, study on hubs and gateways preparations for the Civil Aviation restructuring seminar etc

Status The African Development Bank has indicated interest in funding various Yamoussoukro Declaration projects The Nordic countries have also indicated interest in operational Coordination which in case of Civil Aviation is just the Yamoussoukro Declaration However no funding has been established yet

September 1994

AAA 0 02 Frequency Management and Radio Monitoring Programme
(11)



Estimated Costs
Total USD 1 9 million
Foreign USD 1 9 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 5 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 4 million

Executing Agency
SATCC

Start 1991
Duration 2 Years

Objectives Improvement of the utilization of the Radion Frequency Spectrum in the region and strengthening the capacity for regional frequency management and radio monitoring

Decsription The radio frequency spectrum is a limited natual resource worldwide With the increasing use of wireless communications including the development of global satellite communications the radio frequency has become a scarce resource whose utilization needs to be well coordinated among all users Therefore a proper management mechanism needs to be put in place for efficient management of the radio spectrum

Recognizing the weakeness of the Frequency Management and Radio Monitoring in the region a field survey was conducted in all SADC Countries in order to determine measures to be undertaken to resolve the weakness

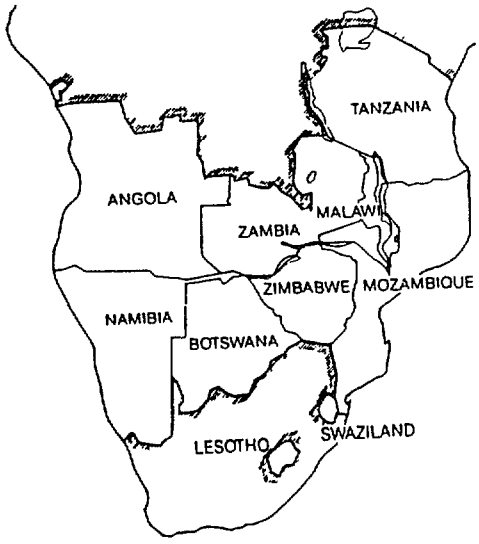
The report has identified the need to implement the following sub projects as a matter of urgency to avoid being marginalised in the global scene

		Cost (millions)
01	Establishement of a Regional Spectrum Management Unit in SATCC Technical Unit for three years	USD 0 38
02	Establishment of Radio Direction Finding in Namibia	USD 0 40
03	Technical Assistance to the existing Frequency Management Sections	USD 0 46
04	Training Programme	USD 0 06
		USD 1 40

Status The survey has been completed with finance from AIDAB Funding is being sought for the implementation of the subprojects

September 1994

AAA 0 03 Telecommunications Training Development Programme



Estimated Costs
Total USD 5 0 million
Foreign USD 5 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 2 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 3 million

Financing Gap
Total USD 4 5 million

Executing Agency
SATCC

Start 1994
Duration 5 Years

Objectives Provide a co ordinated medium and advanced level training programme over a five years period, according to the outcome of the study "Telecommunications Training Needs Survey"
The aim is to train top and middle management in the Telecommunications Organizations to be able to respond to the changing environment

Description The project consists of the following elements, emaneted from the Telecommunications Training Needs Survey completed in 1992

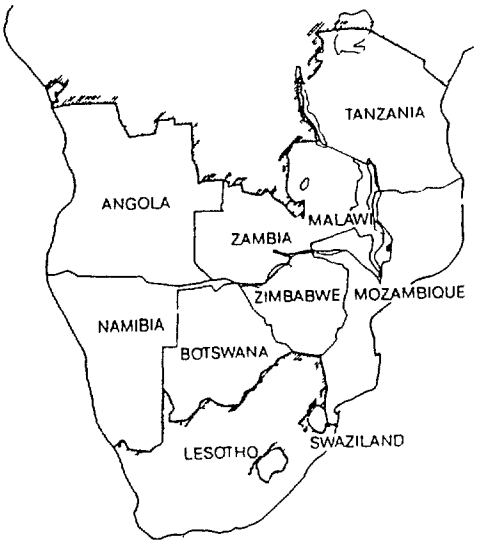
		USD million
(i)	SATCC HRD Expert	0 60
(ii)	Development of Regional Sharing System	0 25
(iii)	Development of Regional Management Information System (MIS)	0 70
(iv)	Task Force for Review of Training Schemes	0 15
(v)	Delivery and Development of Urgent Management Training Programmes (details in separate Publication)	3 27
	Total	4 97

Status Norad provided financing USD 0 4 million for the study undertaken in 1992 by consultants from NORWAY in conjunction with the ITU
Belgium Government provided financing for a seminar on Telecom Switching Signaling system to be organised during the second
Funds are being negotiated with Norad for the Human Resources Development Function
Financing is required to implement the remaining project elements emanating from the study

The subprojects under Item (v) includes

September 1994

AAA 0 04 Transit Transport Project



Estimated Costs
Total USD 10 3 million
Foreign USD 10 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 6 4 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 3 9 million

Executing Agency
UNDP/UNCTAD/SATCC

Start
Duration

Objectives To build institutional capacity within the SADC sub region to effectively address the constraints that inhibit efficient trade and operation of international transport corridors thereby contributing towards reduced transit transport and related costs and promoting trade efficiency

Description The project based in Blantyre Malawi is a regional project covering the ten SADC Member States In addition to direct assistance to Member States to strenghten their institutional capacity to address transit transport and trade issues it also supports SATCC/TU in its operational co ordination work involving railways road traffic and transport ports and shipping and other activities of a facilitation nature

The main elements of the project during the 1987 91 phase were

i Trade Facilitation
simplification/harmonization of trade and transport documents

ii Development of Dry Ports

iii Bilateral Transport Agreements

iv Support to Ministries of Transport to establish Transport Databases

v Development and implementation of Railway Tracking System

vi Human Resource Development related to Transit Transport

The project has achieved most of the planned outputs as contained in the current project document (1987 1991)

Status During the period 1987 91 the project was funded by UNDP and USAID on a co financing basis These funds amounting to US$5 0 million were exhausted at the end of 1991

Subsequently USAID provided a grant of US$1 44 million for a two year period 1992 93 specifically for trade and transport facilitation activities Emphasis is on addressing issues which inhibit the growth of trade and its efficient conduct An integral element is to resolve bottlenecks that adversely affect the full and efficient utilisation of the international transport systems of the region Since USAID funding was targeted and in the absence of additonal financing from UNDP other activities listed above could not be carried out and have either been discontinued or frozen

As a result of the Drought Emergency in Southern Africa (DESA) the project was re oriented to contribute towards addressing constraints affecting the efficient movement of emergency food imports The project undertook intervention measures to improve road and railway facilitation for movement of drought traffic within the context of the regional drought management framework that was set up

Following the ninth Steering Committee (SC) meeting of the project held in Blantyre in May 1993 attended by SATCC/TU USAID UNDP and UNCTAD, a decision was made to extend the project from the current terminal date of 31st December 1993 to 31st March 1994 so as to allow adequate time for consultions

pending a decision on future funding The SC also recommended continuation of the project for another phase

The project has been extended up to 31st March 1994 under the current USAID grant

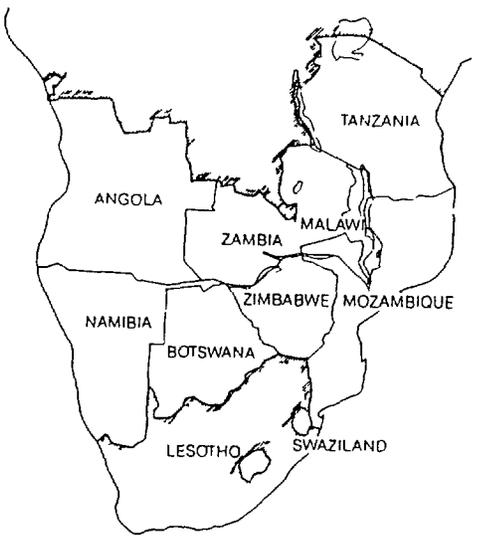
An evaluation of the project is to be carried out by USAID during the fourth quarter of 1993 whose findings will have a bearing on continuation of USAID financial support

In the proposed future orientation of the project (1994 96) emphasis will be to contribute towards the Southern African economic integration process by addressing trade and transport efficiency issues in a broader regional context A feature of the new phase will be increased direct involvement of the business community in general and the private sector in particular in the activities of the project

The specific scope, content, funding levels and execution framework of the proposed future phase of the project is yet to be defined in discussions with Member States SATCC/TU, USAID, UNDP and other relevant institutions within the context of developments towards the regional integration process

September 1994

AAA 0 05 SATCC Technical Services Fund



Estimated Costs
Total USD 17 4 million
Foreign USD 17 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 14 2 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 3 2 million

Financing Gap
Total USD 0 0 million

Executing Agency
SATCC

Start
Duration

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

Description 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 The Canadian (Transport) Technical Services Fund Phase 1 covered the period January 1986 to September 1988 Total funds allocated was CND 3 270 00 (USD 2 845 000) The second phase started September 1988 and run until July 1992 Initial allocation of funds was CND 4 950 000 (USD 4 306 500)

The Canadian (Telecommunications) agreement was signed in February 1988 and covered the period up to June 1992 Total amount allocated was USD 3 3 million

The NORAD fund was established in 1984 with an initial allocation of NOK 3 0 million (USD 435 000) In May 1989, a supplementary agreement was signed providing additional financial assistance of NOK 4 0 million (USD 580 000)

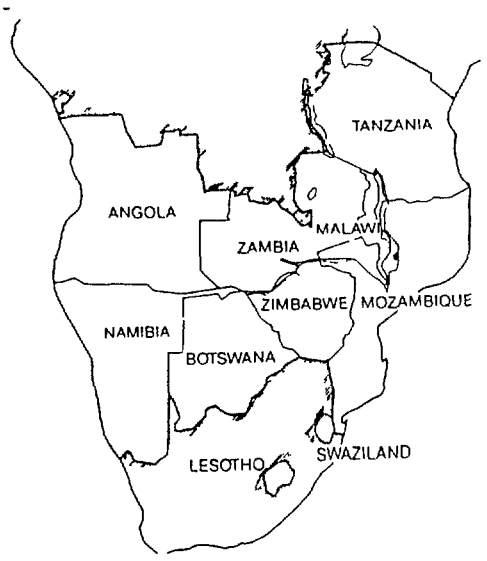
The SATCC/Australia Consultants Trust Fund covers an amount of AUD 250 000 replenished on the basis of quarterly certified accounts of expenditure

The Administration Agreement between KFW and the SATCC for the Mozambique/SADCC Supraregional Study and Expert Fund IV was signed in May 1990 The total financial contributions amounts to DM 3 0 million (US$ 1 9 million)

Funds are being negotiated with USAID for provision of Policy Analysis Advisor and Computer Systems Analyst as well as support to SADCC Ministries of Transport to enhance their capacity in data management and sector analysis Total estimated cost USD 3 2 million

September 1994

AAA 0 06 SATCC Statistics Data System



Estimated Costs
Total USD 7 4 million
Foreign USD 7 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 1 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 7 3 million

Executing Agency
SATCC

Start
Duration

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

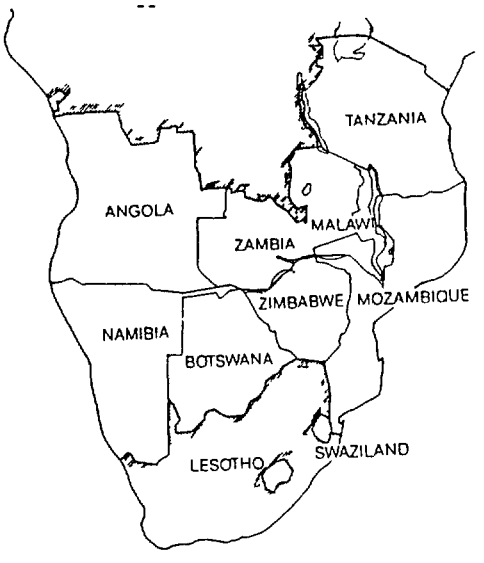
Description The study phase has been completed for transport statistics part The system is gradually being introduced For telecommunications see AAA 0 06 (01)

Status Part financing for this Sub project has been secured under the CIDA/SATCC Technical Services Fund
Financing sought for remaining parts

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01	Telecommunications Statistics Database System	0 4	0 4	0 0	0 1	0 0	0 3
02	Package of Transport Statistics Programmes	7 0	7 0	0 0	0 0	0 0	7 0
		7 4	7 4	0 0	0 1	0 0	7 3

September 1994

AAA 0 06 Telecommunications Statistics Database System
(01)



Estimated Costs
Total USD 0 4 million
Foreign USD 0 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 1 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 3 million

Executing Agency
SATCC

Start 1990
Duration

Objectives To develop a computerised database telecommunication information system intended for forecasting and regional network planning and as an information source for the existing regional network and traffic

Description For the regional network information and records on traffic flow route changes service quality, telephone density etc is not available on a regular basis Current information is obtained from meetings and questionaires

The project has been divided into five phase and will involve designing

routines for collection of the imformation and data for computer treatment on a regular basis,
a system giving status of the existing network,
system capability for analysis of different restoration plans and forecasting on route by route basis,
training programme for SATCC and regional Administration staff who will be operating the system and
Provision of the necessary hardware/software at SATCC and Administrations

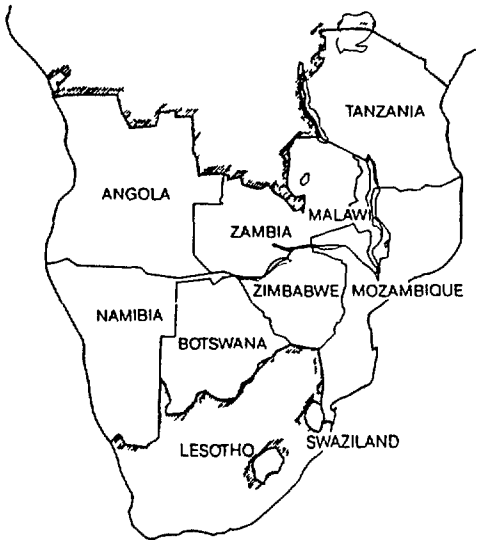
Co ordination is also necessary for compatibility with the SATCC INFORMATION HANDLING SYSTEM and the ITU PANAFTEL datasystem "PANBASE"

SWEDTEL has undertaken phase 1 of the project through the NORDIC/SATCC Technical Services Fund for system design development data collection and Working Group The software as developed in Phase I, was further updated in 1992

Status Financing is required for further system design development training programme and provision of the necessary hardware/software

September 1994

AAA 0 06 Package of Transport Statistics Programmes
(02)



Estimated Costs
Total USD 7 0 million
Foreign USD 7 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 7 0 million

Executing Agency
Transport Ministries in Member States
Start 1994
Duration 3 Years

Objectives Introduction of a harmonized system for transport statistics in the Member States as adopted by SATCC

Description (i) Implementation of a uniform system for transport statistics is an important element in the development of a sound data base for transport planning at the regional and national level
The project also aims at implementing the harmonized commodity classification nomenclature now being developed in the Region The system will be based on the recommendations made as a result of the study on road traffic and transport statistics which was undertaken because statistics in this sector was most seriously lacking Contributions from other sectors will be based on concepts similar to road traffic and transport

The project comprises 10 national projects and a regional component At the national level it is envisaged that a transport statistics officer in the Ministry of Transport will be responsible for the compilation of data and issuance of an annual publication named Transport Statistics

(ii) Regional co operation related to road traffic has taken place since the establishment of SATCC This work has been coordinated by the Working Group on Road Traffic and Transport, in close cooperation with the Working Group on Road Infrastructure A number of analyses have been carried out and measures agreed upon within road traffic and road safety at the regional level Implementation is now required at the national level, especially when it comes to road safety and overload control The lack of reliable data on traffic characteristics, such as traffic volume and axle loads, has caused problems for the regional analysis and will continue to cause problems during the implementation phase

Against this background traffic data collection programmes are now being established in the member states in order to improve the basis for transport planning highway and pavement design pavement management, traffic control and overload control

The aim of the package of Traffic Data Collection Programmes is to implement the various national traffic data collection programmes in the region The objectives of these national programmes are to establish a system for collection and treatment of data on traffic characteristics and axle loads in each member state

Project descriptions are now being prepared for each project Each project description will identify the national body which will be responsible for the project It will define a national traffic data collection strategy, identify the need for equipment and make proposals as to organization, staffing and training required for implementation of the data collection programme

It is suggested that one expert is attached temporarily to the SATCC Technical Unit in Maputo in order to improve technical assistance to all

member states It is anticipated the national programmes be implemented over a three year period The costs related to equipment for the ten national projects are estimated at USD 3,75 million The cost for technical assistance is estimated at USD 0 3 million

(iii) Well maintained roads systems is vital for economic expansion and the rapid enexpensive and safe movement of goods and people A decision on the most cost efficient and timing of rehabilitating on the condition of the road surface A way of collecting data on the condition of the road surface is to use a test vehicle for road surface inspection

The sub project includes the purchase and maintenance of one test vehicle for road surface testing in Member States

Status (i) and (iii) Project descriptions with detailed cost estimates are being prepared

(ii) Project descriptions including traffic data collection programmes for each member state are now being prepared

Financing is being sought

September 1994

AAA 0 07 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 8 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 4 million

Executing Agency
SATCC

Start 1991
Duration 3 Years

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

Description The SATCC Technical Unit is currently accommodated in 10 flats in Bairro Coop in Maputo

With the regionalization of the SATCC/TU staff effectively started in 1989, it is expected that there will be between 15 and 20 experts in need of family houses

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, preferably as one project including water supply sewerage, electricity, landscaping and other external work

Status Construction of phase 1, including 4 staffunits, transformer station, water supply system and security fence, started May 1993 with financing from Nordic funds

September 1994

AAA 0 11 Regional Transport & Communications Integration Study for Southern Africa

Estimated Costs
Total USD 5 0 million
Foreign USD 5 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 5 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
SATCC/TU

Start 1994
Duration 20 Months

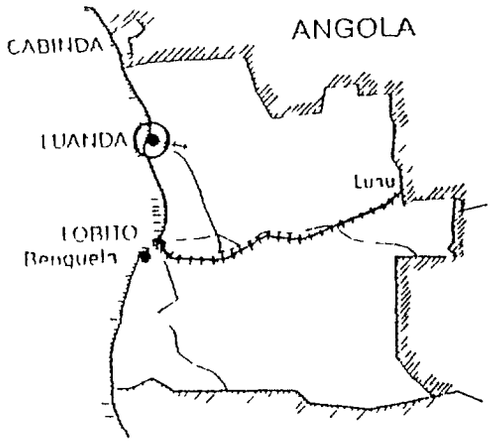
Objectives The Study will focus on actions to eliminate the transport and communications barriers that presently constrain domestic, intraregional and international cargo flows, with a view to improving trade and commerce, and taking full account of the activities and achievements of the Southern Africa Development Coordination Conference (SADCC) in transport and communications and the geopolitical developments in the region including the possible inclusion of South Africa in SADC The Study will identify, evaluate and program further appropriate actions and investments in the areas of regional transport and communications coordination, policy reform, institutional development, infrastructure maintenance and development, and transport management, amongst other areas The Study will cover the road, port, maritime, rail, air, telecommunications post office and meteorology subsectors

Description The Study will entail an in depth review and analysis of the four different sectors (transport, telecommunications, postal and meteorology) in the regional system all of which provide a higly diverse range of services Accordingly, key requirements for the successful discharge of the assignment would be the ability to organise findings around the common conceptual framework provided in these terms of reference and the ability to draw the important linkages between the sectors and their constituent sub sectors

Status Financing secured from EEC Prequalification for restricted tender due to be finalized in 1993 A Study Coordinator has been appointed with financing from CIDA The Study is scheduled to start in early 1994

September 1994

ANG 0 01 Multimodal Projects in the 10 Year Plan for Lobito Port Transport System



Estimated Costs
Total USD 125 9 million
Foreign USD 125 9 million
Local USD 0 0 million

Funding Secured
Foreign USD 64 6 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 3 5 million

Financing Gap
Total USD 57 8 million

Executing Agency
Lobito Port Authority and Benguela Railway
Start 1990
Duration 5 Years

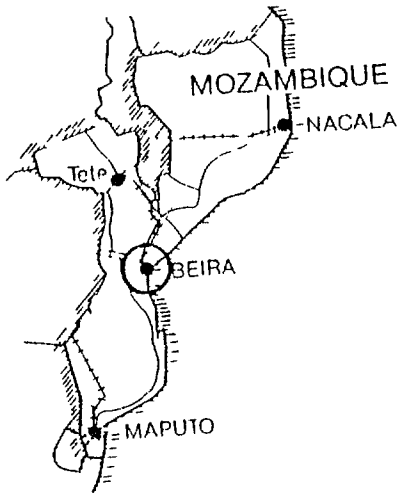
Objectives General support for the implementation of the Ten Year Development Plan for the Lobito Port Transport System

Status Sub project G CE 1, Development of the Town of Lobito is to be co financed fully by Sweden, Norway and the World Bank
Sub project G CE 2 Rehabilitation of Cement Factory contract for feasibility study awarded
Sub project G M 1, Project Co ordination Unit tender for Technical Assistance under preparation
Sub project G M 4, Rehabilitation of Hotel Terminus, contract awarded

Subprojects Included in Programme		Cost				Funding	
		Total	For'n	Local	Secu	Nego	Gap
G CE 1	Development of the Town of Lobito	60 0	60 0	0 0	60 0	0 0	0 0
G CE 2	Rehabilitation of Cement Fac tory	3 0	3 0	0 0	0 1	0 0	2 9
G E 1	Repair & Extension of Lumaum Hydroelectric Power Plant	42 0	42 0	0 0	0 0	0 0	42 0
G M 1	Project Co ordination Unit	2 9	2 9	0 0	2 9	0 0	0 0
G M 2	Support to Workers and their Families	7 0	7 0	0 0	0 0	3 5	3 5
G M 3	Housing for Technical Assistant Sfaff in Lobito and Huambo	9 4	9 4	0 0	0 0	0 0	9 4
G M 4	Rehabilitation of Hotel Terminus	1 6	1 6	0 0	1 6	0 0	0 0
		125 9	125 9	0 0	64 6	3 5	57 8

September 1994

MOZ 0 01 Multimodal Projects in Beira Port Transport System Development Plan



Estimated Costs
Total USD 40 2 million
Foreign USD 34 0 million
Local USD 6 2 million

Funding Secured
Foreign USD 34 0 million
Local USD 6 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Beira Corridor Authority

Start
Duration

Objectives Support to CFM(C) organization and manpower, development of the town of Beira and project co ordination under the Development Plan for the Beira Port Transport System

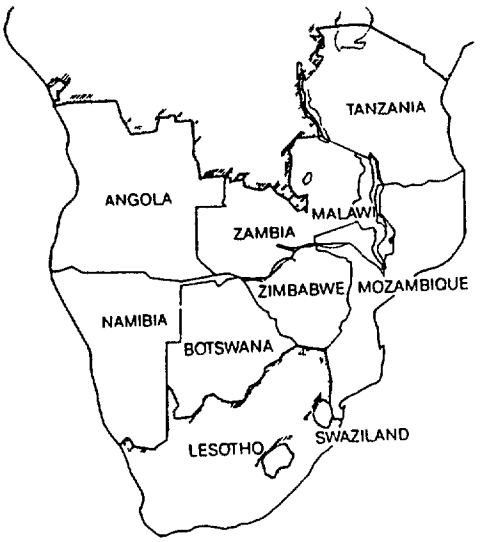
Status The subprojects listed below are being implemented

Subprojects Included in Programme	Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Funding Gap
*MS G 03 Procurement of MIS Hardware	0 0	0 0	0 0	0 0	0 0	0 0
*PR M 02 Support to Workers	16 8	10 6	6 2	16 8	0 0	0 0
PR M 02 B) Workers Transport	1 1	1 1	0 0	1 1	0 0	0 0
PR M 02 C) Workers Housing	15 7	9 5	6 2	15 7	0 0	0 0
PR M 04 Core Staff for Beira Corridor Authority	11 7	11 7	0 0	11 7	0 0	0 0
PR M 06 Training Facilities	1 2	1 2	0 0	1 2	0 0	0 0
PR M 10 Housing for Technical Assistance Personnel	2 3	2 3	0 0	2 3	0 0	0 0
TA C 3 Technical Assistance to Implementation of Management Information System (MIS)	1 0	1 0	0 0	1 0	0 0	0 0
TA C1/2 Technical Assistance to CFM (C) Central Services	7 2	7 2	0 0	7 2	0 0	0 0
*TA PR01 External Training	0 0	0 0	0 0	0 0	0 0	0 0
	40 2	34 0	6 2	40 2	0 0	0 0

September 1994

Roads

AAA 1 01 Package of Road Safety Programmes



Estimated Costs
Total USD 18 1 million
Foreign USD 18 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 7 4 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 10 7 million

Executing Agency
Road Safety Authority in each member state
Start 1991
Duration 4 Years

Objectives Implementation of road safety programmes in SADC Member States

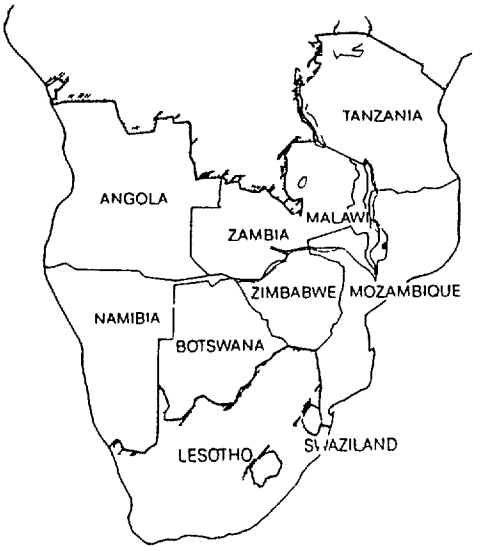
Description Regional cooperation on matters related to road safety has taken place since 1983 Recommendations have been approved for Organisation of road safety work, accident recording systems, actions against drunken driving, motor vehicle testing, control of overloading, driver training and licensing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

Status A road safety programme in Botswana is already being implemented, financed by SIDA Detailed project descriptions have been prepared for Lesotho, Malawi, Mozambique, Swaziland, Tanzania and Zambia Cost estimates for Angola and Namibia, as given below, are rough estimates, subject to corrections when detailed descriptions have been finalized
Finland is interested in funding the project in Zambia
Draft project description has been prepared for Zimbabwe
A seminar was held in Harare between 12 15 June 1990 to which representatives of CIDA, FINNIDA, NORAD, SIDA and the World Bank were invited
Member states participated
Financing is being sought

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01	Road Safety Programme, Angola	2 0	2 0	0 0	0 0	0 0	2 0
02	Road Safety Programme, Lesotho	2 0	2 0	0 0	0 0	0 0	2 0
03	Road Safety Programme, Malawi	2 0	2 0	0 0	2 0	0 0	0 0
04	Road Safety Programme, Mozambique	1 9	1 9	0 0	0 0	0 0	1 9
05	Road Safety Programme Namibia	2 0	2 0	0 0	0 0	0 0	2 0
06	Road Safety Programme, Swaziland	1 8	1 8	0 0	0 0	0 0	1 8
07	Road Safety Programme Tanzania	1 6	1 6	0 0	1 6	0 0	0 0
08	Road Safety Programme, Zambia	3 8	3 8	0 0	3 8	0 0	0 0
09	Road Safety Programme Zimbabwe	1 0	1 0	0 0	0 0	0 0	1 0
		18 1	18 1	0 0	7 4	0 0	10 7

September 1994

AAA 1 02 Package of Weighbridge Programmes



Estimated Costs
Total USD 5 3 million
Foreign USD 4 6 million
Local USD 0 7 million

Funding Secured
Foreign USD 0 2 million
Local USD 0 7 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 4 4 million

Executing Agency
Road Authorities in Member States
Start 1991
Duration 4 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

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 Botswana has introduced two more weighbridges one internal and the other on the Eastern border with South Africa A new weighbridges is planned at Mamuno as part of the Tran Kalahari road project A consultancy is in progress to improve the efficiency of the enforcement process and changes to the legislation to axel load control are envisaged

Swaziland
Technical Assistance has been secured in Swaziland's Road Transportation Board to develop the institutional framework and provide implementation support

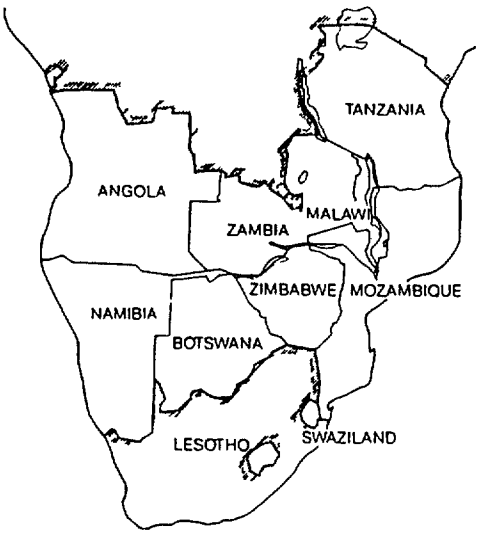
SIDA has provided weighbridges for plumtree and Beitbridge at an estimated cost of Z$125 000, and 12 portables at an estimated cost of Z$100 000 (1993 prices) An additional 10 weighbridges are required in Zimbabwe A different type of portable scales would be appreciated to replace those which are unserviceable making a total requirement of 30

Subprojects Included in Programme

			Cost			Funding		
			Total	For'n	Local	Secu	Nego	Gap
01	Weighbridge Project	Angola	0 4	0 3	0 1	0 1	0 0	0 3
02	Weighbridge Project	Botswana	0 1	0 1	0 0	0 0	0 0	0 1
03	Wrighbridge 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	Namibia	0 9	0 6	0 3	0 3	0 0	0 6
07	Weighbridge Project	Swaziland	0 3	0 2	0 1	0 3	0 0	0 0
08	Weighbridge Project	Tanzania	0 3	0 2	0 1	0 1	0 0	0 2
09	Weighbridge Project	Zambia	0 3	0 2	0 1	0 1	0 0	0 2
10	Weighbridge Project	Zimbabwe	2 5	2 5	0 0	0 0	0 0	2 5
			5 3	4 6	0 7	0 9	0 0	4 4

September 1994

AAA 1 03 Implementation of Harmonized Road Maintenance Management System in SADC Countries



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
Foreign USD 1 5 million

Financing Gap
Total USD 0 0 million

Executing Agency
Road Authorities in Member States
Start 1994
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 SADC 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 SATCC 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 stategies 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

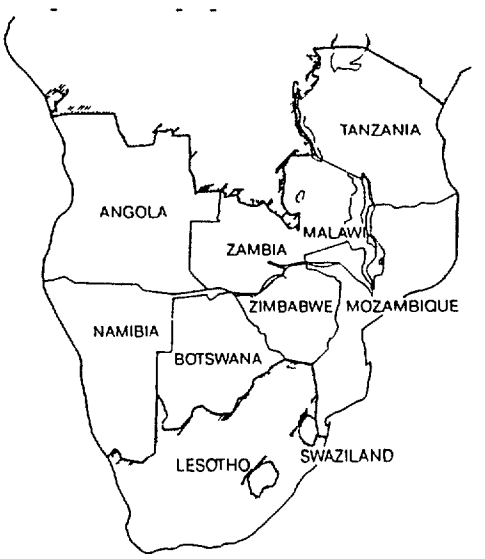
The project includes acquisition of equipment (PC computers, trip metres, pavement roughness metres), training of personnel in the maintenance of the system, and technical assistance in initiating the RMMS and in calibration of the pavement performance prediction models to local conditions The system 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 TOR for Development and Implementation of a Road Information and Pavement Management Systems have been completed

DANIDA has shown interest in funding the project

September 1994

AAA 1 04 Road Transport Training Programme



Estimated Costs
Total USD 49 6 million
Foreign USD 49 6 million
Local USD 0 0 million

Funding Secured
Foreign USD 2 4 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 47 2 million

Executing Agency

Start 1994
Duration 10 Years

Objectives Development of training of personnel to improve knowledge and skills, including institutional capacity building and strengthening in the road traffic and transport industry

Description Since most SADC countries attained independence substantial investment has been made and considerable technical assistance provided in order to improve transport infrastructure and operational efficiency of the various modes
Through these efforts, progress has been although not to extent that has usually been anticipated A crucial factor among transport improvements has been the shortage of the skills needed to operate and manage transport services in an efficient manner

The importance of road transport in the SADC region has often been abscured by the attention given to other modes in transport plans and in the mobilisation of resources for transport development Unlike other transport modes, the road transport has lagged behind in addressing its manpower deficiencies

In recognition of the above a comprehensive ten year training plan has been developed through funding support from CIDA The programme approved by the SATCC Ministers in 1991 describes course outlines trainer and facilities requirements of the different programmes in the following categories
Vehicle maintenance skills
Operations and Management Training
Regulatory Training

In particular the programme will cover the following activities

(i) Core Training Activities
Senior Management Training
Carrier Operations Training
Supervisiory training
Small operator Training
Commercial Vehicle Driver Training
Vehicle Rebuild Training
Regulatory Specialist Training
Weighbridge Supervisor Training
Driver Examiner Training
Driver Instructor Training

(ii) Support Activities
Programme strengthening
Institutional capacity building
Support to the functions of the Training Sub group to monitor and evaluate the project implementation

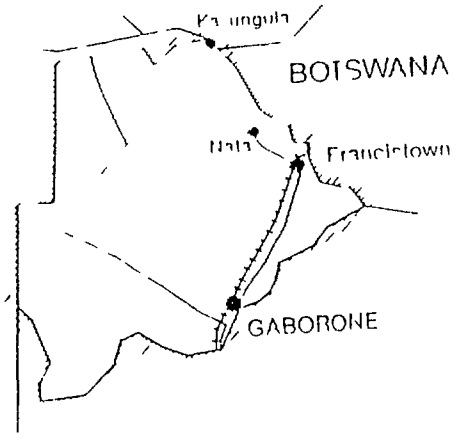
Status 1 The estimated cost of implementing this component of the Plan is USD 2 4million to be provided by the European Union over a four year period

2 The TOR's and Tender Dossier are being drafted for the eventual implemented of this training programme The first course is expected to be un in November/December 1994

3 ESAMI is most likely to become the Implementing Agency

September 1994

AAA 1 05 Improved Ferry Service at Kazungula Botswana/Zambia



Estimated Costs
Total USD 3 0 million
Foreign USD 2 0 million
Local USD 1 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 1 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 0 million

Executing Agency
Ministries of Works, Botswana and Zambia
Start 1994
Duration

Objectives Improvement of the existing ferry service across the Zambezi River at Kazungula between Botswana and Zambia

Description The territories of Botswana and Zambia touch at one single point on the middle of the River Zambezi The point is the junction of the border lines between the four countries Botswana Namibia Zambia and Zimbabwe

The ferry service across the river at Kazungula is the only direct link between Botswana and Zambia The existing service is operated by the Government of Zambia The road Gaborone Francistown Kazungula Livingstone Lusaka is part of Regional Trunk Road Network defined by SATCC

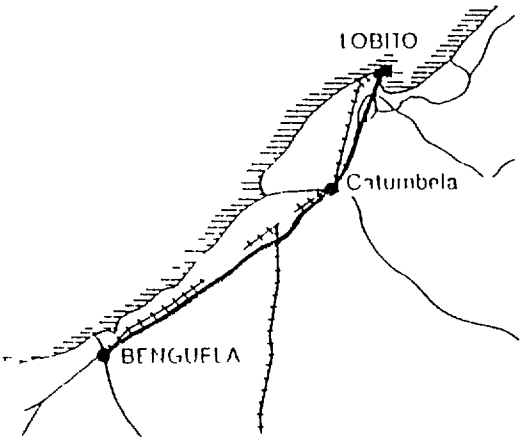
Under an earlier SATCC Project Study on Kazungula Bridge and Pandamatenga Victoria Falls Road a feasibility of alternative improvements of the Kazungula crossing was studied in detail The study was completed in 1987 The study recommends physical and institutional improvements to the ferry service, covering vessels and shore facilities as well as aspects related to border crossing

Status Localised minor works improvements have been undertaken to maintain serviceability of the operations including ramp improvements improved drainage and parking areas

For the longer term scenario, all four countries are working towards the implementation of the ND Lea report recommendations as the short to medium term solution but wish to see a bridge as the long term solution Donor funds are being used for preliminary design of a bridge as part of the Trans Caprivi project but the location of this bridge should be re examined to ensure that it serves the mutual interest of the most effected SADC countries (Botswana, Namibia Zambia and Zimbabwe) in the most cost effective way

September 1994

ANG 1 03 Roads & Road Transp Projects in the 10 Year Dev Plan for Lobito Port Transport System



Estimated Costs
Total USD 24 4 million
Foreign USD 24 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 24 4 million

Executing Agency
Ministry of Construction,
Roads Department
Start 1994
Duration 5 Years

Objectives: Improvement of access roads to serve the Lobito port and strengthening of road haulage capacity Under the Ten Year Development Plan for the Lobito Port Transport System

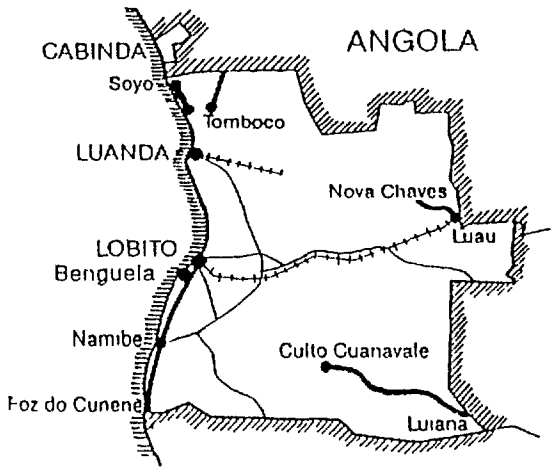
Description: The Ten Year Development Plan for the Lobito Port Transport System

Status: A Technical Co ordination Conference to discuss the 10 Year Plan was held in January 1989 Follow up contacts with donors are in progress
Sub project RD CE 1 Portugal interested in financing the design of the Catumbela Bridge and BADEA has shown interest in co financing works

Subprojects Included in Programme	Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Funding Gap
RD CE 1 Benguela Lobito Road & Access Roads to the Port and Railway in Lobito	17 4	17 4	0 0	0 0	0 0	17 4
RD TR 1 Reinforcement of the Capacity of the Road Transport Company	7 0	7 0	0 0	0 0	0 0	7 0
	24 4	24 4	0 0	0 0	0 0	24 4

September 1994

ANG 1 04 Priority Roads in Angola



Estimated Costs
Total USD 2 7 million
Foreign USD 2 7 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 7 million

Executing Agency
Ministry of Construction, Angola
Start 1994
Duration

Objectives Feasibility studies of the following roads

(i) Soyo N'Zeto, 160 Km,

(ii) Ombaca Lucira Foz do Cunene (Namibian border) 400 km

(iii) Tomboco Noqui (Zaire border) 180 km

(iv) Nova Chaves Luau (Zaire border) 120 km

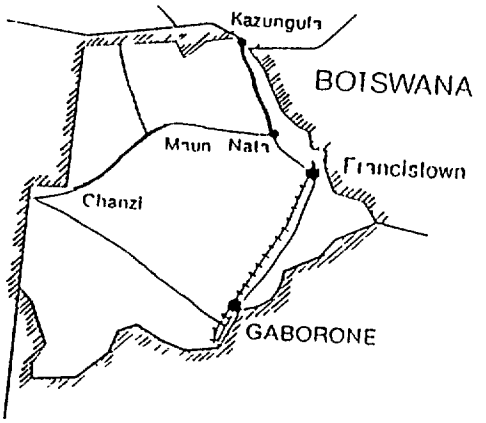
(v) Cuito Cuanavale Luiana (Zambian border) 650 km

Description The existing road between Soyo N'Zeto (i) is a poor earth road with difficulties for traffic to pass and to maintain
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
Sections (ii) to (v) 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 (Replacing projects ANG 1 01 and ANG 1 02)
Financing is sought

September 1994

BOT 1 01 Partial Reconstruction of Nata Kazangula Road



Estimated Costs
Total USD 21 0 million
Foreign USD 1 8 million
Local USD 19 2 million

Funding Secured
Foreign USD 1 8 million
Local USD 19 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works, Transport and Communications Botswana
Start 1989
Duration 6 Years

Objectives Reconstruction of 70 4 Kms of the road Nata Kazungula

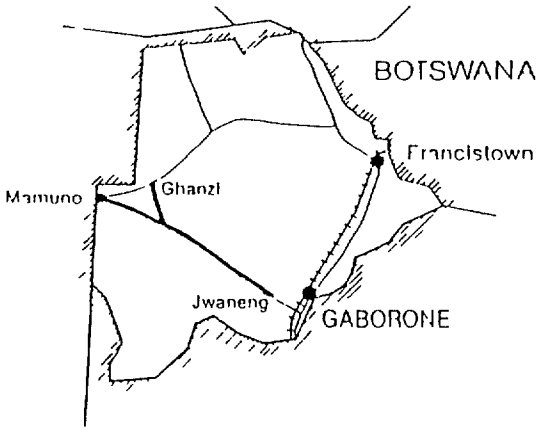
Description The 300 km Nata Kazungula road connects Botswana to neighbouring countries of Zambia and Zimbabwe and has proven to be an important transportation link for countries north of Botswana including Malawi

This road ws upgraded from gravel to bitumen standard in 1993 but has suffered premature failures due to unforessen material problems Comprehensive investigations by the roads department indicate that progressive failures are likely to continue High maintenance costs are therefore anticipated and reconstrunctions of the entire section of the road between Pandamantenga and Kazangula has become necessary

Status Project extended to stage 3 to include final remaining 38 km of rehabilitation Total project now including 120 km of rehabilitation commencing near Pandamantenga and ending at Kazangula Stages 1 and 2 totalling 81 km are now complete and funding is being sought for the rehabilitation of the remaining 38 km

September 1994

BOT 1 02 Construction of Jwaneng Mamuno Road Link Botswana



Estimated Costs
Total USD 118 0 million
Foreign USD 82 0 million
Local USD 36 0 million

Funding Secured
Foreign USD 82 0 million
Local USD 36 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works, Transport and Communications, Botswana
Start 1990
Duration 6 Years

Objectives Construction of a new all weather heavy traffic road between Jwaneng and the Namibia border at Mamuno with a spur to Ghanzi about 670 Km

Description The proposed road from Jwaneng to the border post at Mamuno will be the main road link between Botswana and Namibia including the Namibian ports

A spur road (41 Km) to connect the road with Ghanzi the main administrative centre and highly productive cattle area in Western Botswana is included in project

The route has been subject of a Feasibility Study and Preliminary Design under an earlier SATCC study, funded by Swedish funds administered by ADB The final report has been received by the Government of Botswana
A demonstration project of the cost and water saving impact compaction technique for building roads in Kalahari conditions has been successfully executed over the first 7 km of the project

The Government of Botswana has approved domestic funds for the next 74 Kilometres to Sekoma This contract completed in late 1992

The Feasibility Study has revealed that considerable benefits from the road are antecipated from reduced transport costs for goods imported by Namibia through Botswana thus giving the road a rate of return of around 20/

Status Finance is now secured for the construction of the road

The water study has now been completed and the findings have been utilised in the projects implementation The local environmental monitoring team is now in place and functioning

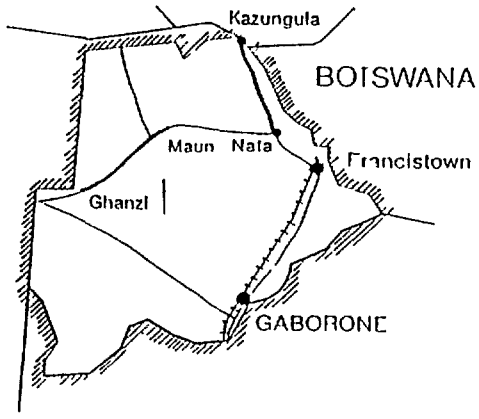
The Sekoma Kang section contract was awarded in May 1993 and work is progressing well with completion anticipated in September 1995

Tenders are currently being evaluated for the Kang Ghanzi section with the contract award schedule for June 1994

The consultants have been appointed for the Ghanzi Mamuno section and construction is scheduled to commence in July/August 1994

September 1994

BOT 1 04 Study on Maun Ghanzi Road Botswana



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 8 million

Executing Agency
Ministry of Works, Transport and Communications Botswana
Start 1994
Duration 1 Year

Objectives Feasibility study on a new upgraded road Maun Ghanzi

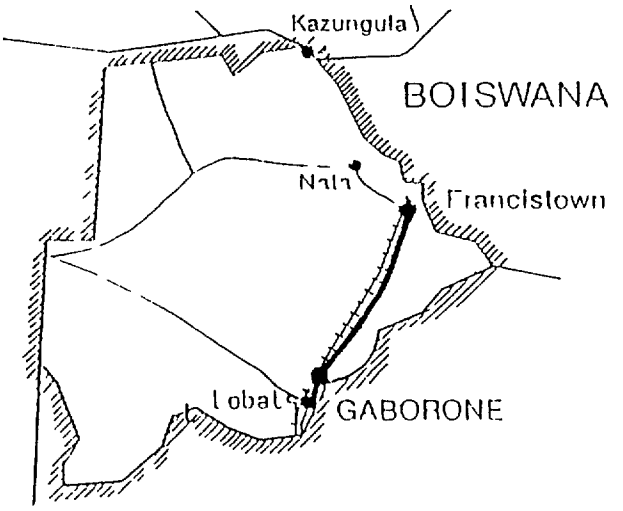
Description The existing earth sand road is impossible for much of its length for all but heavy trucks and four wheel drive vehicles With the independence of Namibia, the road plays a regional role providing, together with the Section Nata Maun under construction, a direct route from Zambia and Zimbabwe to the Namibian border post at Mamuno

The project road will link with a proposed new road (project BOT 1 02) from Jwaneng (in south east Botswana) to Mamuno

Status Funding has been secured for the Feasibility and Preliminary Engineering Study for the Ghanzi Sehitwa road The Terms of Reference for the study have been drawn up and submitted to the Donor for approval A shortlist of consultants is currently being prepared and invitation for proposals will requested in mid 1994

September 1994

BOT 1 05 Rehabilitation of the Lobatse Francistown Road, Botswana



Estimated Costs
Total USD 60 0 million
Foreign USD 45 0 million
Local USD 15 0 million

Funding Secured
Foreign USD 1 5 million
Local USD 15 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 43 5 million

Executing Agency
Ministry of Works, Transport and Communication
Start 1992
Duration 6 Years

Objectives

Rehabilitation of the Lobatse Franscistown Road
This will be preceded by a pavement evaluation study leading to the formulation of a phased rehabilitation programme for this heavily trafficked strategic link of the SADC Regional Trunk Road Network

Decsription

The present road connects the major town in the south of Botswana,Lobatse to the major town in the north Francistown Over its 510 km length it interconnects the capital Gaborone and several other major towns and villages

The road was one of the first to be constructed to bitumen standard following Botswana's independence in 1966 It is now nearing the end of its design life and is exhibiting signs of incipient distress along many sections A 27 km section has already been reconstructed and two other sections of 22 kms each are programmed to follow shortly

There is now urgent need to establish the residual life of the remainder of the road as a basis for formulating a phased programme of rehabilitation works to take place over an estaimated 5 years

In the regional context the Lobatse Francistown road provides a vital link in the Botswana Zimbabwe and Botswana Zambia sections of the Regional Trunk Road Network as well as connecting those sections to the Trans Kalahari Road linking through to Namibia

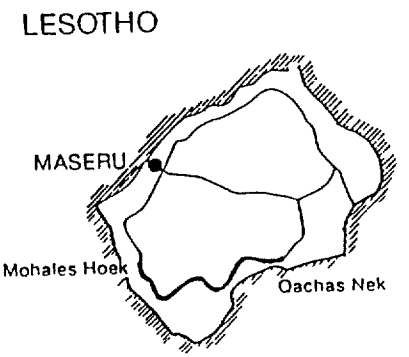
At an estimated cost of USD 87 500 per km at today's prices (May 1992) the remaining 483 km of road rehabilitation will cost USD 58 million

Status

A full pavements evaluation of the entire lenght of the road has been completed
A maintenance programme is being produced which will prioritise those sections of roads requiring detailed investigations to determine an optimal strategy for their maintenance

September 1994

LES 1 01 Upgrading of the Road Mohales Hoek Quthing Qachas Nek, Lesotho



Estimated Costs
Total USD 121 0 million
Foreign USD 106 0 million
Local USD 15 0 million

Funding Secured
Foreign USD 54 5 million
Local USD 15 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 51 5 million

Executing Agency
Ministry of Works Lesotho

Start 1981
Duration 15 Years

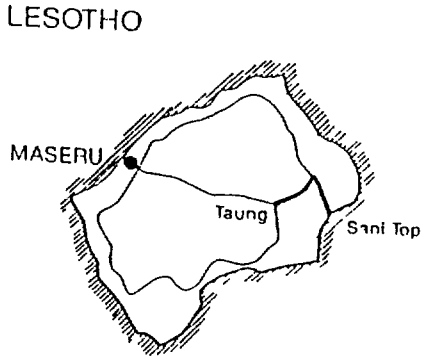
Objectives The upgrading of the Southern Perimeter Road to decrease Lesotho's dependence on the South African transport network The Southern Perimeter Road will also be important for the development of the southern and south eastern parts of Lesotho

Description The project has top priority for the Government The Mohales Hoek Quthing section was completed in October 1991 with EDF funding On Quthing Mt Moorosi section construction to bitumen standard commenced in 1986 and is now completed Bitumenisation of the Mt Moorosi Mphaki section is being carried out On the Mphaki Qachas Nek section 13 6 km to gravel standard completed

Status The feasibility study for the section Mphaki Qacha's Nek was completed in 1991 and indicated a negative viability Funding for construction is still not secured

September 1994

LES 1 02 Upgrading and Reconstruction of the Road Taung Mokhotlong Sani Top Lesotho



Estimated Costs
Total USD 84 0 million
Foreign USD 67 0 million
Local USD 17 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 17 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 67 0 million

Executing Agency
Ministry of Works, Lesotho

Start 1994
Duration 4 Years

Objectives To reconstruct the existing 118 km track to bitumen standard in order to connect the eastern part of the country with the district headquarters at Thaba Tseka and with the road to Maseru

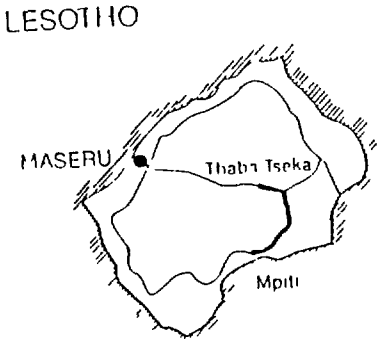
Description Planned standard is a bitumen road with a 6 0m carriageway and 2 x 1m shoulders reducing to 7 2m overall on the more difficult sections

Work commenced by direct labour in the present year at the Taung end Some spot improvements were carried out on the Mokhotlong Sani Top section under the World Bank Third Highway Project to bring this section to an all weather standard As a result traffic increased five fold, demonstrating the potential importance of the road

Status Despite the above mentioned spot improvements, the road needs more extensive upgrading A feasibility study and engineering design have been completed, funded by the UK Financing for the implementation of the works is being sought A "Request for Proposals" for an updated feasibility study is being prepared at present

September 1994

LES 1 03 Upgrading of the Road Thaba Tseka Taung Mpiti, Lesotho



Estimated Costs
Total USD 116 9 million
Foreign USD 93 0 million
Local USD 23 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 23 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 93 9 million

Executing Agency
Ministry of Works, Lesotho

Start 1993
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 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 the Thaba Tseka area with support from Ireland and Canada The road is very important for these schemes

The existing road is a simple track in bad condition A low level bridge is not passable during the rainy season

The planned standard is "Bitumen 1", i e a 6 7m carriageway and 2 x 1 5m shoulders

Status Preliminary and Detailed designs were completed for the section Sehonghong Matebeng (Part of the project road) but, however, the entire project road was found not economically feasible Funding for construction of this road is yet to be secured

September 1994

LES 1 04 Construction of a Road Ramabanta Semonkong Sekake
Lesotho

Estimated Costs
Total USD 45 0 million
Foreign USD 36 0 million
Local USD 9 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 9 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 36 0 million

Executing Agency
Ministry of Works, Lesotho

Start 1994
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 provides a connection between the south eastern part of the Southern Perimeter Road and Maseru thus integrating this part of the country with the capital The connection will also reduce dependence on the South African transport system

The route passes through mountainous terrain

The existing Remabanta Semonkong road was upgraded to a gravel track in 1984 86 There is no road presently between Semonkong and Sekakes

A Feasibility Study was carried out in 1979 and showed a low viability for the construction of a bitumen standard road between Semonkong and Sekakes Updating of this Study is required

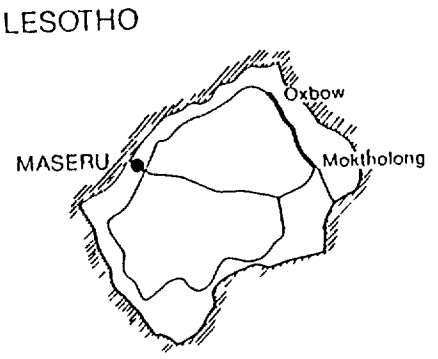
The Ramabanta Semonkong section was designed at a cost of US$ 0 3 million by KFW funding

In view of the development of the Semonkong area it will be necessary to review the design

Status The section Ramabanta Semonkong was built to an all weather gravel road by Roads Branch force account forces and completed in 1986 However this section still needs some redesign to reduce steep gradients No road exists between Semonkong and Sekake

September 1994

LES 1 05 Upgrading of the Road Mokhotlong Oxbow Lesotho



Estimated Costs
Total USD 70 0 million
Foreign USD 60 0 million
Local USD 10 0 million

Funding Secured
Foreign USD 41 3 million
Local USD 10 0 million

Funding Under Negotiation
Foreign USD 18 7 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works Lesotho

Start 1993
Duration 3 Years

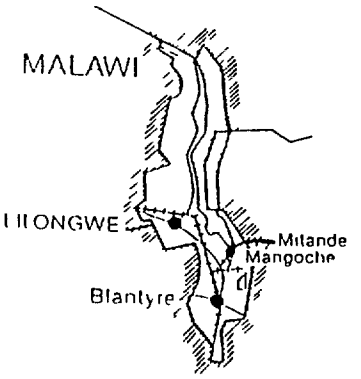
Objectives Upgrading to bitumen standard of the road section Mokhotlong Oxbow 110 km

Description The section between Mokhotlong and Oxbow is part of the main northern route linking Maseru through Butha Buthe to the eastern parts of Lesotho At present the section is a track through mountainous terrain negotiable only by 4 wheel drive vehicles in the dry season

Status Construction works commenced on the 6th February 1993 under two contracts which were awarded to a Joint Venture agreement of two contractors The construction period is for three years

September 1994

MAL 1 01 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
Min of Works Malawi/Min Const
and Water Mozambique
Start 1991
Duration

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

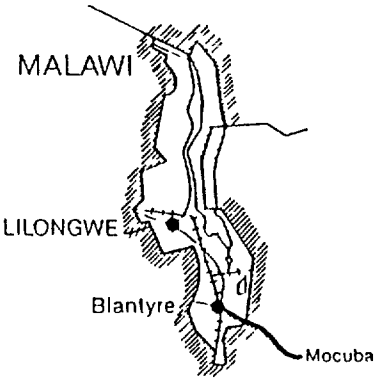
Description The existing road has been realigned and improved on one section near Mangoche and one section above the escarpment to Mamwera The section up to the escarpment has a very low standard with narrow hairpin bends damaged surface and dangerous bridges The section between Namwera and Chiponde 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 An in house design for 42 km (i e 6m c/way + 2/1 5 m shoulders) has been completed up to Masuku (border post to Mozambique)
Mozambique section pending financing

September 1994

MAL 1 02 Upgrading of the Blantyre Milanje Mocuba Road, Malawi/Mozambique



Estimated Costs
Total USD 40 2 million
Foreign USD 36 2 million
Local USD 4 0 million

Funding Secured
Foreign USD 0 3 million
Local USD 4 0 million

Funding Under Negotiation
Foreign USD 35 7 million

Financing Gap
Total USD 0 2 million

Executing Agency
Min of Works, Malawi

Start
Duration

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

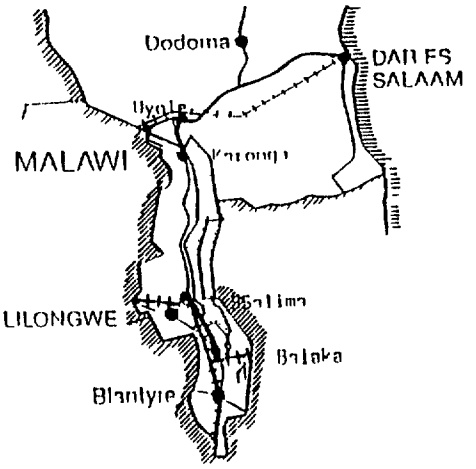
Status

After reaching advanced stages in the procurement of consultancy services and the selection of a contractor EEC advised in early 1992 for the project to be postponed

Subprojects Included in Programme		Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Funding Gap
01	Study on the Upgrading of the Road Blantyre Milanje Mocuba (Feasibility Study)	0 2	0 2	0 0	0 0	0 0	0 2
02	Study on the Upgrading of the Road Blantyre Milanje Mocuba (Design)	0 3	0 3	0 0	0 3	0 0	0 0
03	Study on the Upgrading of the Road Blantyre Milanje Mocuba (Construction)	39 7	35 7	4 0	4 0	35 7	0 0
		40 2	36 2	4 0	4 3	35 7	0 2

September 1994

MAL 1 03 Road Link Balaka Salima Karonga Uyole Malawi / Tanzania



Estimated Costs
Total USD 47 6 million
Foreign USD 47 6 million
Local USD 0 0 million

Funding Secured
Foreign USD 47 6 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Min of Works/Supplies,Malawi
Min Communic/Works, Tanzania
Start 1988
Duration 6 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

Description

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 23 3 million) The existing road in Tanzania between Ibanda and Uyole (98 km) is in need of improvement/strengthening (cost estimate USD 12 3 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

The 50 km Karonga Ibanda section which was completed late last year is unfortunately performing rather badly, the pavement is deteriorating rapidly around the kerbs and the composite bridges are experiencing excessive vibrations which have, in some instances, resulted in longitudinal and transverse cracks going right through the concrete deck slab Concrete cores have been extracted at various locations on the footway, these have been sent to four independent research organizations for testing by the Client Ministry of Works, Consultant ADK and contractor Philipp Holzmann

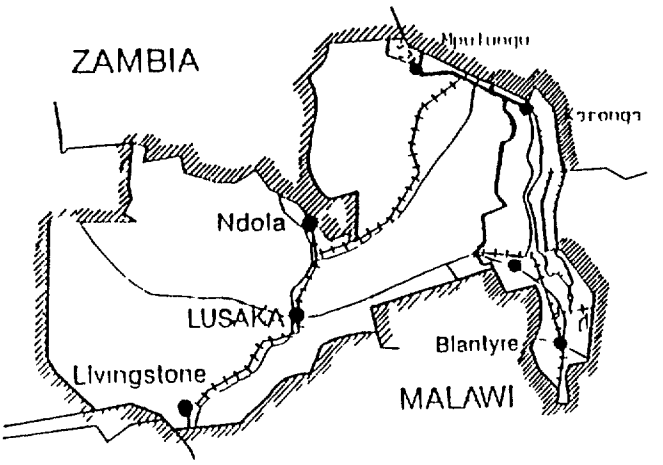
Construction of the 98km long Ibanda Uyole Road by Sogeaco Contractors began in April, 1992 The section is expected to be completed by November 1994

The contract for the upgrading of the 145km long Balaka Salima section between the Hindustani Construction Company of India and Ministry of Works which was determined in February, 1991 is likely to go before Arbitration

Meanwhile the contract was retendered and currently construction works are underway by a new contractor, Philipp Holzmann

September 1994

MAL 1 05 Study on the upgrading of Karonga Chitipa Nakonde Mpulungu Road, Malawi/Zambia



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works (Malawi)
Min of Works & Supply (Zambia)
Start 1992
Duration 8 months

Objectives

Phase I consists of a feasibility study and preliminary engineering design on the upgrading of 423km of earth roads in Malawi and Zambia to well engineered all weather roads
(Class 1 bitumen, 6 7m c/way width)

The roads which serve a hitherto underdeveloped northern part of Zambia and Malawi would also provide an alternative access route to the Indian Ocean harbours for the countries bordering Lake Tanganyika via the Tazara and Tanzam Highway

The road offers greater opportunity for regional trade and already plays an important role in controlling the spread of Rinderpest diseases from the southern part of Tanzania to the rest of Southern Africa

Description

The project comprises of three links

The 100 km Karonga Chitipa section runs from coastal plains on the Karonga (500m asl) and to Chitipa (1300m asl) with the rise undertaken through two escarpments The horizontal alignment has high degree of curvature and the vertical alignment is severe in general and steep in places

The Chitipa Nakonde section runs through rolling terrain with few sharp horizontal curves and gentle vertical alignment

The 233 km Nakonde Mpulungu section runs through gently rolling terrain over gravel and bituminized roads which require rehabilitation in places

The estimated cost for phase I & II is USD 3 1 million

Status

Consultant John Burrow & Partners has carried out the draft engineering design Efforts are under way to initiate Phase II of this project

September 1994

MOZ 1 01 Road Projects in Beira Port Transport System Development Plan

Estimated Costs
Total USD 74 1 million
Foreign USD 73 3 million
Local USD 0 8 million

Funding Secured
Foreign USD 13 3 million
Local USD 0 8 million

Funding Under Negotiation
Foreign USD 60 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Beira Corridor Authority, Min of Const and Water, Mozambique
Start
Duration

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

Status RD CE 01 A1) Completed in 1991
RD CE 01 A2) Completed in 1992

RD CE 01 B) Ongoing project

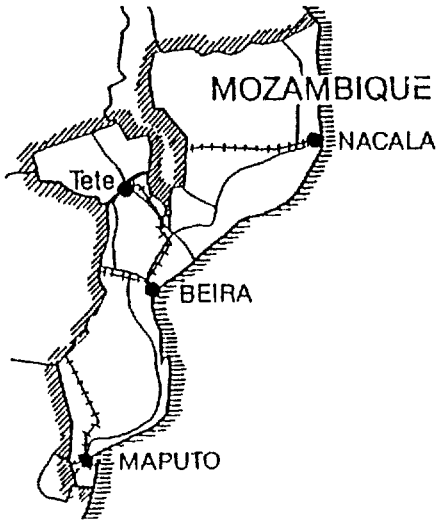
RD CE 01 C) Ongoing project

RD CE 01 D) Prequalification of Tenderers ADB has shown interest to finance the rehabilitation works in Manica province, while SIDA is interested to finance 16 km in Sofala province and EEC the remaining part in Sofala province

Subprojects Included in Programme	Cost			Funding		
	Total	For'n	Local	Secu	Nego	Gap
*RD CE01 Road Rehabilitation Beira Machipanda	74 1	73 1	0 8	14 1	60 0	0 0
RD CE01 A2) Emergency Repairs, Manica Province	5 4	5 4	0 0	5 4	0 0	0 0
RD CE01 B) Equipment and Technical Assistance to Road Maintenance Units	5 5	4 7	0 8	5 5	0 0	0 0
RD CE01 C) Reinforcement of the Road	2 2	2 2	0 0	2 2	0 0	0 0
RD CE01 D) Reconstruction of the Road	61 0	61 0	0 0	1 0	60 0	0 0
	74 1	73 3	0 8	14 1	60 0	0 0

September 1994

MOZ 1 02 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Construction and Water, Mozambique
Start 1985
Duration

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

Description 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 floods

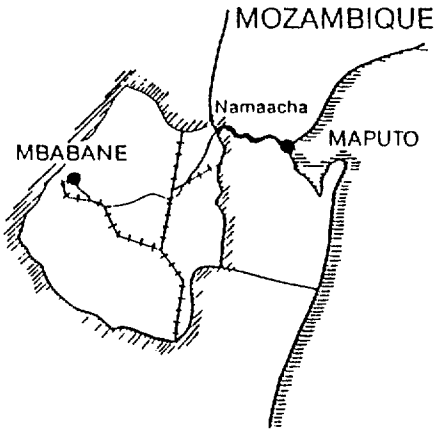
The traffic varies between 80 vehicles per day at the borders and 600 vehicles per day in the vicinity of Tete Of the international traffic a major part consists of heavy vehicles

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

Status Over 234 km have been completed and the project is expected to be completed by the end of 1993

September 1994

MOZ 1 04 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 17 0 million
Local USD 4 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Construction and Water Mozambique
Start 1992
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 SWZ 1 01) The 33 Km stretch between Maputo and Boane is also part of the road connection between Maputo and South Africa

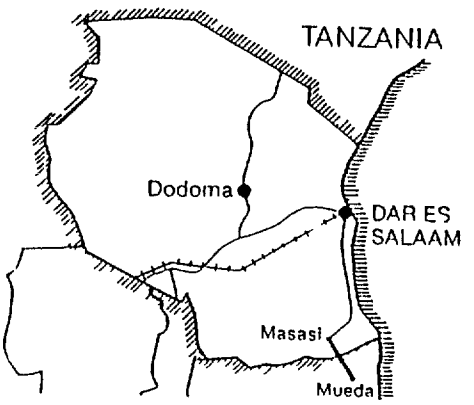
Description The existing road is asphalt paved mostly in poor condition A section of about 62 Km of the total 75 Km has a heavily damaged surface broken down along the edges and very bumpy The width is less than 6 m along most of the section and does not provide room for overtaking and passing on the 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 Works on the Matola Bridge completed, financed by Sweden
Engineering design completed Construction work started in August 1993 with financing from Kuwait Fund Contractor is M A K/CETA and supervision consultant is UNETEC

September 1994

MOZ 1 05 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 9 million

Executing Agency
The Governments of Mozambique and Tanzania
Start
Duration

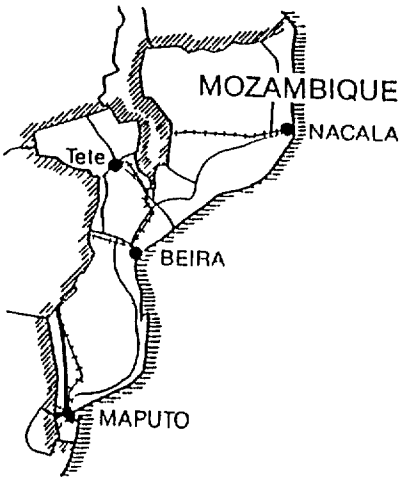
Objectives Technical and economic feasibility study, including preliminary design for the construction of a new road link between Mozambique and Tanzania

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 Regional Trunk Road Network Upgrading work is in progress on the Lindi Kibiti section of the onward connection in Tanzania

Status The project is under review

September 1994

MOZ 1 06 Road Linking Southern Zimbabwe with the Maputo Area
Mozambique



Estimated Costs
Total USD 25 0 million
Foreign USD 17 5 million
Local USD 7 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 7 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 17 5 million

Executing Agency
Ministry of Construction and Water, Mozambique
Start 1994
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

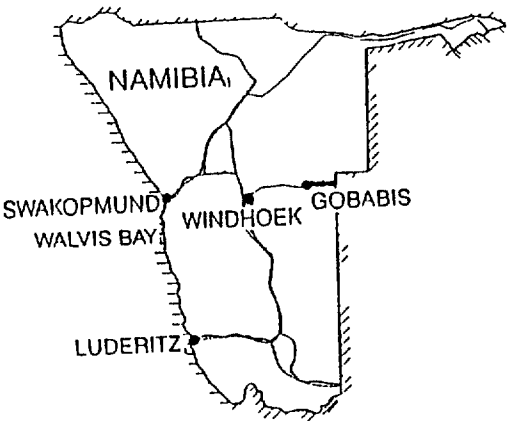
A feasibility study is also envisaged to establish the final desirable standard of a road transport link between Maputo and Zimbabwe

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

Status Financing is being sought

September 1994

NAM 1 01 Construction of the Gobabis to Buitepos Road, Namibia



Estimated Costs
Total USD 21 3 million
Foreign USD 21 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 10 7 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 10 6 million

Executing Agency
Department of Transport

Start 1992
Duration 3 Years

Objectives

The construction of a bituminous surfaced road between Gobabis and Buitepos to provide an all weather high standard road linking Namibia with Botswana Both countries would reap the benefits of such a road link, especially in terms of co operation trade and transport However the economic viability of the upgrading of the road sections in Botswana and Namibia are each dependent on the completion of the road in the other country

Description

The road section forms part of the Trans Kalahari Highway which route runs between the port of Walvis Bay and Buitepos (approximately 700 km) in Namibia, and in Botswana from Mamuno to Lobatse (approximately 750 km)

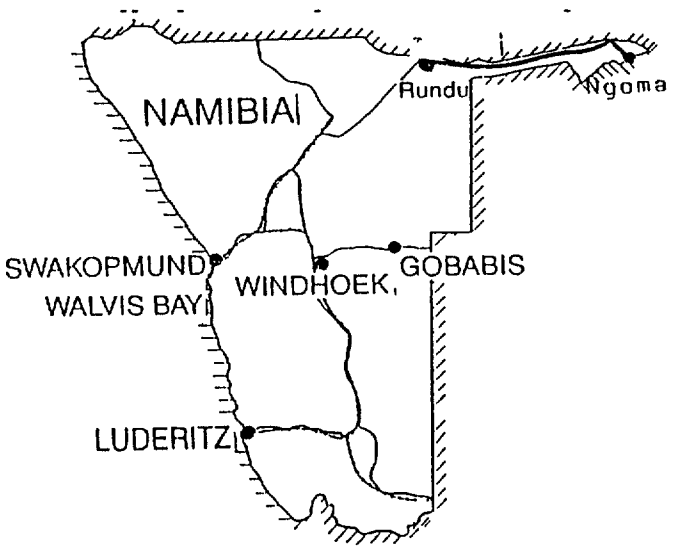
On the Namibian side a bitumen surfaced road has been provided from Walvis Bay to a point 16 km to the east of Gobabis There thus remains a 93 km gravel section between Gobabis and Buitepos which has to be upgraded to a bitumen surfaced road Based on the supposition that the Botswana section will be completed simultaneously with the Gobabis Buitepos road, the feasibility study has shown a minimum 13/ internal rate of return for the shortest alternative between Gobabis and Buitepos

Status

The feasibility study and detailed design have been completed Construction commenced in January 1992 and it is expected to have the project completed by March 1995 The project is being financed partly by means of a soft loan from the African Development Bank
Negotiations is ongoing with BADEA for co financing of remaining part It is anticipated to have the first 15 km of the road opened to traffic by end February 1993 ZAR 20 5 million was spent by 31 12 1992 and the works were 15/ complete

September 1994

NAM 1 02 Improvement of the Trans Caprivi Highway Namibia



Estimated Costs
Total USD 96 5 million
Foreign USD 67 4 million
Local USD 29 1 million

Funding Secured
Foreign USD 3 0 million
Local USD 29 1 million

Funding Under Negotiation
Foreign USD 26 3 million

Financing Gap
Total USD 38 1 million

Executing Agency
Ministry Works,Transport and Communication (Dept Transp)
Start 1991
Duration 10 Years

Objectives

The completetion of an all weather bitumen surfaced road between Rundu and Ngoma will provide a high standard link with neighbouring Botswana Zimbabwe and Zambia, promoting the development of trade and co operation between these countries and Namibia The road will also provide an all weather link between Katima Mulilo the regional administrative centre of Caprivi and the rest of the country A bitumen surfaced road will reduce road maintenance and vehicle operating costs as well as the present high accident rate

Description

The Trans Caprivi Highway stretches from Rundu in the Kavango Region all along and between 5 to 8 kilometres south of the Okavango River to Divundu where it crosses the Okavango River into the Caprivi Region passing from western to eastern Caprivi over the Kwando river at Kongola to Katima Mulilo on the Zambezi River and further to Ngoma on the border with Botswana where it crosses the Chobe River The highway is connected to Zambia at Wenela by means of a 4 km long district road where it is the intention to replace the ferry crossing of the Zambezi River with a bridge A district road leading from Divundu all along the Okavango River, to Mohembo on the border with north western Botswana connects the highway to the Okavango Swamps in the latter mentioned country Both these links are considered to be an integral part of the Trans Caprivi Highway

Traffic along this highway varies between 40 and 400 vehicles per day depending on the proximity of the various sections of the highway to towns and villages

Deterioration of the gravel sections occurs fairly rapidly after grading and driving conditions become unacceptable within a matter of days During the rainy season certain sections of this road very often become impassable due to the softening of the gravel wearing course Maintenance of the gravel sections of the highway is thus abnormally high

The accident rate on the road, considering the traffic, is extremely high ranging between 5 5 and 8 0 accidents per million vehicle kilometres whereas the average rate for paved two lane roads in Southern Africa is 1 The major cause of traffic accidents is the dusty condition of the road

Status

The road sections from Rundu to Takwasa (Phase 1) a distance of 53km, and from Kongola to Katima Mulilo some 118 km are bituminized The latter section will require structural and geometric rehabilitation in the short to medium term

Phase two of the construction of the highway to bitumen surfaced standards the 48 Km secvtion between Takwasa and Nyangana, is currently on programme The site was handed over to the contrator in July 1991 and the works are expected to be completed during the second quarter of 1993 The tender amount is ZAR 33,4 million ZAR 24,3 million was spent by 31 12 1992 and the works were 80/ complete

Phase three of the construction of the highway the 100 km section between Nyangana and Divundu was commenced with in January 1992 and the expected date of completetion is December 1993 Tender amount is ZAR 57,3 million
ZAR 21 6 million was spent by 31 12 1992 and the works were 38/ complete

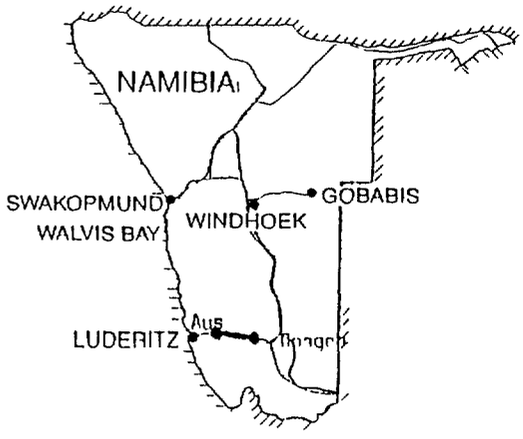
The first 12 km of the road between Katima Mulilo and Ngoma is under construction to bitumen surfaced standards by a Government Unit and is expected to be completed during 1993 All these projects are financed in their entirety by the Government of Namibia

A feasibility study for the remaining of the Trans Caprivi Highway was completed in September 1992
Negotiations are presently underway with the African Development Bank (ADB) and the Kreditanstalt fur Wiederaufban (KfW) regarding the design of the remaining sections of the Trans Caprivi Highway still to be upgraded to bitumen surfaced standards (Divundu Kongola Divundu Mohembo Katima Mulilo Ngoma Katima Mulilo Wenela) the rehabilitation of the Kongolo Katima Mulilo section, the bridges across the Okavango and Chobe Rivers to be strengthened and rehabilitated and for the design of a bridge across the Zambezi River at Wenela

Negotiations are also underway with the KfW and the ADB for financing of the construction of approximately half of the section between Divundu and Kongola and the sections between Katima Mulilo and Ngoma and Wenela respectively

September 1994

NAM 1 05 Construction of a bitumen surfaced road between Goageb and Aus Namibia



Estimated Costs
Total USD 23 2 million
Foreign USD 18 7 million
Local USD 4 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 4 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 18 7 million

Executing Agency
Department of Transport

Start 1992
Duration 3 Years

Objectives

To provide an adequate road connection to the town of Luderitz with its fishing and tourist industries the mining town of Rosh Pinah and the diamond mines at Oranjemund A decrease in road user costs and the present relatively high incidence of accidents is also expected as a result

Description

Of the total distance of 334 Km between Keetmanshoop and Luderitz the sections Keetmanshoop Goageb (106 Km) and Aus Luderitz (125) were upgraded to tarred road standards during the nineteen seventies There now remains a 103 Km gravel section between Goageb and Aus The completion of this route was discontinued as a result of the scarcity of funds during the past decade other priorities and due to the low traffic volume the economic justification of the project

The alignment of the new road between Goageb and Aus partly follows the existing route (59 km) and partly a new alignment (40 km) reducing the length to 99 km and eliminating certain existing drainage problems

The completion of this last section to tarred roads standards will facilitate road transport between Luderitz and the rest of the country which town is one of the two fishing harbours of Namibia and which industry has been identified as having potential of becoming one of the main foreign exchange earners of the country
Aus being the junction to the mining town of the Rosh Pinah the proposed project will also have a positive influence on the latter as this is the only route connecting the mine with the rest of Namibia So too for the diamond mining town of Oranjemund which at present is connected via the Oppenheimer Bridge across the Orange River to South Africa It is the Government's intention to directly link Oranjemund to the Namibian trunk road network either at Aus or at Luderitz which further emphasises the importance of the Goageb Aus section

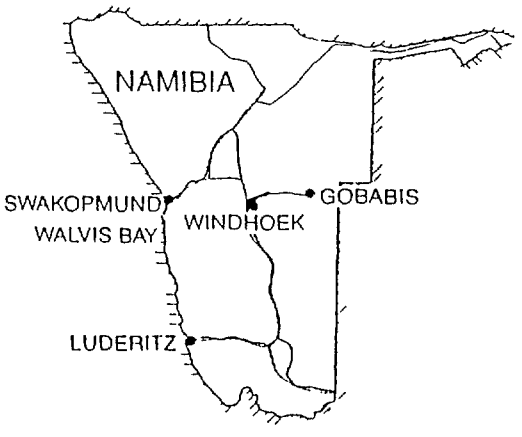
Status

Construction of this 99 km section of trunk road was commenced with by the contractor in January 1992 and is expected to be completed by December 1994
The tender amount is ZAR 65 million and financed entirely by the Government of Namibia. The project is on schedule ZAR 15 7 million was spent by 31 12 92

and the works were 24/ complete

September 1994

NAM 1 06 Climbing/Passing Lanes on Road between Windhoek and Windhoek International Airport Namibia



Estimated Costs
Total USD 2 7 million
Foreign USD 0 0 million
Local USD 2 7 million

Funding Secured
Foreign USD 0 0 million
Local USD 2 7 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Department of Transport

Start 1992
Duration 10 Months

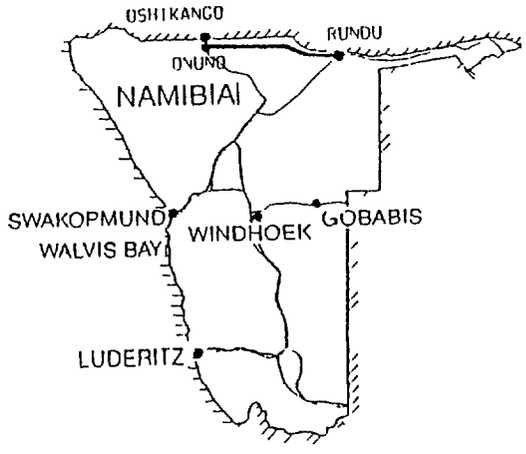
Objectives To achiev a decrease in the accident rate on the road, as well as to improve the facility in anticipation of the imminent completetion of the Trans Kalahari Highway through Botswana and the concomitant expected increase in traffic especially of heavy vehicles

Description The road between Windhoek and Windhoek International Airport passes through hilly to mountainous terrain and currently carries about 1 600 vehicles per day with peaks of around 300 vehicles per hour coinciding with aircraft movements at the airport Accident costs on this section have been estimated to be in excess of USD 2 0 million per annum The existing road is a two lane two way highway provided with an eight metre bituminous surfacing and one and a half metre gravel shoulders It is considered essential that climbing and passing lanes be provided where necessary, that structures along the route be widened and that major at grade intersections be improved

Status Construction of climbing and passing lanes together with the widening of cuttings and upgrading of junctions along the first 22 Km of this road from Windhoek has been completed ZAR 7 9 million was spent by 31 12 92 and the works were 90/ complete

September 1994

NAM 1 07 Kavango Ovambo road link, Namibia



Estimated Costs
Total USD 0 1 million
Foreign USD 0 0 million
Local USD 0 1 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Department of Transport

Start 1991
Duration

Objectives

The execution of a feasibility and engineering study on the upgrading (and if necessary relocation) of the existing gravel road between Rundu in the Kavango and the Ondangwa Oshikango trunk in the Ovambo region Such upgrading road would form a logical extension of the Trans Caprivi Highway linking the Kavango and Ovambo regions of Namibia whilst at the same time providing the shortes route between the port of Namibe in Angola with Botswana Zimbabwe and Southern Zambia

The proposed study should determine the economic viability of upgrading the road the actual route that the road should follow the basic design criteria that should be adopted and provide a programme according to which the road should be constructed

Description

The existing road between Rundu and the Ondangwa Oshikango trunk road follows the Okavango River and immediately south thereof for a distance of approximately 80km after which it leaves the river area in a westerly direction to run via the villages of Nepara Mpungu Okongo and Eenhana to join the above mentioned trunk road some 13 km south of Oshikango The total length of the road is 446 km

During the rainy season this road is often impassable for both passenger vehicles as well as heavy trucks while during the dry season excessive dust is generated on the more trafficked sections Traffic on the road varies from a few hundred vehicles per day near Rundu and the Ondangwa Oshikango trunk road to less than fifty vehicles per day along the more remote sections

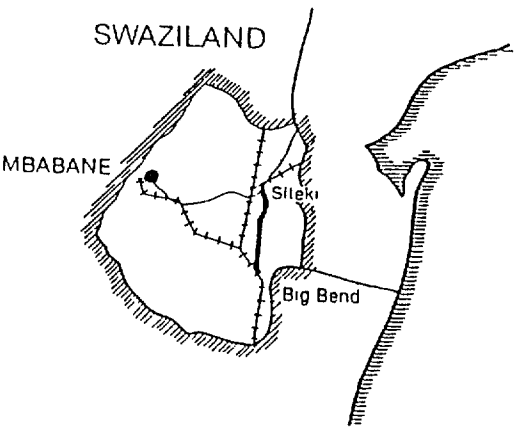
The road link forms part of the Southern African Regional Trunk Road Network (route 12) as proposed by SATCC

Status

The feasibility study for the construction of this proposed link road was awarded to Namibian consultants in October 1991
The draft report submitted by the consultants is currently under consideration by the Government of Namibia

September 1994

SWA 1 01 Rehabilitation/Upgrading of the Road Mozambique boroer at Lomahasha Siteki Big Bend



Estimated Costs
Total USD 5 0 million
Foreign USD 0 0 million
Local USD 5 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 5 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 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 Lonhlupenko junction west of Siteki, 52 5 km
2 Lonhlupenko 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 MOZ 1 04)

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

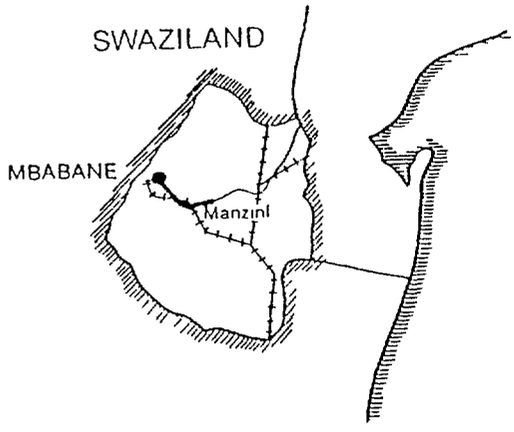
The road section Lomahasha Siteki has traffic volumes between 175 and 700 vehicles per day

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 both road sections is complete
The section from Siteki to Big Bend is now under 12 months maintenance pariod

September 1994

SWA 1 02 Improvement of the Mbabane Manzini Road Swaziland



Estimated Costs
Total USD 62 0 million
Foreign USD 62 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 62 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works and Communications Swaziland
Start 1992
Duration 4 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 SADC 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 raod 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

Section 1

This section from Mbabane to Ezulwini is 7 km long
The average daily traffic on this two lane section is 7000 vpd is to be upgraded to a dual carriageway
Consultancy for the supervision has been awarded but not yet the construction contract

Section 2

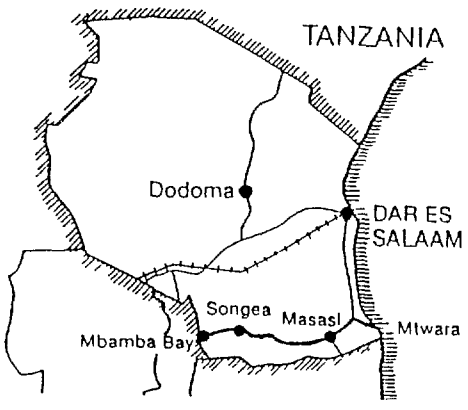
This is from Ezulwini to Matsapha and it is 25 km long This road will be on a new alignment It will be a two lane 7 4 wide road with 2m wide shoulders The road is to be constructed to allow future upgrading to a dual carriageway Supervision is awarded, but not yet construction

Section 3

This road section is from Matsapha to Manzini and is 9 km long The road is being upgraded to a dual carriageway at an estimated cost of USD 12 million Construction is scheduled to be complete by mid December 1994 The project is currently 60/ complete

September 1994

TAN 1 01 Rehabilitation and Upgrading of the Mtwara Songea Mbamba Bay Road Tanzania



Estimated Costs
Total USD 74 9 million
Foreign USD 58 2 million
Local USD 16 7 million

Funding Secured
Foreign USD 56 9 million
Local USD 16 7 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 3 million

Executing Agency
Ministry of Communications and Works Tanzania
Start 1991
Duration 3 Years

Objectives

1 Studies and design for the section between Masasi snd 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 TAN 3 01)

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

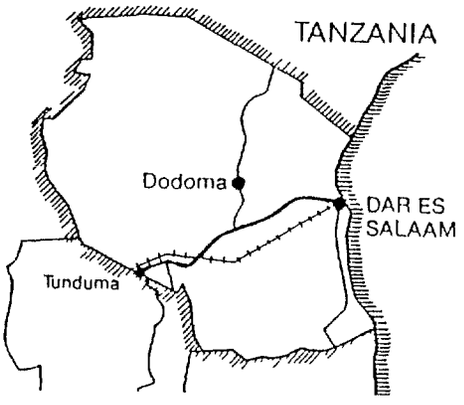
The existing road from Songea to Mbamba Bay, 169 Km, is gravelled on half of the length and the rest is earth It is in poor condition due to low construction standards e g lack of adequate drainage and unsafe wooden briedges across rivers The terrain is rolling to hilly and includes a mountainous stretch 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

Rehabilitation works on Mtwara Mingoyo Masasi Section (200 km) commenced in July 92 Detailed design of spot improvement for Masasi Songea Section awarded to Cowi Consult (460 km) Works to upgrade the 1st 20 km from Songea to bitumen standards and the next 50km to gravel standards commenced July 1991 and is exepcted to be completed in 1993
Mbinga Mbamba bay Section (100 km) Construction by Force Accounts Unit (FAU) started July 1991 and expected to be completed in June 1994, so far only 30 km has been completed Output is small because of dilapidated construction equipment fleet

September 1994

TAN 1 03 Rehabilitation/Strengthening of the TANZAM Highway
Tanzania



Estimated Costs
Total USD 120 2 million
Foreign USD 83 6 million
Local USD 36 6 million

Funding Secured
Foreign USD 39 5 million
Local USD 36 6 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 44 1 million

Executing Agency
Ministry of Works, Tanzania

Start 1988
Duration 8 Years

Objectives Rehabilitation and strengthening of the Tanzam Highway in Tanzania

Description 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 The project has been divided in the following sections Works started in September 1988

(i) Dar es Salaam Chalinze

(ii) Chalinze Morogoro Melela (115 Kms) Total cost USD 8 0 million, with USD 5 4 million in foreign currency and USD 2 6 million in local currency
No donor support has been secured

(iii) Melela Mikumi

(iv) Mikumi Iyaya

(v) Iyaya Ruaha (Iringa) (327 Kms) Total cost USD 32 0 million with USD 23 4 million in foreign currency and USD 8 6 million in local currency
No donor support has been secured

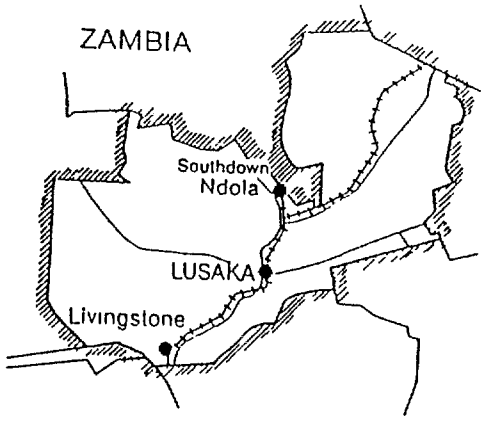
(vi) Ruaha (Iringa) Mbeya

(vii) Mbeya Songwe

(viii) Songwe Tunduma (70 Kms) Total cost USD 18 2 million, with USD 13 3 million in foreign currency and USD 4 9 million in local currency
No donor support has been secured

ı r tember 1994

ZAM 1 01 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 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 2 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 Caripande Lumbala Luene will be one of the few road links between Zambia and Angola and will be essential for road transports to the Lobito Port

Description

In Angola the road section Luene Lucusse has been completed and the section Lucusse Lumbala is under construction up to paved standard About 50km to the Borderpost at Caripande remains to be upgraded

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

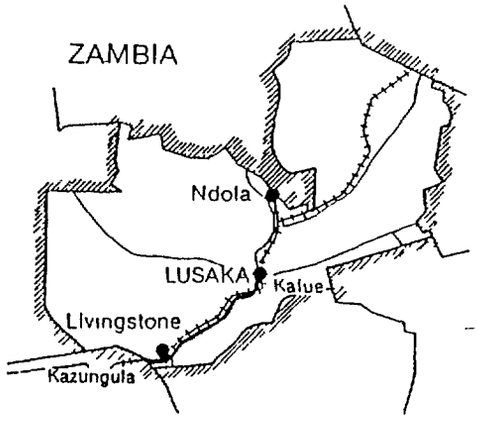
Construction costs are estimated roughly at USD 129 5 million (1991 prices)

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 pontential road connection between Angola and Zambia

September 1994

ZAM 1 03 Rehabilitation of the Lusaka Kafue Livingstone Kazungula Katima Mulilo Road Zambia



Estimated Costs
Total USD 137 2 million
Foreign USD 137 2 million
Local USD 0 0 million

Funding Secured
Foreign USD 31 8 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 105 4 million

Executing Agency
Ministry of Works and Supply, Zambia
Start 1991
Duration 4 Years

Objectives Rehabilitation and upgrading of the road Lusaka Kafue Livingstone Kazungula Katima Mulilo 591 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 The studies were completed in early 1986 The different road sections are as follows

1 Lusaka Kafue Bridge 49 Km Rehabilitation began late 1992 and is in progress Expected completion is March 1994 Contractor is Kajima The section is completely funded by USAID and the estimated construction cost is USD 18 0 million

2 Kafue Bridge Mazabuka 130 Km Rehabilitation is in progress but the work is behind schedule due to lack of bitumen in 1992 Contractor is Partizanski Put Ltd The section is completely funded by NORAD Work is expected to be completed in 1993, at a contract cost of USD 8 6 million approximately

3 Mazabuka Monze 62 KM Funding for resealing work secured from NORAD
Work began in late 1992, and is expected to be completed in 1993
Contractor is Partizanski Put Ltd jointly with Bitumen Products Zambia Ltd

4 Monze Zimba 210 Km Donor funding for implementation not secured FINNIDA financed the completed engineering design
Due to lack of donor funding for rehabilitation works spot resealing work by force account is being considered in order to arrest further deterioration of the road

5 Livingstone Kazungula Katima Mulilo 195 Km Donor funding for implementaton not yet secured Force account work of resurfacing the Section Livingstone Kazungula began in 1992

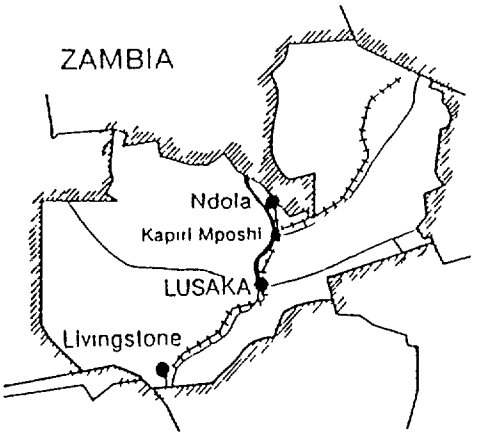
Local funds have been made available for this work Germany (KFW) has agreed to finance a feasibility study for the rehabilitation of the section

6 New Kafue Road Bridge The construction of the new bridge replacing the old bridge is already in an advance stage The work is carried out by a Japanese contractor Shimizu Corporation The projects is funded by Japan Total estimated constructioncost is USD 15 0 million Expected completion is in August 1993

Additional financing as indicated above is being sought

September 1994

ZAM 1 05 Rehabilitation of the Lusaka Kapiri Chingola Zaire Border Road Zambia



Estimated Costs
Total USD 54 0 million
Foreign USD 54 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 45 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 9 0 million

Executing Agency
Ministry of Works and Supply, Zambia
Start 1992
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 shows the flows to be above 2900 vehicles per day with 45/ 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

Status Denmark has financed feasibility and engineering studies (USD 0 6 million) together with 3 other roads in Zambia completed in early 1986
The project is divided into three parts

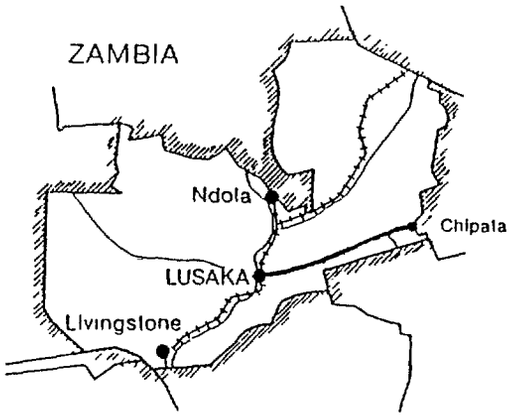
1 Lusaka Kabwe 138 Km Rehabilitation work has begun
Expected completion is March 1994 Contractors is Cogefar Total construction cost is USD 15 0 million
The project is financed by EEC

2 Kapiri Mposhi Chingola 220 Km, Section Chingola Kitwe was completed in 1992 with an asphalt pavement Works on section Kitwe Ndola ongoing Contractors is Phoenix
Construction period is 36 months Expected completion is September 1994
DANIDA funding of DK 190 0 million (USD 30 0 million)

3 Kabwe Kapiri Mposhi 68 km
No donor pledge so far It is hoped that it may be included in the Lusaka Kabwe project
Estimated cost is USD 9 million
Financing is being sought for the Kabwe Kapiri Mposhi

September 1994

ZAM 1 06 Rehabilitation of the Road Lusaka Chipata Zambia



Estimated Costs
Total USD 73 7 million
Foreign USD 73 7 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 73 7 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works and Supply
Zambia
Start 1993
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 Nyimba 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

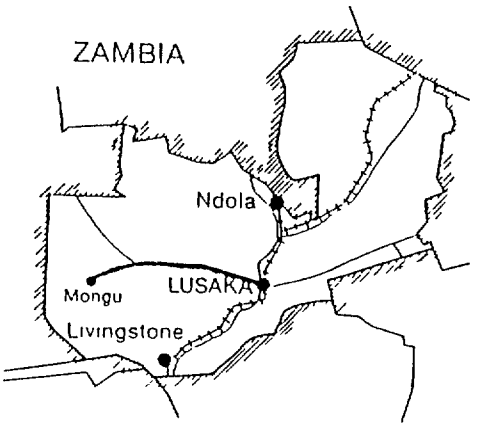
The average daily traffic is in the region of 200 to 250 vehicles with 45/ of heavy vehicles
Urgent rehabilitation works are required At present only normal maintenance is being carried out as and when funds are available

Status Denmark has financed feasibility and engineering studies (USD 0 7 million) together with three other roads in Zambia completed in early 1986 DANIDA is financing engineering design and supervision of works while the ADB has pledged to finance rehabilitation works

Engineering design was completed in January 1992
Prequalification of contractors is being considered the initial prequalification was rejected by ADB Consultant for project already in place
Meanwhile resealing works ongoing by force account to arrest further deterioration

September 1994

ZAM 1 07 Improvement of the Road Lusaka Mongu Zambia



Estimated Costs
Total USD 63 3 million
Foreign USD 63 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 63 3 million

Executing Agency
Ministry of Works and Supply, Zambia
Start 1990
Duration 5 Years

Objectives Rehabilitation/improvement of the road Lusaka Mongu

Description The Lusaka Mongu road M9 is 588 km in length The section between Lusaka and Kaoma was completed by a Chinese team in 1973 together with the bridge The section from Kaoma to Mongu was finished by private contrators in the mid 1960's

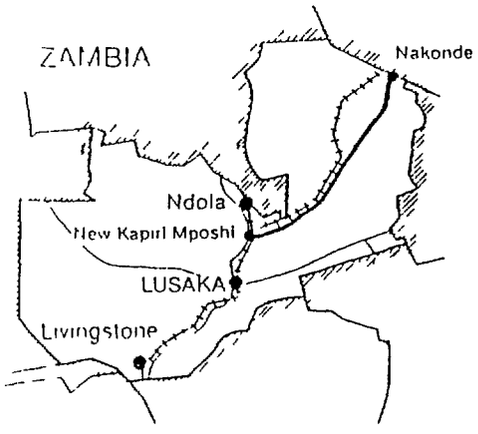
Traffic flows are approximately 200 vehicles per day with over 60 per cent heavy vehicles Due to poor soil conditions, long sections of the road are showing signs of distress and already several kilometers have had to be reconstructed Some surface dressing works have been made

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

Status Financing secured for the section Lusaka Kaoma from P R China and Zambia and work on the second phase began in April 1990 by a Chinese construction team expected to be completed in March 1995 Kaoma Mongu 186 Km requires funding Estimated total construction cost is USD 63 3 million

September 1994

ZAM 1 08 Rehabilitation of the TANZAM Highway Zambia



Estimated Costs
Total USD 105 0 million
Foreign USD 105 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 12 0 million

Financing Gap
Total USD 93 0 million

Executing Agency
Ministry of Works and Supply, Zambia
Start 1993
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/ 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 and only when funds are available

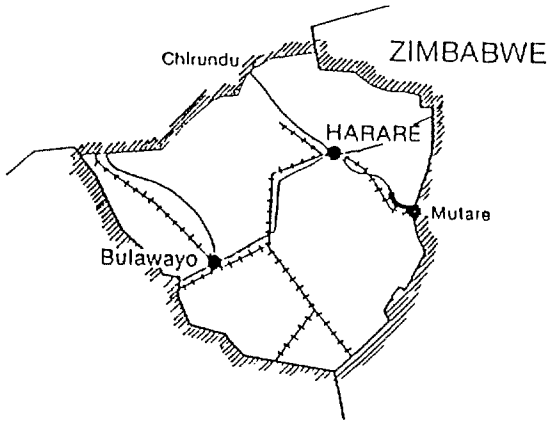
Status Denmark has financed feasibility and engineering studies (USD 1 1 million) together with 3 other roads in Zambia which were completed in early 1986

It is hoped that the section Kapiri Mposhi Mkushi will be rehabilitated along side Kapiri Mposhi Ndola in project ZAM 1 05 by DANIDA Estimated cost USD 12 0 million

There are no donors at present to take up rehabilitation of Mkushi Nakonde section No donors have been identified and no local funds allocated
Estimated cost USD 93 0 million
Financing is being sought for section Mkushi Nakonde

September 1994

ZIM 1 03 Upgrading of Eastern end of Harare Mutare Mozambique Border Road Zimbabwe



Estimated Costs
Total USD 22 0 million
Foreign USD 18 0 million
Local USD 4 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 4 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 18 0 million

Executing Agency
Ministry of Transport and Energy, Zimbabwe
Start 1993
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)

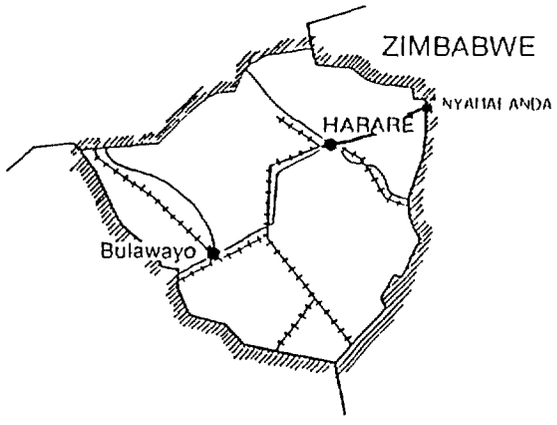
Status

The detailed engineering design has been completed and contract documentation has been prepared financed by FINNIDA

The estimated total cost of the project is USD 22 0 million
Funding negotiations between ADB and the Government of Zimbabwe have ceased to give way for top priority projects
Funds for the physical implementation are still to be secured

September 1994

ZIM 1 05 Rehabilitation of Harare Nyamapanda Route 202



Estimated Costs
Total USD 10 0 million
Foreign USD 6 0 million
Local USD 4 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 4 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 6 0 million

Executing Agency
Ministry of Transport and Energy, Zimbabwe
Start 1994
Duration 2 Years

Objectives Rehabilitation and reconstruction of the road Harare Nyamapanda The aim of the project is to provide a road link of suitable standard for transit traffic to/from Malawi and Northern Mozambique (Tete)

Description The road is constructed with a 10 meters formation with a 7 meters surfaced carriage way

A study into the deterioration of certain sections of the road was carried out by the Department of State Roads in early 1989

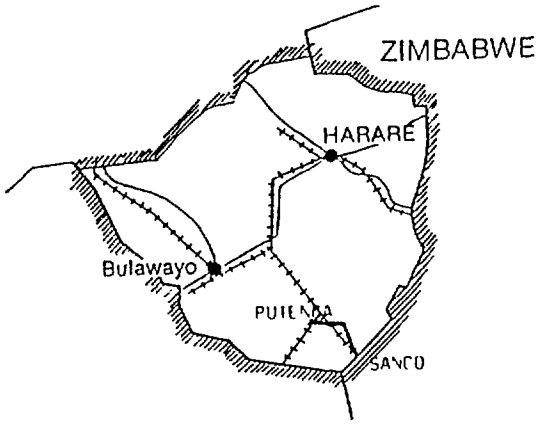
The conclusion from the study were that some sections of the road show considerable failing and need rehabilitation

Included in the project are the reconstruction of the section between 198 206 km (8km) and the strengthening of the remaining distressed sections (44km)

Status The request for a feasibility study has been submitted to the National Economic Planning Commission, as part of the BADEA package
Funds are being sought

September 1994

ZIM 1 06 Upgrading of Rutenga Boli Sango Road Route 456, Zimbabwe



Estimated Costs
Total USD 7 0 million
Foreign USD 7 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 7 0 million

Executing Agency
Ministry of Transport and Energy Zimbabwe
Start 1994
Duration 2 Years

Objectives

Upgrading of the Rutenga Boli Sango Road Route 456 a good all gravel road
The project will link to the Limpopo Corridor and Maputo, hence connecting the south est part of Zimbabwe with Mozambique

Description

The road Rutenga Boli Sango connects the south east part of Zimbabwe with Mozambique

The upgrading of the earth track running parallel to the Limpopo railway line between the Mozambique/Zimbabwe border and Chokwe and further to Manhica is included in Project MOZ 1 06

The upgrading of the Rutenga Boli Sango road to a good all weather gravel road will be a complement to that Project and also bring economic development to the area

A feasibility study on the road was carried out in 1985

Status

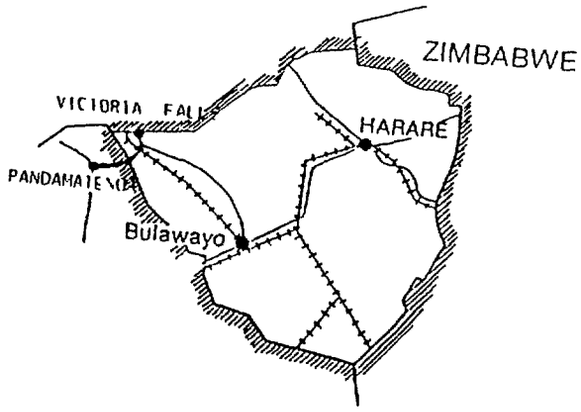
Due to economic and polit cal developments that have taken place since 1985 the Ministry is going to carry out a new feasibility study with possible Kuwait funding

The procurement of a consultant has been initiated and proposals are currently being evaluated

Funds for implementing the project have not been secured yet

September 1994

ZIM 1 07 Pandamatenga Victoria Falls Road Junction Route 746/745
(85 Km)



Estimated Costs
Total USD 16 0 million
Foreign USD 9 3 million
Local USD 6 7 million

Funding Secured
Foreign USD 0 0 million
Local USD 6 7 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 9 3 million

Executing Agency
Min Trp & Energy (Zim) and
Min Works Trp & Com (Bot)
Start 1994
Duration 4 Years

Objectives Upgrading of the road Padamatenga Victoria Falls Road Junction Route 746/745 (length approx 85 km) The road will be connected to the recently completed Gaborone Kasane road and will provide a much faster connection into Zambia

Description The present road connects the road junction of Nata Kazungula with the National Primary Road from Bulawayo to Victoria Falls

The road at present is of gravel standard and has to be upgraded to a surfaced standard to cater for the anticipated increase of traffic
Construction work will be preceded by feasibility and engineering study

In the regional context the Pandamatenga Victoria Falls Road will provide a vital link in the Botswana Zambia link using the only fixed crossing over the Zambezi River The Pandamatenga Victoria Falls road will be connected to the recently completed Gaborone Kasane Road and will provide a much faster connection into Zambia

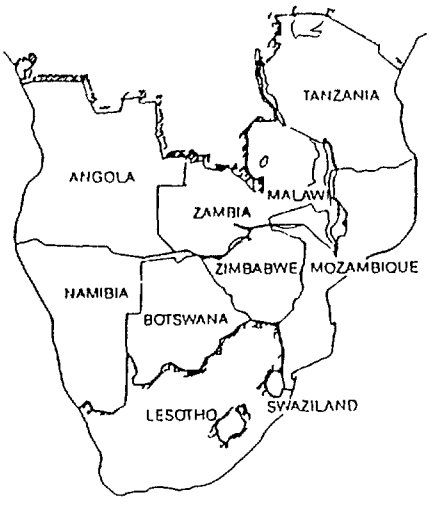
The road has to be upgraded to an all weather tarmac road over its entire length and the cost for this project is estimated at USD 16 00 million at today's prices (Jan 1992)

Status The 5 5km section of the road on the Botswana side between Pandamantenga and the Zimbabwe border has recently been regravelled Consideration is being given to upgrading this link as an extension of the 3 Nata Kazungula rehabilitation works for which funding is being sought

September 1994

Railways

AAA 2 06 Railway Training Programme



Estimated Costs
Total USD 9 1 million
Foreign USD 9 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 8 6 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency
SATCC Technical Unit

Start 1990
Duration 4 Years

Objevtives To organize regional railway management and technical training for SADC railways in order to provide adequate skilled manpower to cope with the maintenance and operations of railways

To provide SATCC and relevant authorities in Member States with data and recommendations for policies and measures to be applied in order to develop and/or establish an institution for Railway Management Development and Training in the region on the basis of Demand and Supply

Description The project consists of the following sub projects

(i) Development and delivery of railway training programmes at the estimated cost of USD 8 6 million covering the following activities

Management Development Course
Instructions'Training
Language Training
Specialist Courses for Managers
Technical Courses for Managers
Provision of Training Aids
Production of Handbooks and Manuals
Support to Railway Training Subgroup Meetings
SATCC Railways Training Expert (for 3 years)

The plan includes 6 management development courses 3 courses for instructors' training language courses for portuguese speaking personnel to study English, 6 technical courses for engineers 4 specialist courses for managers plus support to these activities as listed above under Provision of Training Aids
The cost estimates include consulting services related to the various items

(ii) Updating of the Regional Railway Training Needs Survey to assess training demand for management training in the SADC railway administrations at the estimated cost of USD 0 5 million

by defining middle and senior management training requirements for each country

by revealing the capacities at national and regional levels and other institutions and in Bilateral/Multilateral agreements

by specifying the correct alternatives for all training instruments in the region

Status	(i)	Project descriptions have been prepared as a sequel to Project AAA 2 02, Study on Railway Training Programmes, carried out by DeConsult of German financed by KFW Pilot phase funded by GTZ conducted during 1989 A Railway Training Expert has been recruited to coordinate the programme under the SATCC TU
	(ii)	Terms of Reference for the survey have been prepared and financing is being sought

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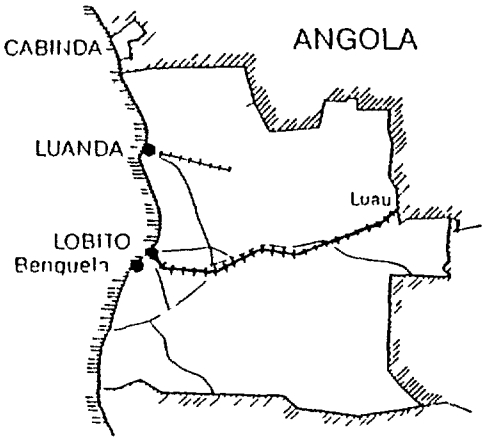
September 1994

ANG 2 01 Benguela Railway Projects in the 10 Year Development Plan for Lobito Port Transp System



Estimated Costs
Total USD 343 1 million
Foreign USD 343 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 2 5 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 9 8 million

Financing Gap
Total USD 330 8 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 24 railway subprojects (Benguela Railway)

5 Manpower Development and Technical Assistance	(R M)
1 Operational	(R OP)
6 Civil Engineering	(R CE)
2 Telecommunications	(R ST)
3 Mechanical Engineering	(R ME)
1 Energy	(R E)

Project details have been published in the 10 Year development Plan for the Lobito Port Transport System

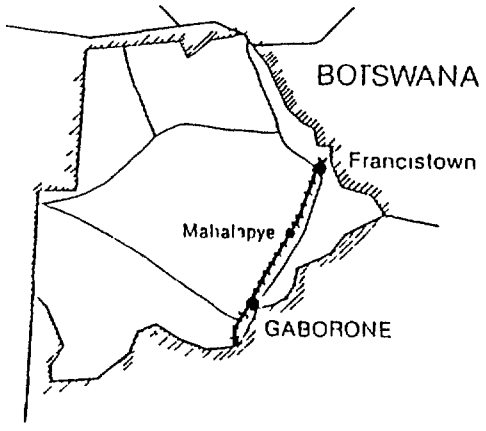
Status A Technical Co ordination Conference to discuss the Plan was held in January 1989, and interest was expressed by donors for most of the projects in the Preparatory Phase of the 10 Year Plan Follow up contacts with donors concerned are in progress

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
R CE 1	Track Repair and Upgrading	159 9	159 9	0 0	0 0	8 9	151 0
R CE 2	Establishment of Quarries	3 5	3 5	0 0	0 0	0 9	2 6
R-CE 3	Sleeper Production Plants	3 0	3 0	0 0	0 0	0 0	3 0
R CE 4	Track Maintenance Equipment	16 0	16 0	0 0	0 0	0 0	16 0
R CE 5	Realignment Design Cubal to Huambo	0 6	0 6	0 0	0 0	0 0	0 6
R CE 6	Realignment Study Huambo to Luau	0 4	0 4	0 0	0 0	0 0	0 4
R E 1	Electric Supply & Distribution Systems for Lobito, Huambo and Luena	1 8	1 8	0 0	0 0	0 0	1 8
R M 1	Manpower Development Plan	1 5	1 5	0 0	0 5	0 0	1 0
R M 2	Upgrading & Extension of Computer Facilities	0 9	0 9	0 0	0 3	0 0	0 6
R M 3	Railway Training Assistance	15 0	15 0	0 0	1 5	0 0	13 5
R M 4	Technical Assistance for Operation of the Railway	12 5	12 5	0 0	0 0	0 0	12 5
R M 5	Improvement of Railway Hospitals	6 0	6 0	0 0	0 0	0 0	6 0
R ME 1	Rehabilitation & Acquisition of Locomotives	20 0	20 0	0 0	0 0	0 0	20 0
R ME 2	Rehabilitation & Acquisition of Rolling Stock	65 0	65 0	0 0	0 0	0 0	65 0
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
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
R ME 5	Workshop Facilities at Lobito	0 6	0 6	0 0	0 0	0 0	0 6
R ME 6	Review & Acquisition of Spare Parts and Reorganization of Main Stores	10 3	10 3	0 0	0 0	0 0	10 3

R ME 7	Rescue Equipment & Accident Prevention Programme	1 1	1 1	0 0	0 0	0 0	1 1
R ME 8	Installation of 21 Automatic Barriers	1 6	1 6	0 0	0 0	0 0	1 6
R ME 9	Study on Improvement of Specialist Workshops in Huambo	0 1	0 1	0 0	0 0	0 0	0 1
R-OP 1	Motive Power, Rolling Stock & Operation Plan	0 2	0 2	0 0	0 2	0 0	0 0
R ST 1	Train Control System and Telecommunications	14 5	14 5	0 0	0 0	0 0	14 5
R ST 2	Telephone Exchanges CFB and Lobito Port	0 6	0 6	0 0	0 0	0 0	0 6
		343 1	343 1	0 0	2 5	9 8	330 8

September 1994

BOT 2 01 Rehabilitation of the Main Railway Line, Botswana



Estimated Costs
Total USD 121 9 million
Foreign USD 88 1 million
Local USD 33 8 million

Funding Secured
Foreign USD 20 7 million
Local USD 33 8 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 67 4 million

Executing Agency
Ministry of Works, Transport and Communications Botswana
Start 1984
Duration 12 Years

Objectives Renewal of the track
(1) Gaborone Southern Border (120 Km),
(2) Francistown Northern Border (85 Km) and
(3) Gaborone Franscistown (435 Km)

Description The railways in Botswana consist of a 640 Km main line which has two branch lines Serule Selebi Pikwe (57 Km) and Palapye Moropule (15 Km), in total 714 Km
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 were 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) Franscistown Northern Border (85 Km) and (3) Gaborone Francistown (435 Km)
The new track will consist of 50 kg/m longweld rails on monobloc concrete sleepers with fist fastenings

Status An agreement has been signed signed between the People's Republic of China and Botswana to finance the acquisition of rails and equipment and for technical assistance To being 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) and the Francistow Northern Border (85 km) sections has been completed The project amounts to USD 114,0 million including the cost of the completed track renewal

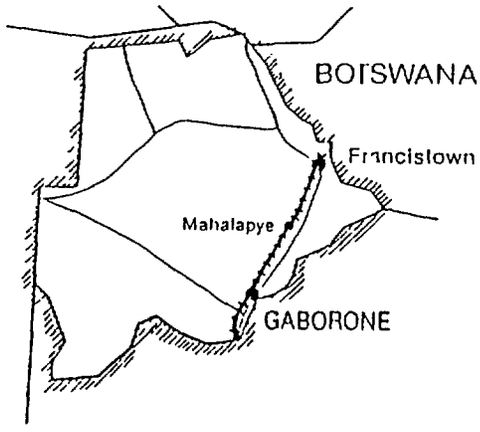
A contract for USD 5 3 million covering cost of rails and technical assistance has been signed with the People of China for the 88 Km section Francistown Serule The project is now complete

A contract for USD 16 34 million covering cost of rails and technical assistance has been signed with the People's Republic of China for the 118 Km section from Gaborone to Dibete
Funding is being sought for outstanding 228 Km

Subprojects Included in Programme		Cost				Funding	
		Total	For'n	Local	Secu	Nego	Gap
03	Section 3 Francistown to Serule	21 3	15 3	6 0	21 3	0 0	0 0
04	Section 4 Gaborone to Dibete	16 4	5 4	11 0	16 4	0 0	0 0
05	Section 5 Dibete to Serule	63 6	50 9	12 7	12 7	0 0	50 9
06	Improvement to Signals and Telecommunications System	20 6	16 5	4 1	4 1	0 0	16 5
		121 9	88 1	33 8	54 5	0 0	67 4

September 1994

BOT 2 01 Improvement to Signals and Telecommunications System
(06)



Estimated Costs
Total USD 20 6 million
Foreign USD 16 5 million
Local USD 4 1 million

Funding Secured
Foreign USD 0 0 million
Local USD 4 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 16 5 million

Executing Agency
Ministry of Works, Transport and Communications
Start 1994
Duration 5 Years

Objectives Improvement and/or upgrading of the signalling and telecommunications systems of the railway line within Botswana so as to improve on safety and availability

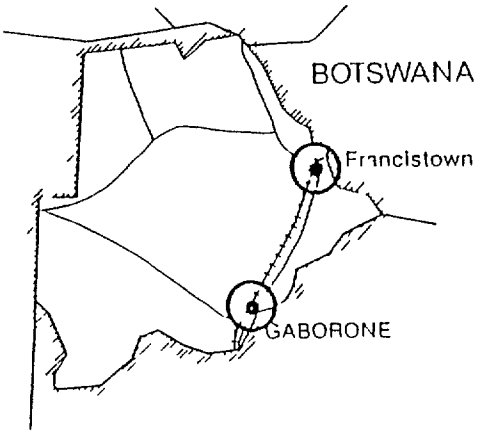
Description Despite that railways in Botswana are almost a century old, Botswana Railways in a way still relies on the original overhead lines for telecommunications Owing to increased traffic demands additional facilities have been added to this obsolete system Currently Botswana Railways depends heavily on Botswana Telecommunications Corporation for part of its communication needs Traditionally, railways have always had their own telecommunication systems to ensure safety and availability Botswana Railways (BR) does not have a dedicated system and problems with these two key factors arise

As recent as 1988 the railway was operated on a telegraph proceeding order system In 1985 a SIDA funded study concluded that train control requirements of BR can be solved by employing the new Radio Electronic Token Block System (RETBS) Further to the RETBS for block operation which covers the entire railway line from Rakhuna to Plumtree, colour light absolute block signalling has been installed at both Mahalapye and Francistown A similar installation has been planned at Gaborone and BR has called for tenders With the RETBS a unique route description (or electronic token) is transmitted to the locomotive's cab signalling equipment which displays the description to the driver Only a locomotive carrying the appropriate display is permitted to enter the section Transmission and retrieval of the token is by vital data exchange between the locomotive and central control using radio links

Status Funding is sought

September 1994

BOT 2 07 Establishment of Dry Ports/ ICD's in Botswana



Estimated Costs
Total USD 5 7 million
Foreign USD 5 2 million
Local USD 0 5 million

Funding Secured
Foreign USD 5 2 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Works Transport and Communications, Botswana
Start 1993
Duration 3 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

Description

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

Dry port/inland clearance depot is a common used inland facility with public authority status equipment with fixed installations and offering services for handling and temporary storange of 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)

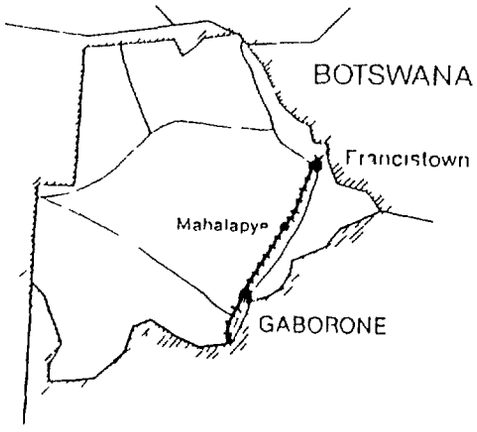
Status

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
Training of dry port personnel is being discussed with UNDP/UNCTAD

DANIDA has now tied the financing to the use of refrigerated wagons donated to the Government of the Republic of Botswana in 1989 Expected to be sorted out in 1993

September 1994

BOT 2 10 Equipment for Maintenance Depots for Botswana Railways



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency

Start 1993
Duration 2 Years

Objectives Equipment of the maintenance depots of the Botswana Railways

Description By the end of the first quarter of 1991 the Botswana Railways are scheduled to operate 40 diesel locomotives 1085 wagons and 41 coaches and one 95 tonnes rescue crane The present facilities are not adequately equipped for maintenance purposes The plan includes the following

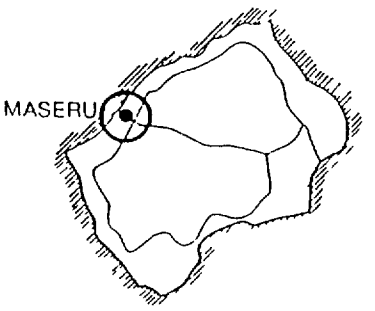
	USD million
WHEEL SHOP (underFlorr wheel lather 300 tonne wheel press vertical turret lathe, axle lathe magnaflux axle tester oil injection extractor equipment white metal crucible 5kg moulds fumace shaping machine)	2 835
STRUCTURAL SHOP (guillotine, plate rolls plate bending machine milling machine marking out table ultra sonic crack detector surface grinder bogie straightening press 100 tonne)	0 840
CARPANIRY SHOP (vertical band saw combined woodworking machine)	0 018
FORGING SHOP (pneumatic drop forge hammer 500kg anvil and blacksmith's tools)	0 180
TESTING EQUIPMENT (test benches for compressor/exhausters vacuum brake cylinders and air brake valves single car air brake testing device spectrograph/flash point/viscosity analyser)	0 265
TOTAL	4 138

Status The project is fully funded by the Government of the Republic of Botswana

September 1994

LES 2 01 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
Foreign USD 0 0 million

Financing Gap
Total USD 1 0 million

Executing Agency
Ministry of Transport and Communications Lesotho
Start 1994
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

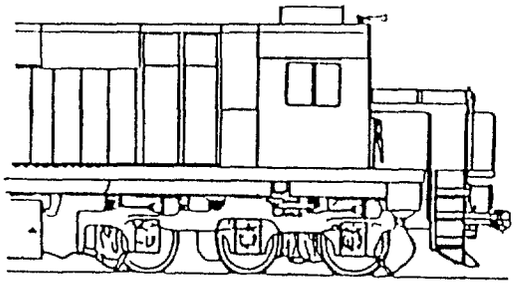
Description Lesotho is connected to the South African railway system by a single track line which terminates at the Maseru station 2 km inside the country Goods traffic handled at Maseru station has averaged some 160 000 tonnes p a and has been estimated by consultants to increase to about 420 000 tonnes 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 SADC 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 financed by EEC
Funding for implementation is being sought

September 1994

MAL 2 02 Rehabilitatioı & Acquisition of Locomotives Roll ng Stock
& Maintenance ɛq ıpment



Estimated Costs
Total USD 30 7 million
Foreign USD 30 7 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 30 7 million

Executing Agency
Malawi Railways

Start 1994
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 progressed so well that the line was re opened to commercial traffic in December 1989 CFM motive power is inadequate to begin with since motive/power units are needed for rehabilitation works Malawi will have to supply additional motive power Since the piesent locomotive fleet is life expired and has become uneconomic to maintain it is necessary to replace these locomotives over the next 5 years A total of 14 Diesel hydraulic locomotives is needed

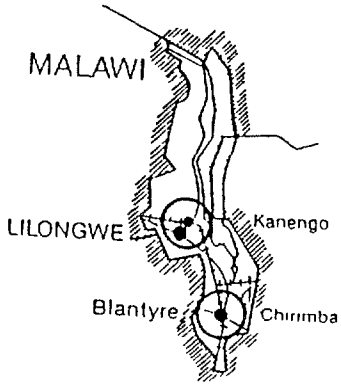
The project consists of the following parts

	USD million
(i) Acquisition of 14 diesel hydraulic shunting locomotives	16 10
(ii) Rehabilitation 40 wagons	0 28
(iii)Acquisition of 180 goods wagons passenger coaches and vans	11 65
(iv) One tamper	0 52
(v) 10 WP diesel generators and associated water pumps for outstations	0 20
	28 75
Contingencies	1 90
TOTAL	30 65

Status Detailed project descriptions are available from Malawi Railways
Financing is being sought

September 1994

MAL 2 03 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
Foreign USD 2 7 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Transport and Communications Malawi
Start 1989
Duration

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

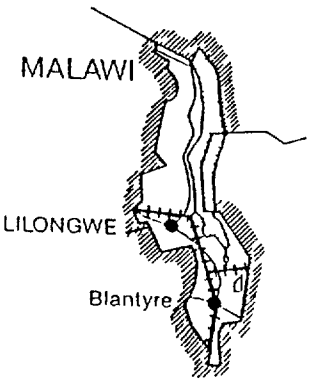
Dry port/inland clearance depot is a common user inland facility with public authority status equipped with fixed installations and offering services for handling and temporary storage of any kind of goods including containers carried under customs transit by any applicable mode of transport placed under 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
Study financed by Denmark DANIDA has as well been approached for financing of the project

In May 1991 the Government of Malawi secured two proposals for the establishment of a dry port/ICD s at Kanengo in Lilongue from the private sector
The Government has approved one proposal which was scheduled to start construction in 1992
However the private sector had not secured all the financing required to complete the project

September 1994

MAL 2 04 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 8 million

Executing Agency
Malawi Railways

Start 1994
Duration 1,5 Years

Objectives Improvement of communication systems of Malawi Railways for efficient operations

Decsription 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

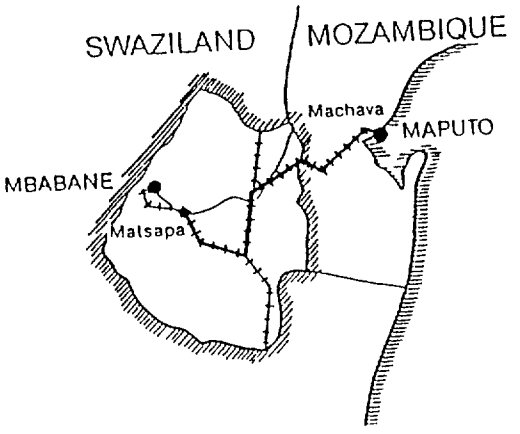
The existing PABX at Limbe is an obsolete Strowger exchange which has to be replaced

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

September 1994

MOZ 2 01 (03) Rehabilitation of Swaziland Railway Matsapha Mozambique Border



Estimated Costs
Total USD 23 4 million
Foreign USD 19 0 million
Local USD 4 4 million

Funding Secured
Foreign USD 0 0 million
Local USD 4 4 million

Funding Under Negotiation
Foreign USD 19 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Swaziland Railway

Start 1991
Duration 5 Years

Objectives: To rehabilitate the original railway line which is essential for the economic transport of import and export goods and to reduce reliance or Republic of South Africa trade and transport

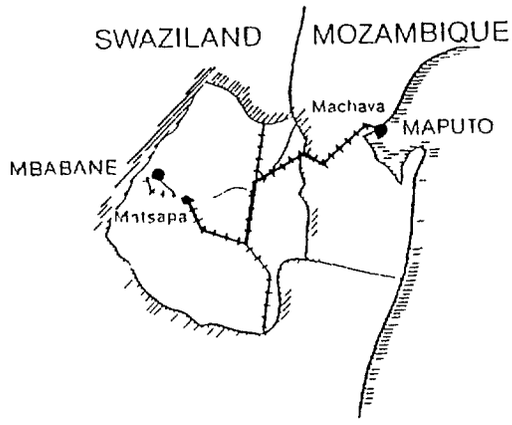
Description: The railway line between Matsapha and Phuzumoya and between Mpaka and the Mozambqiue border was constructed in the early 1960's The deteriorating condition has resulted in speed restrictions which are adversely effecting generated revenue

The project comprises detailed inspection of 9 bridges rehabilitation of the bridges formation and rail replacement of approximately 165 000 sleepers and 115 kilometers of rail and changes to the train control system

Status: The project is based on the recommendations of two studies The Technical Study for Strengthing and Improvement of the Machava Matsapha Railway (P MOZ 2 01) was carried out by Societa Tecnica Internazionale under financing by the Government of Italy Also Matsapha Mozambique Border Railway Line Review of Existing Proposals and Identification of Alternative Implementation Strategies was carried out by Mott Hay & Anderson International Limited under funding by the Commission of the European Communities
Funding is sought for implementation

September 1994

MOZ 2 01 Railway Rehabilitation
(PR LG)



Estimated Costs
Total USD 21 7 million
Foreign USD 17 7 million
Local USD 4 0 million

Funding Secured
Foreign USD 11 1 million
Local USD 4 0 million

Funding Under Negotiation
Foreign USD 6 6 million

Financing Gap
Total USD 0 0 million

Executing Agency
CFM, Mozambique

Start 1990
Duration 3 Years

Objectives Rehabilitation of the (Maputo) Machava Matsapa (Swaziland) line between Machava and Swaziland border Goba Railway Line

Description The project consists of the following parts

(i) Earth works and drainage
(ii) Track including ballast and sleepers
(iii) Protection works
(iv) Turnouts
(v) Signalling
(vi) Contingencies

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 1990 (P MOZ 2 01 (03))

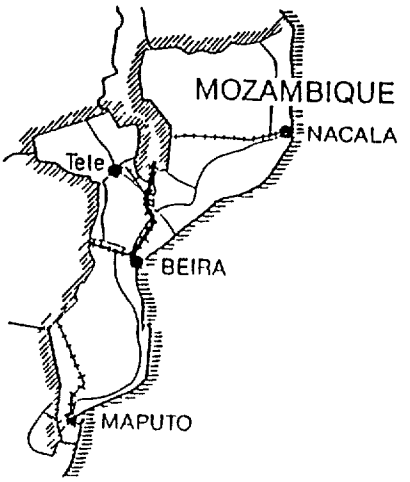
The future standard consists of 45 kg/m longwelded rails on monobloc concrete sleepers with Pandrol fastenings

Status Final Report of a Technical Study on Improvement of the Machava Swaziland Railway (P Moz 2 01 (01)) has been completed by SOTECNI Consultants financed by Italy Funding for implementation has been secured by Italy (ECU 15 0 millions) The actual progress of works shows 14 Km rehabilitated since the beginning upto November 1992
The track upgrading completion date is june 1993
Signalling works are to start in March 1993 and take about five months to complete

Financing for the Maputo Junction Rehabilitation Programme is still under negotiation with the Italian Government in order to make available the estimated amount of ECU 6 5 million in the current year to support the rehabilitation works

September 1994

MOZ 2 03 Railway Projects in Beira Port Transport System Development Plan



Estimated Costs
Total USD 165 2 million
Foreign USD 148 1 million
Local USD 17 1 million

Funding Secured
Foreign USD 114 6 million
Local USD 17 1 million

Funding Under Negotiation
Foreign USD 19 9 million

Financing Gap
Total USD 13 6 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

Description — The 10 Year Development Plan for the Beira Port Transport System includes the railway subprojects as listed below

Project details have been published in the 10 Year Development Plan for the Beira Port Transport System

Status — The projects are mostly being implemented

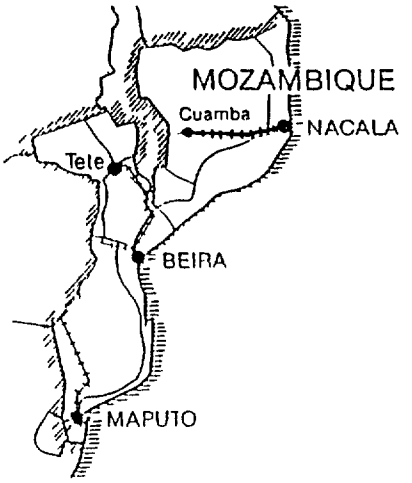
Additional funds are being sought

Subprojects Included in Programme	Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Gap
R CE 03 Track Rehabilitation Blantyre Border	15 5	12 4	3 1	3 1	12 4	0 0
*R CE 04 Rehabilitation of the Sena Railway Line	81 4	68 5	12 9	73 9	7 5	0 0
R CE 04 Phase 1) Quarry and Sleeper Factory	18 5	18 5	0 0	18 5	0 0	0 0
R CE 04 Phase 2) Restoration of the Railway section Dondo Inhamitanga (158 km)	62 9	50 0	12 9	55 4	7 5	0 0
R CE 04 Phase 3) Rehabilitation of the Railway sections Inhamitanga Vila Nova and Dona Ana Moatize	0 0	0 0	0 0	0 0	0 0	0 0
R CE 05 Study, Rail Link Kafue Lions Den	0 8	0 8	0 0	0 0	0 0	0 8
*R ME 01 Rehabilitation of Wagons	4 7	4 4	0 3	2 2	0 0	2 5
R ME 01 C) Wagon Rehabilitation Programme	2 0	1 9	0 1	2 0	0 0	0 0
R ME 01 D) Conversion of Wagons to Roller Bearings	2 7	2 5	0 2	0 2	0 0	2 5
*R ME 02 Procurement of Locomotive Power	24 5	24 5	0 0	24 5	0 0	0 0
R ME 02 B2) Acquisition of new Main Line Locomotives	17 7	17 7	0 0	17 7	0 0	0 0
R ME 02 C) Acquisition of new Shunting Locomotives	6 8	6 8	0 0	6 8	0 0	0 0
R ME 03 Replacement of Malawi Railway Wagons	2 0	2 0	0 0	0 0	0 0	2 0
R ME 04 Rehabilitation of Locomotive Workshop	5 3	5 3	0 0	5 3	0 0	0 0
R ME 05 Extension of Limbe Workshop	0 6	0 6	0 0	0 6	0 0	0 0
R ME 06 Facilities Spares Equipment for CFM (C) Workshops	0 0	0 0	0 0	0 0	0 0	0 0
R OP 02 Electrification Study	0 0	0 0	0 0	0 0	0 0	0 0
R ST 02 New Radio Telecommunication System for Beira Machipanda Railway	6 7	6 3	0 4	6 7	0 0	0 0
R ST 03 Train Control System	5 1	4 7	0 4	0 4	0 0	4 7
R ST 04 Wagon Control System CFM (C)	1 0	1 0	0 0	0 0	0 0	1 0
R ST 05 Telephone Exchanges outside Beira	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
R TA 02 Technical Assistance to Malawi Railways	2 0	2 0	0 0	0 0	0 0	2 0
TA R 01 1A) Technical Assistance to CFM (C) Railway Division	2 5	2 5	0 0	2 5	0 0	0 0

TA R 03	Technical Assistance to Rehabilitation of Wagons	2 0	2 0	0 0	2 0	0 0	0 0
TA R 05	Technical Assistance to Track Maintenance	2 9	2 9	0 0	2 9	0 0	0 0
TA R1/2	1B/2) Technical Assistance and Training to CFM (C) Railway Division	7 6	7 6	0 0	7 6	0 0	0 0
		165 2	148 1	17 1	131 7	19 9	13 6

September 1994

MOZ 2 05 Rehabilitation of the Nacala Entre Lagos Railway
Mozambique



Estimated Costs
Total USD 181 5 million
Foreign USD 152 1 million
Local USD 29 4 million

Funding Secured
Foreign USD 119 3 million
Local USD 29 4 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 32 8 million

Executing Agency
DNPCF/BMN/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

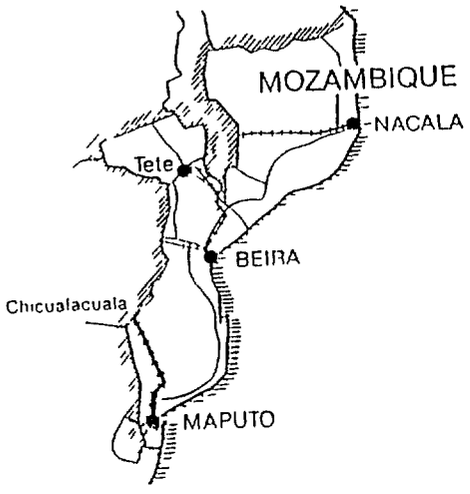
Acquisition of new locomotives wagons, coaches, additional maintenance equipment etc are programmed after 1994 (not included in the above) Rehabilitation of wagons is included in P MOZ 2 08 and acquisition of new locomotives for CFM as a whole in P MOZ 2 12

Status The 1st Phase of the track rehabilitation (USD 101 5 million) has been completed and the 2nd phase is ongoing The project amounts to USD 283 million including the cost of the completed part

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01 B	Track Rehabilitation (ii) 2nd Phase (Nampula Cuamba, 346 Km)	143 6	121 4	22 2	141 5	0 0	2 1
01 C	Track Rehabilitation (iii) 3rd Phase (Cuamba Entre Lagos, 77 Km)	18 7	12 8	5 9	5 9	0 0	12 8
02	Rehabilitation of locomotives	3 5	3 5	0 0	0 0	0 0	3 5
03	Rehabilitation of 30 coaches	1 1	1 1	0 0	0 0	0 0	1 1
04	Railway Telecommunications	6 9	6 8	0 1	0 1	0 0	6 8
05	Workshops, Equipment and Material	7 7	6 5	1 2	1 2	0 0	6 5
		181 5	152 1	29 4	148 7	0 0	32 8

September 1994

MOZ 2 06 Rehabilitation of the Maputo Chicualacuala Railway



Estimated Costs
Total USD 217 8 million
Foreign USD 207 5 million
Local USD 10 3 million

Funding Secured
Foreign USD 81 8 million
Local USD 10 3 million

Funding Under Negotiation
Foreign USD 33 7 million

Financing Gap
Total USD 92 0 million

Executing Agency
DNPCF/BMS Mozambique

Start 1986
Duration 15 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

Description The first phase of the project was initiated in 1986, financed by UK and Mozambique, and continued 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
Core programme (phase II A) C Projects
Additional Support Programme (phase II B) A Projects

Status The first phase is fully financed by UK (USD 25 0 million) and Mozambique (USD 2 0 million)

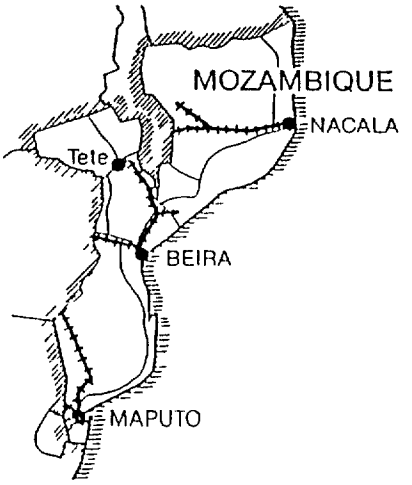
Funds have been secured for the Core Programme of the second phase

Subprojects Included in Programme		Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Funding Gap
*031	Phase I Track Renewal, Resleepering Welding Plant, Communications etc	23 8	21 8	2 0	23 8	0 0	0 0
*032	Phase II A Completion of Rehabilitation Core Programme	117 7	106 1	5 6	85 7	21 8	10 2
*033	Phase II B Additional Support Programme	90 7	89 8	0 9	0 9	0 0	89 8
A BR1/3	Housing Buildings including new workers housing (Mahotas)	6 4	5 2	1 2	1 2	0 0	5 2
A LO1/4	Locomotives Spares, Materials and Technical Assistance	55 7	55 5	0 2	0 2	0 0	55 5
A WA1/3	Wagons Spares Materials & Technical Assistance	31 5	31 3	0 2	0 2	0 0	31 3
C BG1/2	Bridge Repairs	2 8	2 7	0 1	0 6	2 2	0 0
C BR1/3	Other Buildings and Services Water Power Generation	3 7	3 7	0 0	0 0	3 7	0 0
C FC 01	Technical Assistance for Financial Control	1 2	1 1	0 1	0 1	1 1	0 0
C LO1 6	Locomotives Spares Tools Workshops Technical Assistance	15 2	15 2	0 0	0 0	15 2	0 0
C MD 01	Rail Depot Equipment	2 0	0 8	1 2	2 0	0 0	0 0
C OM 1	Workshop Study	0 6	0 6	0 0	0 6	0 0	0 0
C QO1/2	Quarry Equipment and Ballast	3 8	2 0	1 8	3 8	0 0	0 0
C RC 01	Rescue Crane and Rerailing Equipment	5 3	5 3	0 0	5 3	0 0	0 0
*C RD1/2	Road Maputo Chokwe Chicualacuala	0 0	0 0	0 0	0 0	0 0	0 0
C RM1/4	Track Renewal by BMS	14 0	10 2	3 8	8 6	5 4	0 0
C RZ1/5	Concrete Sleepers, Ballast, Track Renewal by National Railways of Zimbabwe	32 1	32 1	0 0	32 1	0 0	0 0
C SC1/2	Stores and Inventory Control	1 5	1 5	0 0	0 0	1 5	0 0
C SF1/2	Sleeper factory/sleepers	5 0	3 7	1 3	5 0	0 0	0 0

C ST1/2	Signal System Maputo Machava	12 4	12 4	0 0	12 4	0 0	0 0
C TA1 3	Technical assistance to BMS and CFM	7 7	7 5	0 2	7 7	0 0	0 0
C TE1/2	Equipment & Tools for Track Maintenance	7 5	7 5	0 0	2 9	4 6	0 0
C TL1/2	Telecommunications	3 3	3 1	0 2	3 3	0 0	0 0
C TM1/3	Truck Materials	6 1	6 1	0 0	6 1	0 0	0 0
*C WA1 5	Wagons Spares Tools Buildings Technical Assistance	0 0	0 0	0 0	0 0	0 0	0 0
		217 8	207 5	10 3	92 1	33 7	92 0

September 1994

MOZ 2 08 Rehabilitation and Maintenance of Wagons CFM



Estimated Costs
Total USD 30 1 million
Foreign USD 27 0 million
Local USD 3 1 million

Funding Secured
Foreign USD 2 8 million
Local USD 3 1 million

Funding Under Negotiation
Foreign USD 4 2 million

Financing Gap
Total USD 20 0 million

Executing Agency
DNPCF Mozambique

Start 1987
Duration

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	6 4	5 9
(ii)	Rehabilitation and salvaging of wagons provision of spare parts,equipment,building repair and Technical Assistance for Wagon Workshop Maintenance Depots and Repair Tracks of CFM (S)	16 7	15 5
(iii)	Conversion of 1000 CFM S and CFM N wagons to roller bearings and refurbishment	7 0	5 6
	Total	30 1	27 0

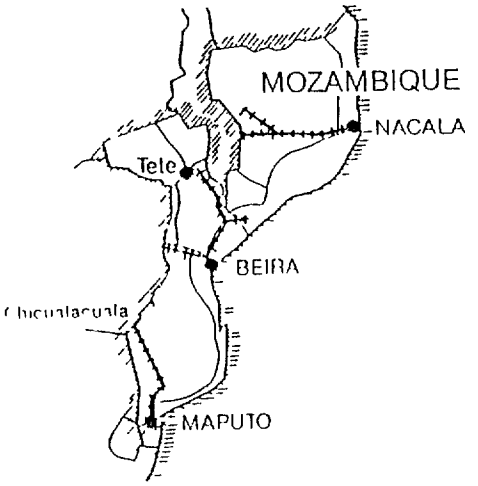
Corresponding projects for CFM C are included in project No MOZ 2 03, related to the 10 Year Development Plan for the Beira Port Transport System
Workshop improvements and spare parts including technical assistance for CFM S have now been included under this project
The above sub projects are based on the findings of Project No AAA 2 01 Study of Railway Rolling Stock carried out by KAMPSAX SWEDRAIL
Former Projects No MOZ 2 08, Change Over to Roller Bearings and Reconditioning of Wagons MOZ 2 09, Facilities, Materials, Spares and Equipment for Workshops, and MOZ 2 10 Wagon Rehabilitation CFM S have been combined under this project

Status Part of item (ii), Rehabilitation of 150 Wagons CFM S has been completed with financing from Italy and Mozambique (USD 3 0 million)

Additional funding is being sought USD 4 2 million under negotiation with Italy CIDA DANIDA and Japan have pledged participation in the project

September 1994

MOZ 2 11 Computerized Wagon Control System for CFM



Estimated Costs
Total USD 15 3 million
Foreign USD 13 2 million
Local USD 2 1 million

Funding Secured
Foreign USD 6 4 million
Local USD 2 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 6 8 million

Executing Agency
DNPCF Mozambique

Start 1989
Duration 5 Years

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

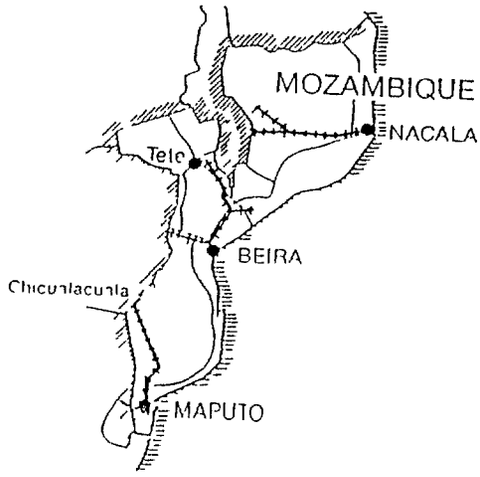
The long term project includes 10 sub systems but the present pilot project only 3 4 such systems It includes training of personnel and provision of expert services

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 6 4 million have been secured from Kuwait Four software specialists have been contracted A site has been allocated to the computer centre and a project office has been established

September 1994

MOZ 2 12 Rehabilitation and Acquisition of Locomotives for CFM



Estimated Costs
Total USD 65 7 million
Foreign USD 61 4 million
Local USD 4 3 million

Funding Secured
Foreign USD 61 4 million
Local USD 4 3 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 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

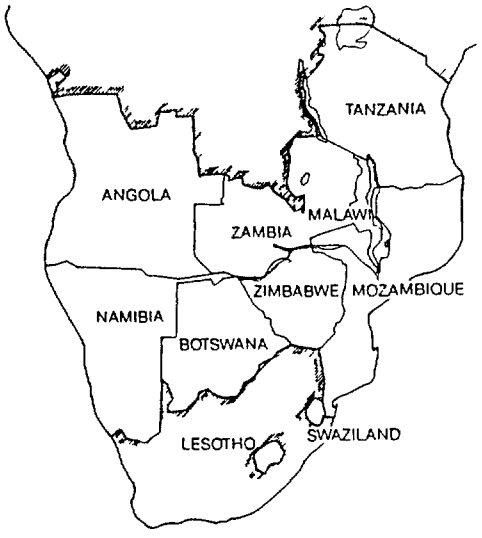
(i) Rehabilitation of 10 GE locomotives
(ii) Purchase of 45 new locomotives
(iii) 4 GE locomotive power packs
(iv) Contingencies

The above includes the initial supply of spare parts and tools and provision of technical assistance
At present the main line fleet consits of 63 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 rehabilititated 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
In total 45 new main line locomotives are needed based on the recent RITES Study of Locomotives for DNPCF Mozambique commisioned by the World Bank
11 for CFM (S)
20 for CFM (C)
14 for CFM (N)
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 Feasibility study carried out by Rites

September 1994

MOZ 2 13 Development of Railway Training for Portuguese speaking Personnel



Estimated Costs
Total USD 26 8 million
Foreign USD 26 3 million
Local USD 0 5 million

Funding Secured
Foreign USD 9 1 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 17 2 million

Financing Gap
Total USD 0 0 million

Executing Agency
SATCC

Start 1984
Duration

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

1st Phase
Development of the Railway School at Inhambane short term courses and pedagogical training

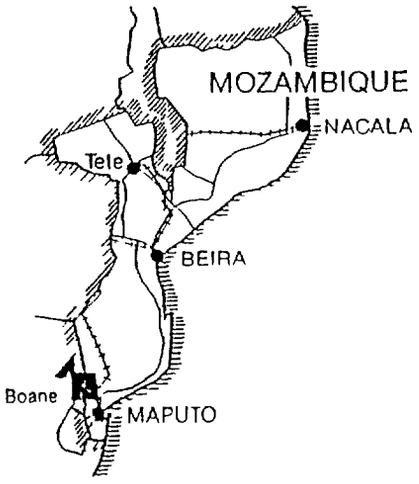
2nd Phase
Technical assistance development of school activities and on the job training and rehabilitation of regional training centres

3rd Phase
To be defined later on the above basis

Status Ongoing

September 1994

MOZ 2 14 Rehabilitation and upgrade of Railway line between Maputo and Ressano Garcia



Estimated Costs
Total USD 42 1 million
Foreign USD 35 1 million
Local USD 7 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 7 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 35 1 million

Executing Agency
CFM Mozambique

Start 1995
Duration 4 Years

Objectives Rehabilitation of a Railway line between Maputo and Ressano Garcia and introduction of Centralised Traffic Control (CTC) System Rehabilitation is supposed to upgrade the whole track to 60km/hr standard

Description Implementation is expected to be done in three Phases
Phase 1 of the rehabilitation will be eliminate of derailments and generally improving the standars of the track as a whole to a safe standard through elimination of demaged derailment areas and replacement of defective or unsafe Materials

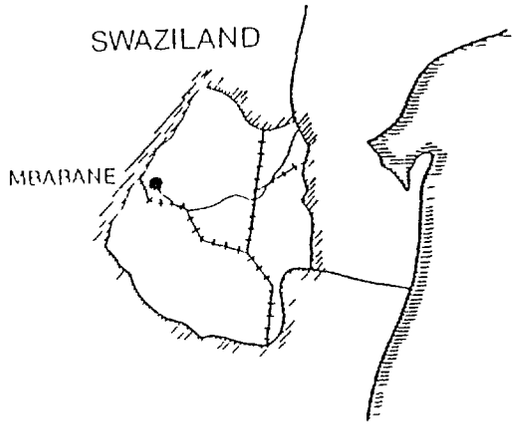
Phase 2 will consist of destressing the track welding up joints and sifting and replenishing ballast Also a provision of a crossing loop at INCOMATI to further increase the capacity is included in this phase

Phase 3 will be the introduction of centralised Traffic Control (CTC) system and upgrading of Telecommunications

Status The project description with detailed cost estimates have been prepared
So far Germany has shown interests in some aspects of the Project although no firms commitments have been made
Financing is therefore being sought
New project 1994, proposal

September 1994

SWA 2 01 Rolling Stock for Swaziland Railway



Estimated Costs
Total USD 20 8 million
Foreign USD 20 0 million
Local USD 0 8 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 8 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 20 0 million

Executing Agency
Swaziland Railway

Start 1994
Duration 3 Years

Objectives To provide Swaziland Railway with adequate rolling stock and maintenance facilities to cope with the traffic demand

Description The project consists of the following parts

(i) Acquisition of 120 dropsided 160 coal, 50 fruit, 24 covered 15 flat wagons and 51 molasses tank wagons

(ii) Wagon maintenance workshop and equipment

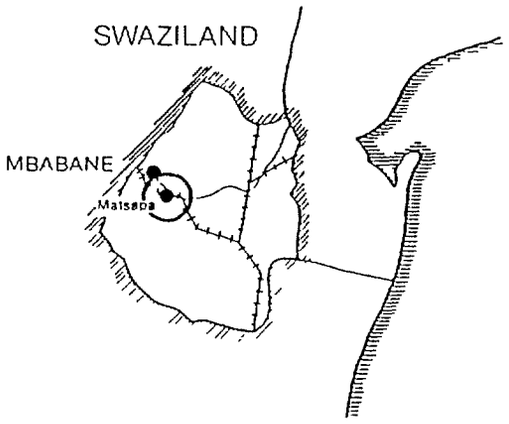
At present Swaziland Railway hires wagons from neighbouring countries because Swaziland Railway has not enough wagons on its own Also the present stock is not all suitable for the traffic on offer The aim is to reduce the use of hired wagons, i e hire charges paid and to meet demand for traffic originating within Swaziland for exports and imports on return trips

A new wagon maintenance workshop has to be constructed and equipped at the new operational centre in Matsapha

Status Funding is sought for a staged implementation

September 1994

SWA 2 02 Establishment of Dry Port/ICD in Swaziland



Estimated Costs
Total USD 3 5 million
Foreign USD 3 2 million
Local USD 0 3 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 3 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 3 2 million

Executing Agency
Ministry of Works and Communications
Start 1994
Duration 3 Years

Objectives The establishment of an Inland Clearance Depot (dry port) in order to reduce transit transport costs and time through maritime ports improve performance of external trade sector and thereby contribute to economic development

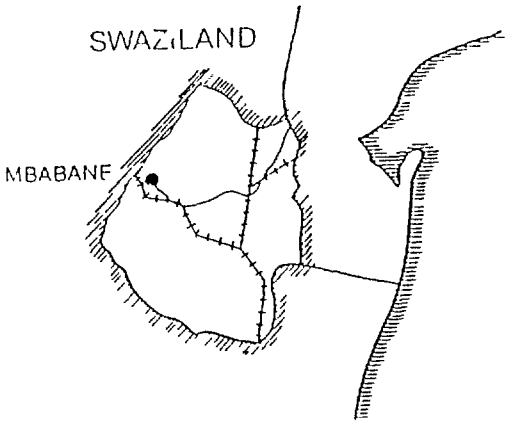
Description In Swaziland one dry port/ICD facility will be established at Matsapha railway station between Manzini and Mbabane, Matsapha being the major industrial site in Swaziland and served by rail

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
Majority of traffic will be containerised The facility will offer on site Customs and Excise controls on site clearing and forwarding agencies, warehousing for bonded goods In essence it will offer all facilities similar to a sea port

Status Based on a review by DANIDA of the initial proposal Swaziland Railway has established the Dry Port concept using own funds
Requirements for further improvements will be reviewed shortly and an update on the project requirements provided

September 1994

SWA 2 04 Dieselization of Swaziland Railway



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
Foreign USD 0 0 million

Financing Gap
Total USD 30 0 million

Executing Agency
Swaziland Railway

Start 1994
Duration 4 Years

Objectives To replace hired diesel locomotives and to provide Swaziland Railway with their own locomotives

Description Swaziland Railway is carrying most of Swaziland's bulk export like sugar molasses coal pulp citrus etc The traffic demand is increasing and requires suitable motive power

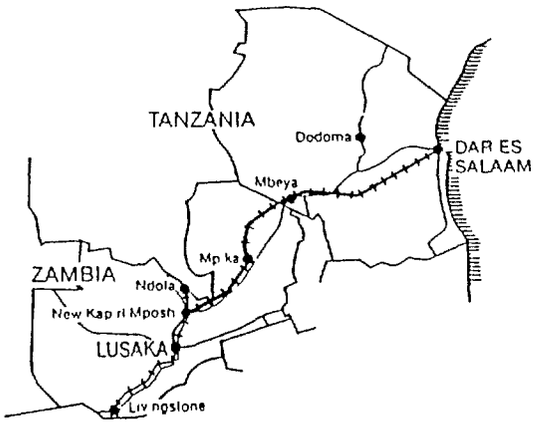
Steam locomotives were phased out in 1992 because they could no longer cope with current traffic levels

To provide security for the operations it is considered essential that the Swaziland Railway acquire their own locomotive fleet It has been decided to modernize the operations by diesel power It is estimated that 10 diesel electric locomotives are needed to handle the anticipated traffic mostly to and from Maputo

Status The project will be reviewed and updated in 1994 based on discussions with other regional railways regarding joint use of equipment hire arrangements business agreements etc

September 1994

TAN 2 01 TAZARA 10 Year Development Plan and Malawi Dar es Salaam Projects



Estimated Costs
Total USD 361 3 million
Foreign USD 342 3 million
Local USD 19 0 million

Funding Secured
Foreign USD 170 7 million
Local USD 19 0 million

Funding Under Negotiation
Foreign USD 33 2 million

Financing Gap
Total USD 138 4 million

Executing Agency
TAZARA

Start 1985
Duration 10 Years

Objectives Rehabilitation and upgrading of the TAZARA to provide adequate capacity for future services

Description The Revised 10 Year Development Plan prepared by TAZARA with assistance from SATCC/TU includes permanent way and construction projects (CE Projects) signalling and telecommunication projects (ST Projects) motive power, rolling stock and mechanical equipment projects (ME Projects) and general management and training projects (GM Projects)

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 Federal Republic of Germany Finland Norway, People's Republic of China Sweden Switzerland USAID ADB and EEC Related Malawi projects are financed by KfW ODA and USAID

Additional funds are being sought The Plan has been reviewed and revised

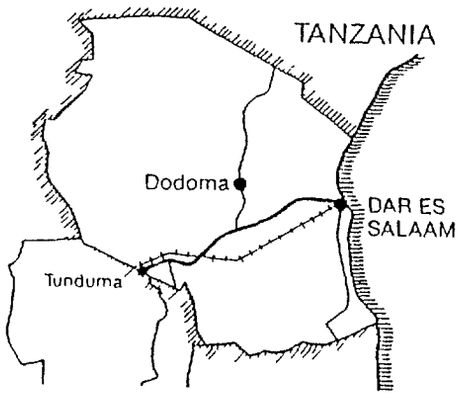
Subprojects Included in Programme

		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
CE 01	Rehabilitation of Quarries	23 9	22 2	1 7	23 9	0 0	0 0
CE 02	Permanent Rectification of Landslides	38 0	32 9	5 1	5 7	32 3	0 0
CE 03A	Mechanized Track Maintenance	22 0	21 9	0 1	11 2	0 0	10 8
CE 03B	Spare and Wear Parts	2 5	2 5	0 0	2 5	0 0	0 0
CE 03C	Manual Track Maintenance	18 0	15 0	3 0	3 0	0 0	15 0
CE 04	Rail Welding	31 7	27 0	4 7	31 7	0 0	0 0
CE 05	Rail Burn Repairs	8 4	7 9	0 5	8 4	0 0	0 0
CE 07	Railway Link TAZARA Mpulungu Port (Study) Zambia	0 4	0 4	0 0	0 0	0 0	0 4
CE 08	Emergency Bridges	0 9	0 9	0 0	0 0	0 9	0 0
CE 09	Malawi Cargo Centre Mbeya	6 4	6 4	0 0	6 4	0 0	0 0
CE 10	Malawi Cargo Centre Dar es Salaam	8 6	8 6	0 0	8 6	0 0	0 0
GM 01A	Technical Assistance to Head Office	3 9	3 9	0 0	3 9	0 0	0 0
GM 01B	Job Evaluation	0 6	0 6	0 0	0 0	0 0	0 6
GM 02	Manpower Development Plan & Training	6 9	6 4	0 5	6 9	0 0	0 0
GM 03	Project Co ordinating Unit	6 2	5 7	0 5	6 2	0 0	0 0
ME 01	Locomotives	104 3	101 8	2 5	53 0	0 0	51 3
ME 02B	Goods Wagons Phase II	30 0	30 0	0 0	0 0	0 0	30 0
ME 03	Trolleys and Trailers	12 5	12 5	0 0	3 2	0 0	9 3
ME 04	Handling Equipment for Goods Depots	0 5	0 5	0 0	0 0	0 0	0 5
ME 05A	Rescue Crane and Rerailing Equipment	6 8	6 6	0 2	6 8	0 0	0 0
ME 05B	Accident Prevention phase II	4 0	3 8	0 2	1 9	0 0	2 1
ME 06B	Underfloor Wheel Lathe	2 4	2 4	0 0	2 4	0 0	0 0
ME 07	Mechanical Equipment for Workshops	10 4	10 4	0 0	2 0	0 0	8 4

ME 08	Coaches	10 0	10 0	0 0	0 0	0 0	10 0
ME 09	Malawian Tank Wagons and Tank Containers	1 3	1 3	0 0	1 3	0 0	0 0
ST 04	Feasibility Study of Future Telecommunications and Signalling System	0 7	0 7	0 0	0 7	0 0	0 0
		36¹ 3	342 3	19 0	189 7	33 2	138 4

September 1994

TAN 2 02 Conversion from UIC to AAR Airbrake standard for TAZARA and Malawi Railways



Estimated Costs
Total USD 1 9 million
Foreign USD 1 9 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 9 million

Executing Agency
TAZARA and Malawi Railways

Start 1994
Duration

Objectives To convert 350 wagons (TAZARA) and 22 tanks wagons (Malawi Railways) from UIC to SATCC approved AAR airbrake standard

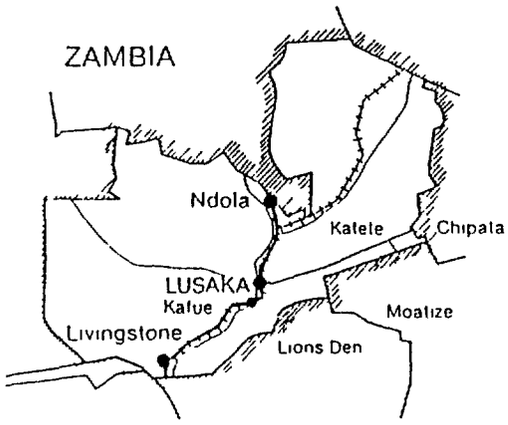
Description The SATCC railway administrations as part of the strategy on Technical standardisation and harmonisation of rolling stock have adopted the AAR airbrake as a standard for the region Consequentially railway administrations are required to ensure that their rolling stock conforms to this standard in order to ensure wagon interchangebility
TAZARA and Malawi railways are therefore desirous to convert 350 general purpose wagons and 22 tanks wagons procured prior to the adoption of the AAR standard The 22 tank wagons for Malawi will be utilised on the TAZARA route for transportation of fuel for Malawi

To minimise technical problems in train operations and ensure wagon interchangeability it is necessary to ensure that SATCC railway rolling stock conforms to a uniform airbrake standard TAZARA presented a paper on operational and technical problems experienced when running combinations of UIC/AAR trains following tests

Status Funds for the project are being sought

September 1994

ZAM 2 01 Zambia Railways 10 Year Development Plan



Estimated Costs
Total USD 354 8 million
Foreign USD 267 0 million
Local USD 87 8 million

Funding Secured
Foreign USD 46 2 million
Local USD 87 8 million

Funding Under Negotiation
Foreign USD 10 2 million

Financing Gap
Total USD 210 6 million

Executing Agency
Zambia Railways

Start 1990
Duration 10 Years

Objectives A 10 Year Development Plan has been prepared for the Zambia Railways for rehabilitation and for the purposes to handle the future traffic

Description The Plan includes the following parts
9 civil engineering projects
8 telecommunications projects
8 mechanical engineering projects
4 general management projects
The details of the projects have been given in the booklet Zambia Railways Limited 10 Year Development Plan of January 1990

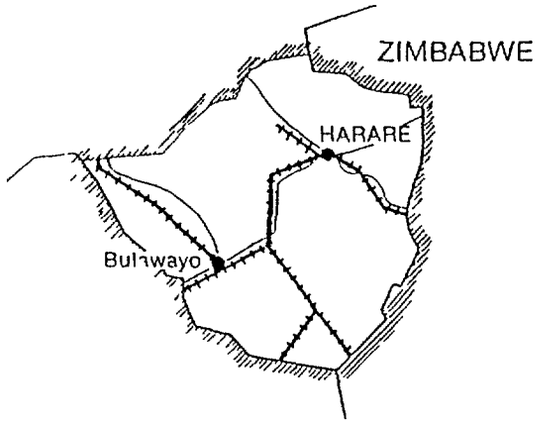
Status The plan has been approved by SATCC A technical coordination conference was held in June 1990, as a result some pledges were made and are being followed up Some aspect will be reviewed

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
CE 1	Track Renewal Sinwani to Livingstone	33 6	12 3	21 3	32 1	0 0	1 5
CE 2	Track Repair and Upgrading	75 0	30 0	45 0	45 0	0 0	30 0
CE 3	Establishment of Quarries	10 2	7 8	2 4	6 3	0 0	3 9
CE 4	Replacement of Kafue Railway Bridge	17 8	14 0	3 8	3 8	0 0	14 0
CE 5	Track Maintenance Equipment	3 2	2 6	0 6	0 6	0 0	2 6
CE 6	Realignments in the Kafue Lusaka Section	3 2	2 6	0 6	0 6	0 0	2 6
CE 7	Replacement of the Itawa Bridge	1 0	0 8	0 2	0 2	0 0	0 8
CE 8	Upgrading of Mulobezi Line to Branch Line Standard	5 3	1 5	3 8	5 3	0 0	0 0
CE 9	Const of Mchinji Chipata Rail Link & Feas Stdy for Rail Link connecting ZR or TZR w/MLW	8 5	4 5	4 0	4 0	0 0	4 5
GM 1	Technical Assistant Staff	19 3	19 0	0 3	0 3	0 0	19 0
GM 2	Training Facilities and Fellowship	3 5	3 4	0 1	0 1	0 0	3 4
GM 3	Performance Related Remuneration Scheme	1 2	1 0	0 2	0 2	0 0	1 0
GM 4	Study on the future of Mulobezi line	0 4	0 3	0 1	0 1	0 0	0 3
ME 1	Locomotives	92 4	91 7	0 7	30 7	0 0	61 7
ME 2	Goods Wagons	6 0	6 0	0 0	0 0	0 0	6 0
ME 3	Passenger Coaches	32 1	31 8	0 3	0 3	0 0	31 8
ME 4	Air Brakes	11 3	9 7	1 6	1 6	0 0	9 7
ME 5	Inspection and Gang Trolleys	1 7	1 6	0 1	0 1	0 0	1 6
ME 6	Breakdown Cranes and Rerailing Equipment	3 3	3 2	0 1	0 1	0 0	3 2
ME 7	Workshop Equipment	10 2	9 6	0 6	0 6	0 0	9 6
ME 8	Electric Arc Furnace and Steel Rerolling Mill	2 0	1 8	0 2	0 2	0 0	1 8
ST 1	Replacement of Track circuit Bond wires	0 7	0 5	0 2	0 2	0 0	0 5
ST 2	Repair and Replacement of Line Side and Exchange Equipment	9 4	8 4	1 0	1 0	8 4	0 0

ST 3	Radio Control System for the Choma Masuku Branch Line	0 5	0 4	0 1	0 1	0 4	0 0
ST 4	Radio Communications System on the Mulobezi Branch Line	0 5	0 4	0 1	0 1	0 4	0 0
ST 5	Police Mobile Radio System	0 6	0 5	0 1	0 1	0 5	0 0
ST 6	Train Reporting System	0 6	0 5	0 1	0 1	0 5	0 0
ST 7	Expansion of Digital Radios and Multiplex to Kitwe	1 0	0 8	0 2	0 2	0 0	0 8
ST 8	Replacement of Message Switching Unit	0 3	0 3	0 0	0 0	0 0	0 3
		354 8	267 0	87 8	134 0	10 2	210 6

September 1994

ZIM 2 03 Telecommunications Signalling and Wagon Control, NRZ



Estimated Costs
Total USD 32 0 million
Foreign USD 21 9 million
Local USD 10 1 million

Funding Secured
Foreign USD 6 5 million
Local USD 10 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 15 4 million

Executing Agency

Start 1990
Duration 4 Years

Objectives Partial rehabilitation and upgrading of the telecommunications and signalling systems of NRZ to provide for efficient and safe operations

Description The project components include

(i) Replacement of obsolete CTC System from Bulawayo to Victoria Falls,

(ii) Replacement of open wire carrier systems which are very old, and

(iii) Replacement of old mobile radio equipment and PABX

(iv) Replacement of CTC Signalling System Harare Mutare The NRZ intends to replace the 30 years old CTC system between Harare and Mutare, which is life expired and unreliable The replacement will improve train movements safety and will be compatible with the extension of electrification from Harare to Msasa The CTC System will also assist transit traffic to and from the port of Beira

Status Project descriptions for subprojects (i iii) are included in the SATCC Telecommunications Ten Year Plan

(i) Total project cost is USD 7 0 million Funds have been secured from KFW on a bilateral agreement All the equipment has arrived in Zimbabwe

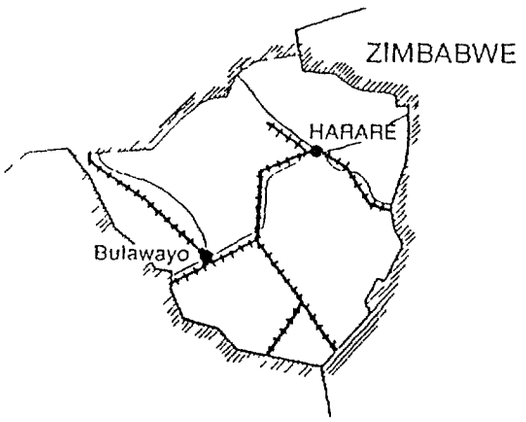
(ii) The estimated project cost is USD 10 7 million, with USD 7 4 million in foreign currency and USD 3 3 million in local currency Funds are being sought

(iii) Total cost is USD 2 3 million, with USD 1 7 million in foreign currency and USD 0 6 million in local currency Funding has been secured from Finland under a bilateral agreement The radios are currently under manufacture in Finland NRZ has started to receive some of the equipment

(iv) Total cost is USD 12 0 million, with USD 8 0 million in foreign currency and USD 4 0 million in local currency Financing is being sought

September 1994

ZIM 2 05 Replacement and Acquisition of Locomotives and Rolling Stock
NRZ



Estimated Costs
Total USD 356 8 million
Foreign USD 149 8 million
Local USD 207 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 207 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 149 8 million

Executing Agency
National Railways of Zimbabwe

Start 1994
Duration 8 Years

Objectives The project is divided into three sub projects

(i) To provide replacement of life expired coaches to provide adequate passenger transport services

(ii) To replace 1961 general purpose wagons to enhance NRZ's ability to move local and transit import & export traffic

(iii) To replace steam locomotives that have reached their service life

Description (i) About half of the NRZ Coaching Stock will have life expired by 1992
Approximately 50 per cent of the fleet is in workshops for maintenance
155 coaches at a cost of USD 90 0 million are required
NRZ has the potential capacity to transport considerable number of passengers to Botswana Zambia and Mozambique within the sub region

(ii) The new general purpose wagons will be rationalised to have an axle load of 18,6 tonnes which will facilitate increasing the payload per wagon by about 30/
The project is to be implemented in phases NRZ total requirements is now 1800 wagons Total cost is USD 215 0 million

(iii) The NRZ is currently facing a shortage of steam locomotives because most of them have reached their service life even though they are still utilised at a very low availability 39 diesel electric locomotives are required for the mainline and for shunting purpuses
Total cost is USD 51 8 million
These locomotives are aimed at reducing the congestion of all NRZ yards

Status Financing is being sought ADB has shown interest to fund 1000 general purpose wagons

September 1994

Ports and Water Transport

204A

AAA 3 03 Marine Safety Development Programme for SADC Coastal States

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency
SATCC

Start 1994
Duration 1 5 Years

Objectives To increase Safety of Navigation in SADC 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 SADC 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 SADC coastal states Terms of Reference have been amended accordingly

With NORAD funding the Mozambique Government has completed a feasibility study for marine safety along its coastline Study recommendations include setting up a Marine Safety Unit responsible for search and rescue operations combating marine pollution and general surveillance of the coastline
Total cost of the scheme is US$ 49 7million to be implemented in phases

Phase I to cost US$ 16 2 million will cover purchase of marine craft for surveillance and pollution combating
Funding not secured

Funding also being sought for feasibility studies on marine safety for the other coastal states Angola Namibia and Tanzania These to be undertaken in conjunction with IMO

September 1994

AAA 3 04 Package of Port Statistics Programmes

Estimated Costs
Total USD 1 3 million
Foreign USD 1 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 3 million

Executing Agency
Port Authorities in Member States
Start 1994
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

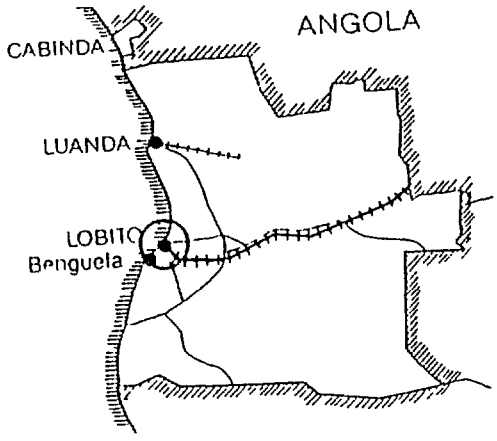
Description Implementation of a uniform system for port statistics and performance indicators based on a manual prepared by UNCTAD is considered a priority matter to improve port statistics and provide the background for better operational performance in the ports The project also aims at improving commodity 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 has been 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 six national projects, four covering the regional sea ports in Angola, Mozambique,Namibia and Tanzania and two covering the lake ports in Malawi and Zambia The project includes for main items namely technical assistance, training computer hardware and software

Status Project descriptions with detailed cost estimates have been prepared
Financing is being sought

September 1994

ANG 3 01 Port & Water Tran Projects in the Ten Year Dev Plan for the Lobito Port Transport System



Estimated Costs
Total USD 89 2 million
Foreign USD 89 2 million
Local USD 0 0 million

Funding Secured
Foreign USD 14 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 31 0 million

Financing Gap
Total USD 44 2 million

Executing Agency
Lobito Port Authority

Start 1992
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 subprojects listed below

Included under this headling 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

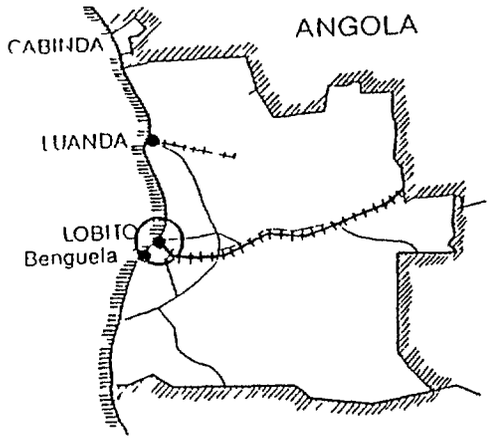
Plan is subdivided in four phases, namely Preparatory Emergency, Short Term and Long Term Phase

Status — A Technical Co ordination Conference to discuss the Plan was held in January 1988, and expressions of interest pledges of support were received from donors concerning most of the projects in the Preparatory Phase Follow up contacts with the donors concerned are in progress

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
P CE 1	Inspection and Reinforcement of Quays	15 8	15 8	0 0	0 0	0 0	15 8
P CE 2	Grain Bulk Facilities Improvement	8 0	8 0	0 0	0 0	8 0	0 0
P CE 3	New Coastal Terminal and Service Port Facilities	6 5	6 5	0 0	0 0	6 5	0 0
P CE 4	Rehabilitation of Port Railways	2 5	2 5	0 0	2 5	0 0	0 0
P CE 5	Study on Rehabilitation of Existing Ore Bulk Facilities	0 5	0 5	0 0	0 0	0 5	0 0
P CE 6	New Multi purpose Terminal (Study)	1 0	1 0	0 0	0 0	0 0	1 0
P CE 7	New Container Terminal	1 0	1 0	0 0	0 0	0 0	1 0
P CE 8	Coastal Protection Works	1 3	1 3	0 0	0 0	0 0	1 3
P M 1	Welfare and Office Facilities	3 5	3 5	0 0	0 0	0 0	3 5
P M 2	Technical Assistance to the Port of Lobito	1 5	1 5	0 0	0 0	0 9	0 6
P M 3	Port School at Lobito Angola	6 0	6 0	0 0	0 0	6 0	0 0
P ME 1	Rehabilitation of Power and Lighting System	3 5	3 5	0 0	2 5	0 0	1 0
P ME 2	Purchase of General Port Equipment	2 6	2 6	0 0	0 0	2 6	0 0
P ME 3	Port Maintenance Workshop and Store	3 5	3 5	0 0	0 0	3 5	0 0
P ME 4	Mobile Cranes Rehabilitation and Scrapping Programme	3 0	3 0	0 0	0 0	3 0	0 0
P ME 5	Floating Equipment	5 0	5 0	0 0	0 0	0 0	5 0
P ME 6	Shipyard Rehabilitation	15 0	15 0	0 0	0 0	0 0	15 0
P MS 1	Maritime Security Programme Angola	1 0	1 0	0 0	1 0	0 0	0 0
P S 1	Improvement of the Capacity of the Coastal Shipping Company, Angola	8 0	8 0	0 0	8 0	0 0	0 0
		89 2	89 2	0 0	14 0	31 0	44 2

September 1994

ANG 3 01 Port School at Lobito Angola
(P M-3)



Estimated Costs
Total USD 6 0 million
Foreign USD 6 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 6 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Lobito Port Authority

Start 1994
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 AAA 3 02 completed in 1985 The study established the basis for port schools in Tanzania Mozambique and Angola Port schools have already been financed in Tanzania (Dar es Salaam) and in Mozambique (Maputo)
A similar school is to be established in Lobito and earlier described as SATCC Project ANG 3 03

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 envisaged 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

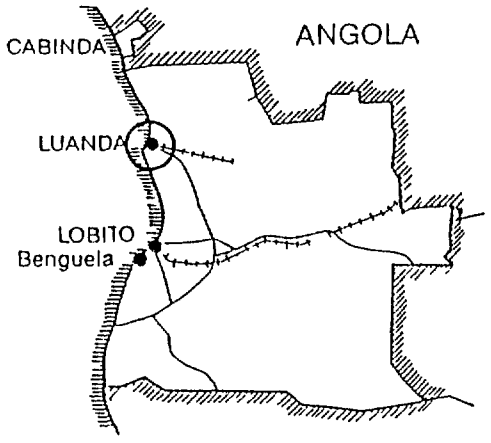
Management assistance and provision of instructors are foreseen to be necessary for a period of three years after the school facilities have been made ready for use

The overall of the project is estimated at 6 0 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
Both Portugal and Norway have shown interest for the project

September 1994

ANG 3 02 Development of the Port of Luanda



Estimated Costs
Total USD 32 5 million
Foreign USD 28 6 million
Local USD 3 9 million

Funding Secured
Foreign USD 6 7 million
Local USD 3 9 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 21 9 million

Executing Agency
Ministry of Technology and Construction
Start
Duration

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

Description 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

(2) Construction of a grain terminal including silos, and 165 m of quay as well as equipment and conveyers

(3) Modernization and enlargement of the electrical system of the ports For this there is a contract covering the existing older parts of the port but this will have to be enlarged to cover the planned port extensions

(4) Earthwork, compacting and paving of 100 000 m2 of backup area to the general cargo quay

(5) Construction of canteen facilities for 2 500 workers

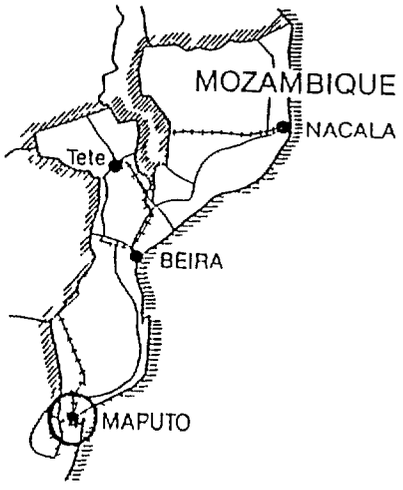
For sub project (1) negotiations with financiers are in progress For (2) the larger part of the equipment is a already stored in the port and sub soil investigations at the new site are underway For (3) the enlargement must be planned in the contex of the new port extension (4) is completed and for (5) there are proposals

Status Financing or remaining financing is being sought

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01	Container and Ro/Ro Terminal	10 7	9 1	1 6	1 6	0 0	9 1
02	Construction of a Grain Terminal and Silos	12 7	10 8	1 9	5 6	0 0	7 1
03	Modernisation and Enlargement of Electrical Systems	5 5	5 5	0 0	3 0	0 0	2 5
04	Earth Works Port of Luanda	0 0	0 0	0 0	0 0	0 0	0 0
05	Construction of Canteen Facilities	3 6	3 2	0 4	0 4	0 0	3 2
		32 5	28 6	3 9	10 6	0 0	21 9

September 1994

MOZ 3 01 Maputo Port Mozambique



Estimated Costs
Total USD 128 7 million
Foreign USD 124 2 million
Local USD 4 5 million

Funding Secured
Foreign USD 10 8 million
Local USD 4 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 113 4 million

Executing Agency
DNPCF, Mozambique

Start 1984
Duration

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 have been described and reported through SATCC

These projects are described in specific project briefs on the following pages

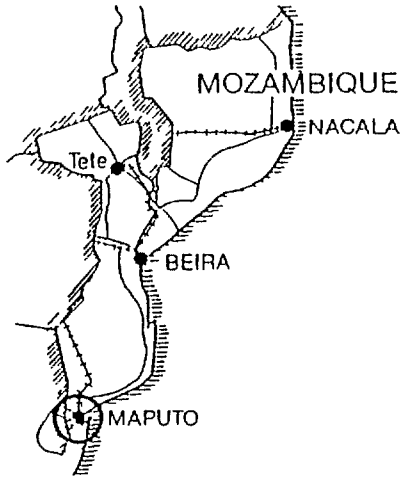
Status Funding is still to be sought for the Study on Improvement on the Entrance Channel Phase 1 of the Coal Handling Facilities in Matola is completed and initiation of Phase 2 and 3 will first start when traffic increase demands
The technical and management assistance to the Container Terminal continues, and the British Team has also been engaged in the management of the Sugar Terminal the Steel Terminal and in Training in general

The new Masterplan for the Port of Maputo was presented in March 1992
A Donors Conference on the Maputo Port Masterplan was held in September 1992
Project amounting to USD 183 million were included in the Masterplan, and all projects included in the SATCC programme are to be reviewed taking the proposals in the new Masterplan into consideration

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01	Feasibility Study on Improvement of the Entrance Channel to Maputo Port	1 7	1 4	0 3	0 3	0 0	1 4
02	Matola Coal Terminal Mozambique	98 0	98 0	0 0	0 0	0 0	98 0
03	Container Terminal Equipment and Management Assistance Port of Maputo	29 0	24 8	4 2	15 0	0 0	14 0
		128 7	124 2	4 5	15 3	0 0	113 4

September 1994

MOZ 3 01 (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
Foreign USD 0 0 million

Financing Gap
Total USD 1 4 million

Executing Agency
DNPCF, Mozambique

Start
Duration

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

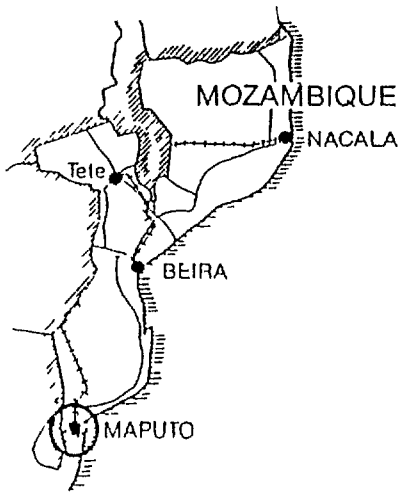
Status Hydrographic survey works have been carried out by Mozambique (SNHB) during 1986 under a bilateral agreement with Norway This work is continuing The rehabilitation for nav aids in the channel is accomplished (ref P MOZ 3 04 and MOZ 3 04 (1) A dredging scheme to establish 9 4 m CD as a minimum depth in the existing channel has been initiated by the port Dreding started in July 1987 This will reestablish very good access to the port of Maputo

The first sea chart Maputo entrance produced in Mozambique by INAHINA (the Mozambican Lighthouse and Sea Mapping Agency) (1988) and second edition was ready in 1990 INAHINA has also surveyed and reopened the Barra Sul by putting out buoys Tide tables have been printed in Mozambique, and from 1994 all work with tide tables are to be done in Mozambique Further dredging in the entrance channel has to be reviewed in light of the Masterplan (1992)

Financing for the more comprehensive feasibility study is being sought

September 1994

MOZ 3 01 Matola Coal Terminal Mozambique
(02)



Estimated Costs
Total USD 98 0 million
Foreign USD 98 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 98 0 million

Executing Agency
DNPCF, Mozambique

Start 1994
Duration

Objectives Construction of a Coal Handling Terminal at Matola for coal export

Description 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
Handling capacity to encrease to 2 5 million tons per annum on completion of Phase I
Estimated cost USD 1 6 million

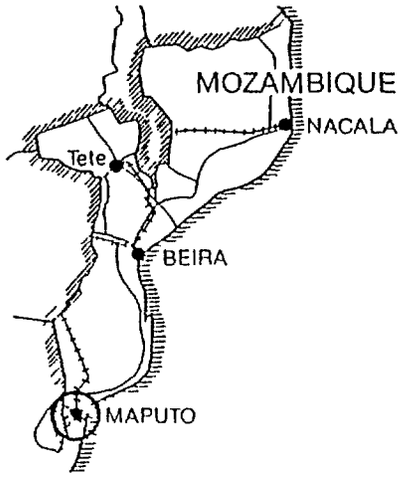
PHASE 2 Increase capacity to 3 5 million tons per year
Estimated cost USD 9 0 million

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
Phase 1 completed
Phase 2 and 3 will not be initiated before traffic figures allow
The project will have to be reviewed in light of new Masterplan (1992) for the port of Maputo

September 1994

MOZ 3 01 Container Terminal Equipment and Management Assistance
(03) 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 8 million
Local USD 4 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 14 0 million

Executing Agency
DNPCF, Mozambique

Start 1985
Duration

Objectives To provide adequate container handling facilities for the Port of Maputo

Description 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 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 technical assistance experts are assisting the container terminal management Assessed cost is USD 1 8 million in operation, maintenance and training The first period of the technical assistance agreement is up to September 1987 Agreement prolonged
Additional funds are being sought to provide for additional container handling capacity of up to 60 80 000 TEU s per annum by the year 2000 based on Maputo Port Masterplan (1992)
Implementation to be in three phases
Phase I to provide for additional equipment and improvement of terminal layout access roads and reefer points Total cost USD 16 million
Phase II and III to provide for acquisition of rubber tyred gantry cranes (RTG's) to allow for more efficient container handling methods, also additional storage areas and rehabilitation of existing equipment Total estimated cost for phase II and III is USD 14 million

Project shall be reviewed in light of the Masterplan (1992) for the port

September 1994

MOZ 3 02 Port Projects in Beira Port Transport Development Plan

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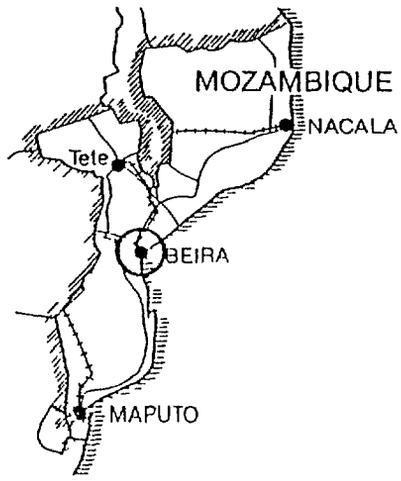


Estimated Costs
Total USD 122 8 million
Fo eign USD 117 9 million
Local USD 4 9 million

Funding Secured
Foreign USD 83 0 million
Local USD 4 9 million

Funding Under Negotiation
Foreign USD 34 9 million

Financing Gap
Total USD 0 0 million

Executing Agency
Beira Corridor Authority

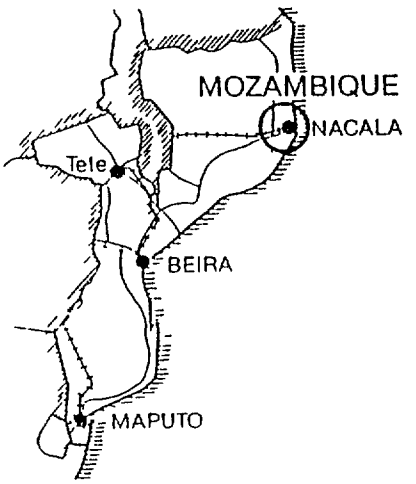
Start 1987
Duration 10 Years

Objectives Increase of the capacity of the Port of Beira as provided for in the Beira Port Transport System 10 Year Development Plan

Subprojects Included in Programme		Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Funding Gap
*P A 02	Navigational Aids Beira Port	1 4	1 4	0 0	1 4	0 0	0 0
P A 03	Maintenance Dredging (Phase I)	20 8	20 8	0 0	0 0	20 8	0 0
*P CE 01	Multipurpose and Container Handling Terminal	0 6	0 6	0 0	0 6	0 0	0 0
P CE 01	D) Rehabilitation of Port Administration Facilities	0 6	0 6	0 0	0 6	0 0	0 0
P CE 02	New Oil Terminal	28 5	26 7	1 8	28 5	0 0	0 0
P CE 03	Port Railways	22 2	20 0	2 2	18 4	3 8	0 0
P CE 10	Service Port Facilities	1 7	1 7	0 0	0 0	1 7	0 0
P CE 13	Port Traffic Control and Communication Centre	8 9	8 6	0 3	0 3	8 6	0 0
P CE 14	Power Supply Network for Beira Port	10 7	10 1	0 6	10 7	0 0	0 0
P CE 15	Fire Fighting System	0 7	0 7	0 0	0 7	0 0	0 0
P ME 01	D)PhaseIV Other Equipment for new Multipurpose and Container Handling Terminal	2 8	2 8	0 0	2 8	0 0	0 0
P ME 04	Deep Sea Pilot Boat/ Modification of Tug Boats	2 1	2 1	0 0	2 1	0 0	0 0
P ST 01	Telecommunications Network, Port and Railways Beira	0 5	0 5	0 0	0 5	0 0	0 0
TA P 02	A)Technical assistance to Beira Port (2nd contract)	10 3	10 3	0 0	10 3	0 0	0 0
TA P 02	B) Technical Assistance to (New) Container Terminal (MCT)	4 8	4 8	0 0	4 8	0 0	0 0
TA P 03	Technical Assistance to Port Training	1 8	1 8	0 0	1 8	0 0	0 0
TA P 04	Technical Assistance to Tugboat Operation	6 4	6 4	0 0	6 4	0 0	0 0
		122 8	117 9	4 9	87 9	34 9	0 0

September 1994

MOZ 3 03 Rehabilitation of the Port of Nacala



Estimated Costs
Total USD 42 0 million
Foreign USD 35 6 million
Local USD 6 4 million

Funding Secured
Foreign USD 35 6 million
Local USD 6 4 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
DNPCF, 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

Description The project is composed of the following parts

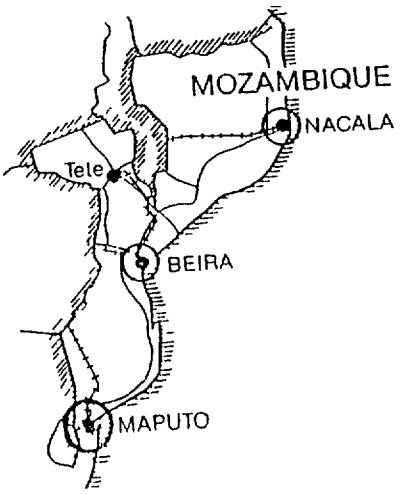
		Costs (USD, Million) Foreign	Local
Phases 1 2 and 3			
Improvement of old facilities, development of the container terminal, including equipment, maintenance facilities management and training		33 0	6 0
Phase 4			
(i)	Technical assistance and training including studies on marketing and tariffs	1 7	0 0
(ii)	Equipment for the Port Authority	0 3	0 4
(iii)	Management	0 2	0 0
(iv)	Contingencies	0 4	0 0
	Total	35 6	6 4

Phase 1 3 completed and Phase 4 started in April 1992

Status FINNIDA and Mozambique have financed Phases 1 3 and are financing the Phase 4 which is a phasing out that continues to end of 1994

September 1994

MOZ 3 04 Navigational Aids Mozambique
(01)



Estimated Costs
Total USD 15 4 million
Foreign USD 14 7 million
Local USD 0 7 million

Funding Secured
Foreign USD 14 7 million
Local USD 0 7 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
DNCRI/BMM Mozambique

Start 1987
Duration 6 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

Description The Project is divided into three phases i e rehabilitation of navigational aids of

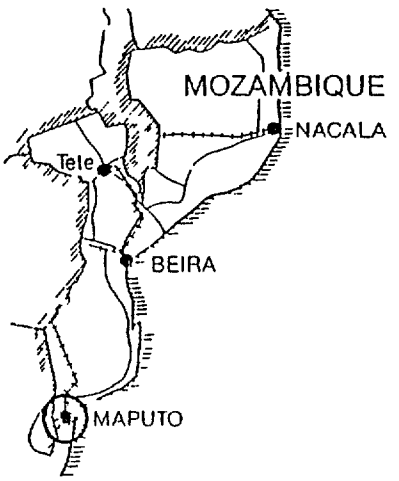
1) the regional port areas of Maputo Beira and Nacala
2) the coastal areas and
3) small ports and inland waters

Supportive projects such as repair and maintenance workshops training of personnel and administrative and technical assistance are included
Total current prices for phase 1, Stage 1 SEK 55 million
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 completed March 1988 A Steering Committee has been established meeting at regular intervals Progress reports are prepared on a regular basis Training programme established

Status Rehabilitation of navigation aids of the ports of Maputo and Beira completed The port of Nacala in Progress The project was completed in 1993 and maintenance of the Navigational Aids has been an integrated with the Mozambican organisation responsible for aids to navigation and seamapping (INAHINA)

September 1994

MOZ 3 05 Port Staff Training Institute, Mozambique



Estimated Costs
Total USD 7 9 million
Foreign USD 6 9 million
Local USD 1 0 million

Funding Secured
Foreign USD 6 9 million
Local USD 1 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Nat'l Directorate of Ports and Railways, Mozambique
Start 1987
Duration

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

Description In the context of the Regional Port Staff Training Programmes Study (P AAA 3 02) 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

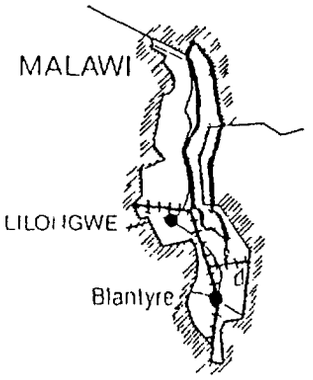
Technical assistance	NOK	11 0 million	USD	1 6 million
Fellowship programme	NOK	2 0 "	USD	0 3 "
Equipment	NOK	3 0 "	USD	0 4 "
Administration Fee ILO	NOK	2 0 "	USD	0 3 "
Construction/Rehabilitation Works	NOK	17 0 "	USD	2 5 "
Cost Contingencies	NOK	3 0 "	USD	0 4 "
Miscellaneous	NOK	3 0 "	USD	0 3 "
TOTAL	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 Administration and technical assistance through ILO with NORAD is continuing
The Port Staff Training Institute became operational in 1992 and a complete programme is established for 1993

September 1994

TAN 3 01 Development of Navigation on Lake Niassa/Nyasa/Malawi
Malawi, Mozambique Tanzania



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Railway & Port Authorities in
Malawi Mozambique & Tanzania
Start 1987
Duration

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

Description The project comprises several sub projects in the field of water transport port engineering and operation At present the sub projects listed below are defined

Sub project (1) is the original SATCC project TAN 3 01 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 subproject (1) and it has convened three times the last meeting was held in Malawi December 1992
Phase A was completed in November 1989 and phase and phase B1 in February 1991 The draft final report for last phase B2 completed 1992 Evaluation by Steering Committee completed and implementation of some study recommendations are underway Agreement has been reached for M V ILALA (Malawi)to call at Tanzania's ports of Itungi and Mbambabay
Plans also underway for MV ILALA to call at the Mozambican ports of Cobwe Meponda and Metangula

Estimated costs etc shown are for sub project (1) only
Sub projects (2) (3) and (4) have been completed

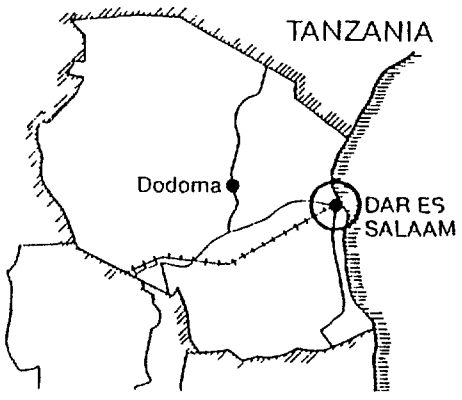
Subprojects Included in Programme

01 Lake Navigation Study
02 Lake Ports, Chilumba and Chipoka
03 Self Propelled Pontoons
04 Monkey Bay Shipyard

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01	Lake Navigation Study	0 6	0 6	0 0	0 6	0 0	0 0
		0 6	0 6	0 0	0 6	0 0	0 0

September 1994

TAN 3 02 Development of the Port of Dar es Salaam, Tanzania



Estimated Costs
Total USD 271 8 million
Foreign USD 237 7 million
Local USD 34 1 million

Funding Secured
Foreign USD 191 0 million
Local USD 34 1 million

Funding Under Negotiation
Foreign USD 13 5 million

Financing Gap
Total USD 33 2 million

Executing Agency
Tanzania Harbours Authority

Start 1985
Duration

Objectives Rehabilitation and upgrading of the port of Dar es Salaam to provide adequate capacity for future traffic demand

Description The Development Plan for the Port of Dar es Salaam contains several sub projects included in the SATCC catalogue of projects A majority of the projects are included in a World Bank co ordinated improvement programme which has been appraised the Bank in January 1988

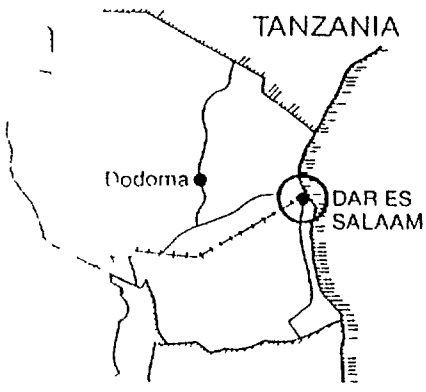
Status Meetings with donors are being held once a year to monitor the financial status and progress of the World Bank coordinated improvement programme projects Quarterly progress reports are now being submitted from THA to SATCC

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
01 2	a) Kurasini Oil Terminal Strengthening (Phase III) Port of Dar es Salaam	12 0	10 0	2 0	2 0	10 0	0 0
01 2	b) Replacement of sub sea oil pipeline for SPM	17 9	16 2	1 7	1 7	0 0	16 2
02	b) Improvement of Harbour Entrance Channel Port of Dar es Salaam (Phase I)	25 3	22 0	3 3	3 3	9 0	13 0
03 2	Expansion of Container Terminal, Ubungo ICD and Kurasini Warehouse, Phase II	24 3	17 9	6 4	24 3	0 0	0 0
03 3	Repairs to piles and fenders, Berths 9,10 and 11, Port of Dar es Salaam	3 4	3 0	0 4	2 4	0 0	1 0
06 1	Belgian Wharf Reconstruction Port of Dar es Salaam	4 4	1 9	2 5	2 5	0 0	1 9
06 2	Modernization of Lighter Wharf Phase 2, Paving and Services Port Dar es Salaam	4 6	3 5	1 1	1 1	3 5	0 0
07	Construction of Tug Berth Port of Dar es Salaam	5 2	4 8	0 4	0 4	0 0	4 8
08 1	Purchase of Container Handling Equipment Phase I, Port of Dar es Salaam	42 4	42 4	0 0	42 4	0 0	0 0
08 11	Purchase of Container Handling Equipment Phase II Port of Dar es Salaam	18 9	18 9	0 0	10 2	0 0	8 7
08 12	Stand by generators	2 9	2 6	0 3	2 9	0 0	0 0
08 3	Purchase of General Cargo Handling Equipment Phase I Port of Dar es Salaam	19 3	15 7	3 6	19 3	0 0	0 0
08 31	Purchase of General Cargo Handling Equipment Phase II Port of Dar es Salaam	5 0	5 0	0 0	5 0	0 0	0 0
08 32	Purchase of Office Equipment THA Headquarters and Port of Dar es Salaam	1 2	1 2	0 0	1 2	0 0	0 0
09	Purchase of Floating Craft Port of Dar es Salaam	17 5	17 5	0 0	0 0	0 0	17 5
10	Technical Assistance to THA and Improvement of Bandari College, Dar es Salaam	4 9	4 9	0 0	4 9	0 0	0 0
11	Rehabilitation of Berths 1 8 Port of Dar es Salaam	46 4	33 8	12 6	46 4	0 0	0 0

12	a) Study on New Oil Terminal Port of Dar es Salaam	0 2	0 2	0 0	0 0	0 0	0 2
12	b) Global Maritime Distress & Safety System	10 0	10 0	0 0	0 0	0 0	10 0
*13	Study on Increasing Port Capacity for SADC Transit Goods, Port of Dar es Salaam	0 2	0 2	0 0	0 2	0 0	0 0
15	Improvment of Central Workshop Port of Dar es Salaam	3 8	3 4	0 4	3 8	0 0	0 0
16	Port Development Study Port of Dar es Salaam	1 2	1 0	0 2	1 2	0 0	0 0
17	Project Coordination Unit	3 8	3 5	0 3	3 8	0 0	0 0
18	Management Technical Assistance THA Headquarters and Port of Dar es Salaam	24 0	22 5	1 5	24 0	0 0	0 0
		298 6	261 9	36 7	202 8	22 5	73 3

September 1994

TAN 3 03 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 2 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Tanzania Harbour Authority

Start
Duration

Objectives

To increase the Safety of Navigation on the east cost of the SADC region through restoring lights and buoys and improving intensity and ranges of navigational aids, the SATCC project MOZ 3 04, 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

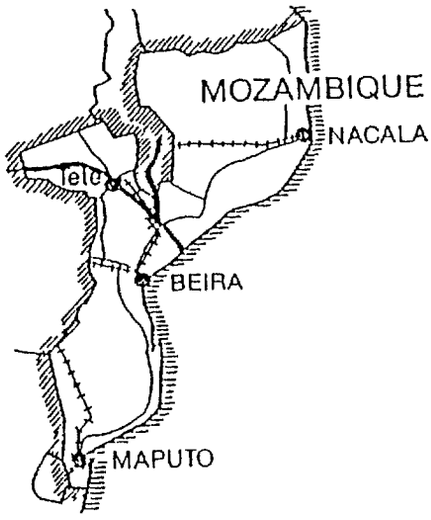
The mission shall look into the need of phasing of the project, including supportive projects such as buoy handling and maintenance vessels, repair and maintenance workshops, training of personnel and needs for administrative and technical assistance, and will work out cost estimates and time schedules for the project

Status

Follow up projects regarding investment projects for rehabilitation of Aids to Navigation in Tanzania are being prepared
Feasibility Study completed October 1989

September 1994

ZAM 3 01 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 3 million

Executing Agency
SATCC

Start 1994
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

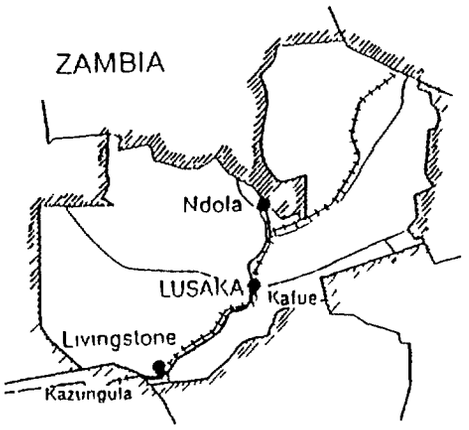
An engineering study and cost appraisal of the structural works necessary to make the river system navigable and the type of ship possible to use for navigation on the system or part of it The study should be carried out at a prefeasibility level of detail

A programme from more detailed investigations should the appraisals indicate that there is a case for this

Status A Steering Committee for the project has been established and has met twice Subprojects under the overall study are being identified

September 1994

ZAM 3 02 Improvement of Mpulungu Harbour



Estimated Costs
Total USD 8 9 million
Foreign USD 8 9 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 8 9 million

Executing Agency

Start
Duration

Objectives Rehabilitation and improvement of the port of Mpulungo on Lake Tanganyika to provide adequate capacity for handling present and projected traffic demand

Description The improvement Plan for the port of Mpulungu has three phases

Phase I Commenced in 1981 and was funded by the EEC at a total cost of ECU2 24million
The Phase 1 investment programme provided the port with essential infrastructure cargo handling equipment and some workshop tools

Phase II Improvement of existing facilities to meet short to medium term traffic demand Programme to include provision of additional berthing facilities, provision of new cargo handling equipment, refurbishment of existing equipment, enhancement of security around the port, provision of additional transit werehousing capacity and acquisition of workshop equipment Total estimated cost USD 8 9 million

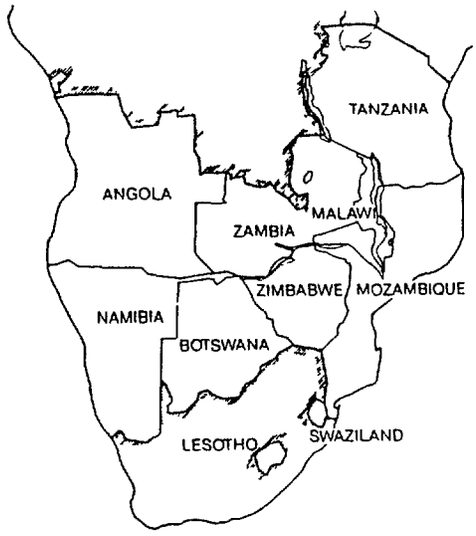
Phase III A long term programme of investment to take into account the projected extension of TAZARA Railway to Mpulungu port Cost estimates for this phase not available

Status The European Union (EEC) financed Phase I of the Programme at a cost of ECU 2 24 million Negotiations for financed Phase II(with a Project cost of USD 8 9m) are underway also with the European Union

September 1994

Civil Aviation

AAA 4 03 Coordinated Use of Aircraft Maintenance Facilities



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 1 million

Executing Agency
SATCC

Start 1994
Duration 5 Months

Objectives The objective of the project is to rationalize the use of existing aircraft maintenance facilities in the SADC region and to chart out how these facilities could be developed for future demand in aircraft maintenance work

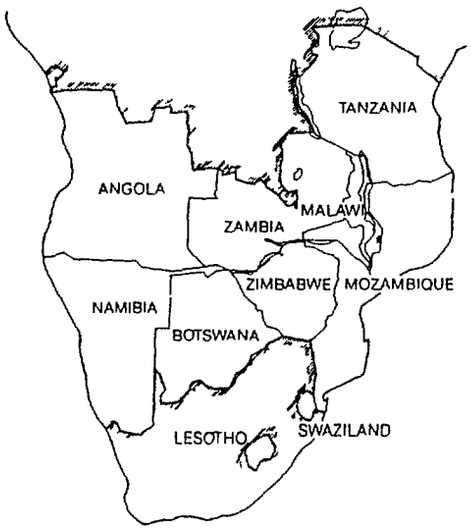
Description Using the results of the 1991 "SADCC Airline Industry Study" (World Bank) and the 1984 " Feasibility Study for the Establishment of a coordinated Network of Aircraft Maintenance and Overhaul Centres" (ADB) as well as the experience gained in bilateral cooperation between the SADC Airlines and other related work in the region the implementation plan shall cover the following

Assess the existing aircraft maintenance within the region
Estimate the volume and content of aircraft maintenance work in the SADC region in the next twenty years
Assess aircraft maintenance capability that exists in the region in terms of facilities equipment and human resources Furthermore, determine the level and extent of manpower development, facilities and equipment requirements needed to meet current and future maintenance work demand
Recommend optimum utilisation of resources for maintenance, overhaul and repair of airframes, engines and other components operated by aircraft operators in the SADC Member States, bearing in mind the existing and planned facilities and fleet development projections over a 20 year period
Propose a system facilitating the movement of repaired aircraft parts in and out of the repair centres
Indicate the magnitude of investment by location, estimate the operating costs and revenues,
Recommend a system aiming at a distribution of gains and work load among the participating members,
Prepare a cost/benefit analysis showing the economic improvements which the recommended system will achieve compared to current maintenance and overhaul practices
Assess and propose designation of specialised work to some identified capable centres
Prepare the legal framework and institutional requirements for effective utilisation of each selected maintenance centre
Determine costs and benefits of joint utilisation of the maintenance centres
Prepare a feasibility report for each maintenance centre indicating the modalities for joint operations and utilisation of the selected centres by the SADC Member States
Prepare a loan application report for use in soliciting funding for the implementation of the major components of the programme

Status This project is being attempted in house by the Aircraft Maintenance Committee

September 1994

AAA 4 10 Joint Use of Aircraft and Sub Regional Cooperation



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency
SATCC

Start 1994
Duration 9 Months

Objectives The project aims carrying out of

(i) Drawing out a comprehensive practical implementation plan for the operation of intercontinental aircraft under a joint use programme
(ii) Comprehensive analysis of all aspects of sub regional airline cooperation

Description The studies shall using the results of the 1991 "SADCC Airline Industry Study" by World Bank and experiences from other initiatives in the region, cover following main elements taking varoius alternatives into consideration such as wet lease of aircraft, joint venture or pool agreement with suitable airline (s), establishment of an aircraft leasing company for the use of SADC Airlines

(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 SADC, 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 This project is being attempted in house by the Airline Planning Committee

September 1994

AAA 4 13 Planning and Design for Imple mentation of the Rationalized Plans in the Region

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 8 million

Executing Agency
SATCC/TU

Start 1994
Duration 1 Year

Objectives The project provides for operational, technical and economic planning and design to enable early implementation of the ICAO Rationalized Plans for the Aeronautical Fixed Services Network (AFTN) and the Air Traffic Services Direct Speech Network (ATS/DS) in the Region

Description In order to speed up the implementation of the Rationalized Plans, it is proposed to initiate a study which will both tackle the financing issues, and lead to the preparation of detailed plans for implementation of the AFTN centre in Lilongwe and the ATS/DS centres in Lusaka and Dar es Salaam The planning and preliminary design would be advanced to the stage where implementation could commence, and would thus include the mode of operating the centres and their staffing and training needs, and technical planning and preliminary design of equipment and installation works, including capital and operational cost estimates The study would also cover the transitional phase between the existing and the new systems

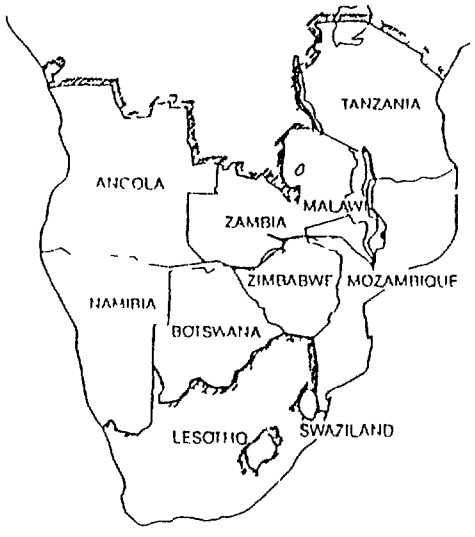
To carry out planning and preliminary design study, a project team comprising of the following experts will be required
- Two telecommunications engineers,
- One organisation/administration expert, and
- One financial expert

One member of the team would act as the project manager and would report to SATCC/TU who would also be responsible for the administration of the contract The project would be implemented under the supervision of a group comprising of the Directors of Civil Aviation in the Region

Status Funding sought

September 1994

AAA 4 14 Feasibility Study of an Inspection Services Unit



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 7 million

Executing Agency
SATCC/TU

Start 1994
Duration 2 Years

Objectives To determine the feasibility of establishing a unit for servicing Civil Aviation Directorates with flight safety inspection services The study would also cover the details of the unit's mode of operation as well as a programme for establishing the unit

Description The proposed feasibility study would cover

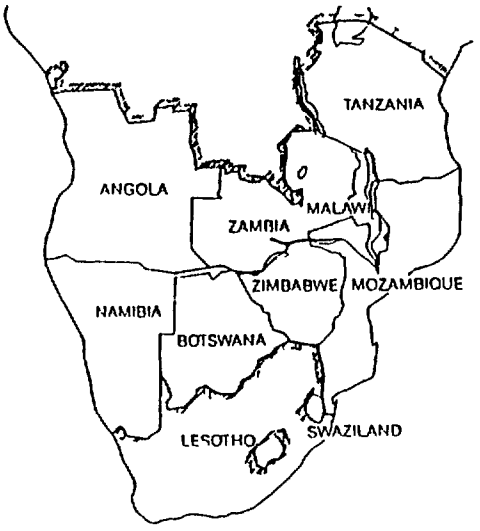
Analysis of which kind of services the unit could supply
How the unit would operate
How it would be staffed,
Analysis of charging structure
Analysis of the unit's viability
Review of experiences of similar kind of units elsewhere in the world
Analysis of the benefits to a typical country of procuring services from the unit
Ownership and financing issues

It is found that the unit is likely to be viable and that it could offer significant benefits to individual states the study would continue into a second phase, with the purpose of determining the details of the mode of operation, and to try to obtain an indication from the governments of a number of the Member States that they would be seriously considering the purchasing of services from the unit Depending on the results of the feasibility analysis the study would end with the preparation of an action programme spelling out the details for making the unit operational
The study would be carried out by a team comprising one experienced aviation safety inspector and one person with experience in the development of businesses and organisations in the service industry The team would be able to recruit short term consultants for specific tasks and would be guided by a reference group to be appointed by the DCAs/CEOs of the National Airlines The administration of the study would be the responsibility of SATCC/TU in Maputo
It is anticipated that it would take at least 2 years for the study to be completed given that the proposed unit is likely to be viable

Status The pre feasibility study of this project is being attempted in house

September 1994

AAA 4 15 Feasibility Study of Independent Operators



Estimated Costs
Total USD 2 0 million
Foreign USD 2 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 0 million

Executing Agency
DCA in Countries Concerned

Start 1994
Duration 3 Years

Objectives To perform feasibility and preliminary design studies for transferring operational functions performed by a Department of Civil Aviation and other government departments to a separate statutory board or a corporation

Description The study would cover the following

Analysis of the costs of the present mode of operation, allocated to the various functions performed,

Review of alternative models for establishing operative units, including legal framework, numbers and delegation of authority,

Analysis of organisational structure and manning requirements of new units, including regulatory functions,

Analysing of charges, and future revenue potential for operative units,

Financial analyses of proposed new units and their viability in comparison with the present arrangements,

Analysis of procedures of budgeting for and covering losses in the operative units to stimulate cost effective operations,

Preparation of a strategy and timetable for implementating the proposed solution, including and identification of all measures required and associated costs for successful implementation

Status Funding sought

September 1994

AAA 4 17 Establishment of Local User Terminal for SARSAT/COSPAS Application

Estimated Costs
Total USD 6 0 million
Foreign USD 6 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 6 0 million

Executing Agency
SATCC/TU

Start 1994
Duration 2 Years

Objectives To establish a Local User Terminal for SARSAT/COSPAS application and other aeronautical and meteorological uses

Decsription Modern technology has capacitated the extended use of satellites for Search and Rescue operations with specific application in tracking distress aircraft It is unfortunate that, to date the SADC region has not benefitted from this application because there is no accessible Local User Terminal within the vicinity of the region

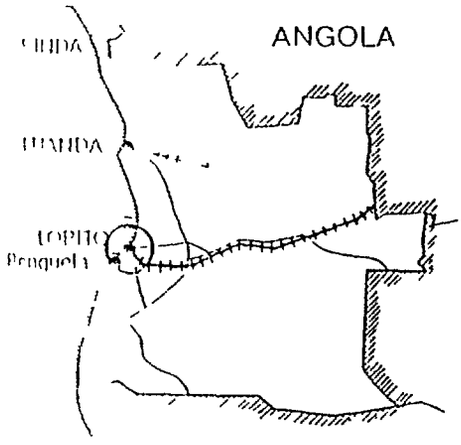
This project therefore undertakes to identify a suitable location for the Local User Terminal (LUT) and further to establish the LUT and the necessar regional coordination unit The project encommpasses the feasibility study including the identification of the location and the broader application of the LUT facility

It will involve the installation of the LUT including its purchase, commissioning and human resource development

Status Financing is being sought

September 1994

ANG 4 01 Civil Aviation Projects in the Ten Year Development Plan for the Lobito Port Transp System



Estimated Costs
Total USD 12 1 million
Foreign USD 12 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 12 1 million

Executing Agency
Directorate of Civil Aviation

Start 1994
Duration

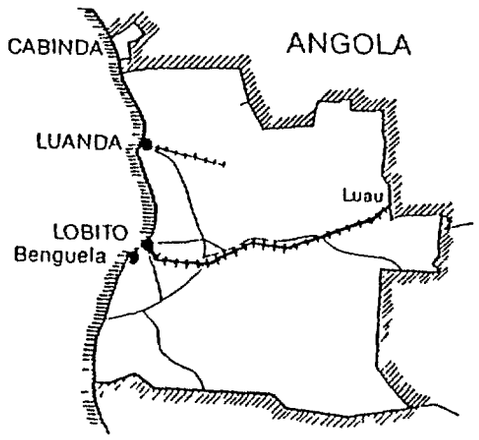
Objectives Provision of adequate airport capacity related to the Lobito Port Under the Ten Year Development Plan for the Lobito Port Transport System

Status A Technical Co ordination Conference to discuss the Plan was held in January 1989 Interest was expressed by financiers in the projects in the Preparatory Phase of the 10 Year Plan, including those concerning civil aviation Italy has earlier shown interest for Project CA CE-1

Subprojects Included in Programme	Cost Total	Cost For'n	Cost Local	Funding Secu	Funding Nego	Funding Gap
CA CE 1 Upgrading of Benguela Airport	12 0	12 0	0 0	0 0	0 0	12 0
CA CE 2 Study on New Airport between Lobito and Benguela	0 1	0 1	0 0	0 0	0 0	0 1
	12 1	12 1	0 0	0 0	0 0	12 1

September 1994

ANG 4 03 Technical Assistance to ENANA



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
Foreign USD 0 0 million

Financing Gap
Total USD 2 4 million

Executing Agency
ENANA

Start 1994
Duration 3 Years

Objectives The project comprises of technical assistance experts to strengthen and build up ENANA's maintenance and operations capability

Description It is envisage that the technical assistance team will comprise of an Aerodrome Engineer, an Airport Operations Specialist a Telecoms/Navaids Equipment Specialist, and an Air Traffic Services Adviser It is assumed that ENANA would also be assisted by a second air traffic services adviser but that this person would be attached to the Directorate of Civil Aviation as ATS Expert see project ANG 4 07 He would only assist at ENANA's training school by giving courses, reviewing curricula and training ENANA's own instructors

The Aerodrome Engineer is presumed to act as the head of ENANA's newly established Aerodrome Maintenance Division in the Civil Engineering Department

The Aerodrome Engineer would also be responsible for organising and executing a number of urgently required maintenance tasks at Luanda Airport

The Airport Operations Specialist assumed to act as an adviser to the Manager of Luanda Airport

The Telecoms/Navaids Equipment Specialist would be attached to ENANA's Department of Maintenance

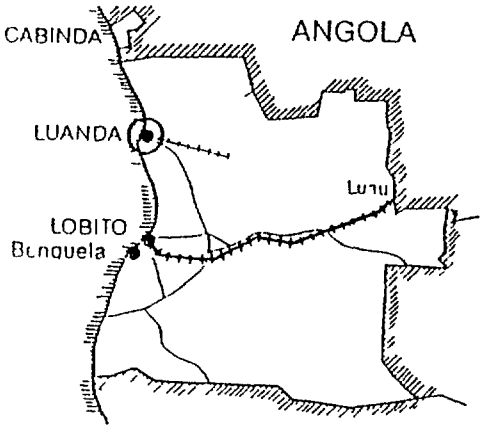
The ATS Adviser would be attached to the Department of Air Traffic Services and Communications

A more detailed description is given in the Civil Aviation Safety Action Plan

Status ICAO has fielded an expert team to make detailed analysis of the needs of the aviation sector in Angola including ENANA's technical assistance requirements (UNDP project ANG/89/036

September 1994

ANG 4 04 Telecoms and Navaids for Luanda Airport



Estimated Costs
Total USD 2 9 million
Foreign USD 2 8 million
Local USD 0 1 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 8 million

Executing Agency
ENANA

Start 1994
Duration 1 Year

Objectives The project provides for the replacement of the instrument landing system (ILS) and 6 HF transmitters at Luanda Airport

Description The minimum requirement for ensuring basic services is six HF radios, two for mobile services within the FIR, and four for fixed services to ACC/FIC Lusaka, Windhoek, Gaborone and Kinshasa/Brazzaville While ENANA has eight units at present, and the receivers were replaced recently and are in good condition it is necessary to replace the transmitters These were originally installed in 1975

The present ILS (Category) was originally installed in 1975
It has not been operational for the last three years ENANA has engaged two different consultants for assessing the future of the ILS Their conclusions were that the present facility could be repaired, but in view of its age it would be cheaper in the long run to replace it immediately with a new one An ILS is a standard feature at an airport of Luanda's size and is required according to ICAO's Air Navigation Plan

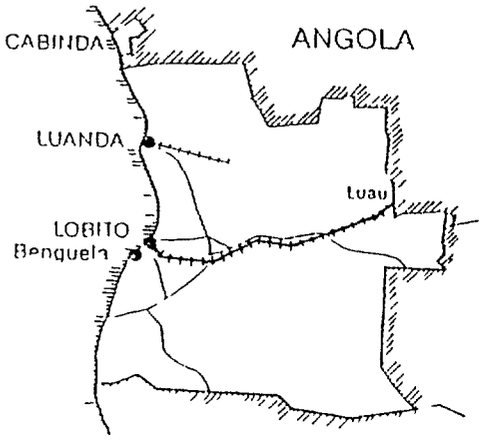
The items are urgently required to ensure that Luanda Airport and ACC/FIC can provide a minimum of services in accordance with the ICAO Regional Air Navigation Plan The priority is immediate

A more detailed description is given in the Civil Aviation Safety Action Plan which is part of the 10 Years Development Plan

Status Funding sought

September 1994

ANG 4 05 Technical Assistance to DNAC



Estimated Costs
Total USD 2 8 million
Foreign USD 2 8 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 8 million

Executing Agency
DNAC

Start 1994
Duration 3 Years

Objectives The project comprises of technical assistance experts to strengthen and build up the capacity and competence of the National Directorate of Civil Aviation (DNAC)

Decsription It is envisaged that the technical assistance team will comprise of five experts

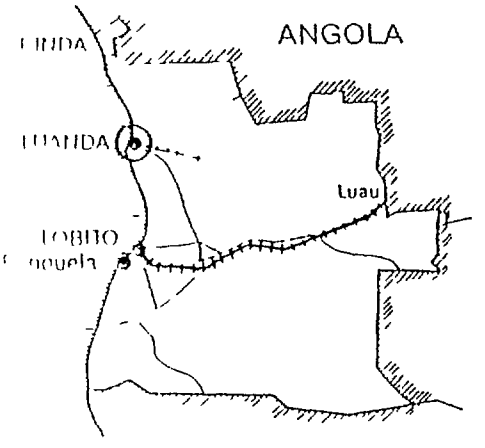
One Civil Aviation Adviser who is proposed to have a background as an executive in civil aviation administration and would act as an adviser to the Director of DNAC in all matters
One Air Traffic Services Adviser, who should have a background as a senior air traffic controller He also needs to have experience as an instructor as it is envisaged that he would be attached to ENANA's training school to give courses review curricula and train ENANA's own instructors
He would be responsible for updating the AIP
One Flight Safety Specialist, who should have been a senior airline pilot and would act as chief of the Flight Safety Division to build up the Division's operational and administrative procedures and act as inspector and trainer of a local counterpart
One Airworthines Specialist who should have been a senior airworthiness engineer He would act as chief of the Airworthness Unit, to build up the Unit's operational and administrative procedures and act as inspector and trainer of a local counterpart
One Aviation Law Specialist, who is envisaged to prepare a consolidate

legilation for civil aviation including acts and regulations and prepare retification of civil aviation conventions and other international legal instruments

Status Funding sought

September 1994

ANG 4 06 Navigation Aids for Luanda FIR



Estimated Costs
Total USD 1 8 million
Foreign USD 1 6 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 6 million

Executing Agency
ENANA

Start 1994
Duration 1 Year

Objectives The project provides for the most essential navigation aids required for international aviation in Luanda FIR viz two VOR/DMEs

Description The basic requirements in terms of navigation aids in Angola are identified in ICAO's Air Navigation Plan Africa and Indian Ocean Region
The project comprises of

One VOR/DME with standby power facilities to be located at Luena

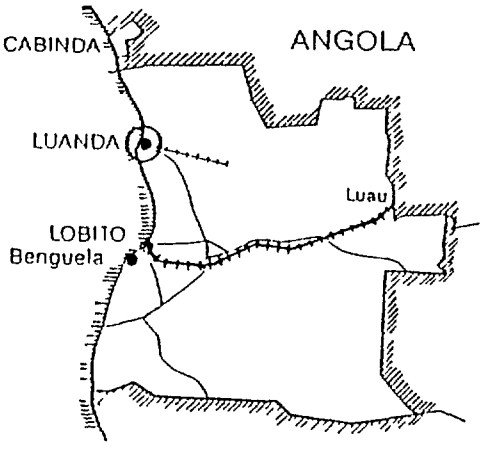
one VOR/DME with standby power facilities, to be located at Saurimo

The equipment will be of substantial assistance to aircraft flying over the eastern part of Angola, in particular regional flights en route between Luanda and Lusaka/Harare Today, these flights to some extent have to rely on their own instruments for navigation which does not give the necessary precision (This does not apply to modern wide body aircraft with their own navigation equipment)
The project will also be important to flights making use of Angola air routes en route from for example, Europe to Southern Africa At present, these air routes are closed because of the lack of navigation aids, and their aircraft are therefore required to take more circuitous routes The project is seen as essential to guarantee minimum safety and to cater for efficient air traffic and should be implemented in the short term

Status Funding sought

September 1994

ANG 4 07 Luanda Airport Master Plan Study



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 7 million

Executing Agency
ENANA

Start 1994
Duration 2 Years

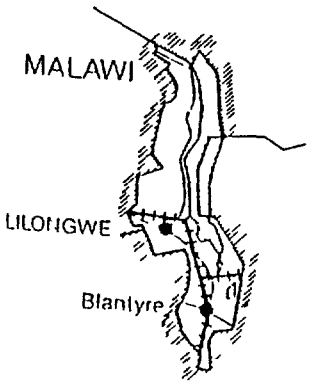
Objectives To prepare a master plan for the development of Luanda Airport until the year 2010

Decsription The purpose of the study would be to prepare plans for the development of the airport over the period up to 2010, focusing on (i) the likely development of future traffic demand, (ii) the development of a strategy for land use within and in the vicinity of the present premises including both military and civilian purposes, (iii) an identification of the need for new buildings or extension/rehabilitation of the existing building based on least cost or cost effectiveness analysis, and (iv) an identification of environmental issues and approaches for how to tackle them

Status Funding sought

September 1994

MAL 4 02 Technical Assistance to the DCA



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 7 million

Executing Agency
Ministry of Transport and Communications
Start 1994
Duration 1 Year

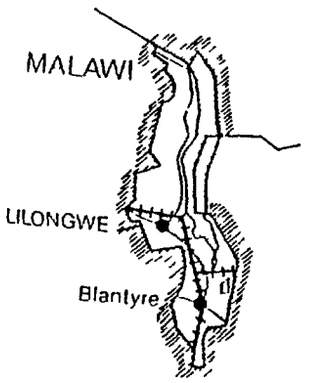
Objectives The Project would provide technical assistance to the Department of Civil Aviation (DCA) to establish preventive maintenance programmes for its telecommunications equipment and radar, and fellowships for meeting urgent training needs in these areas as well as for air traffic controllers and the instructors at the School of Aviation

Description The Civil Aviation Safety Action Plan for Malawi, MAL 1

Status Funding sought

September 1994

MAL 4 03 Kamuzu International Airport Runway and Apron Rehabilitation



Estimated Costs
Total USD 6 1 million
Foreign USD 6 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 6 1 million

Executing Agency
Ministry of Transport & Communications
Start 1995
Duration 2 Years

Objectives To upgrade the deteriorating runway at Kamuzu International Airport (KIA) to full serviceable condition so as to improve safety of air transport

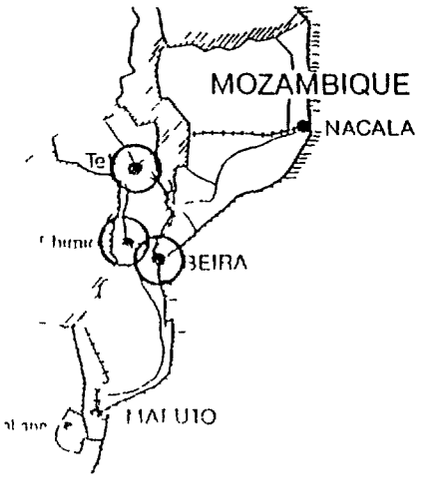
Description Ten years since construction, the runway at KIA is showing signs of stres failure demonstrated by worsening cracks on the surface of the runway and at its joints with the taxiway, creating a potential air safety hazard These cracks further allow water to seep through to the sub base thereby weakening the runway If this situation is left to continue the runway will be unusable

This project therefore undertakes to carry out the necessary repairs and modifications in order to enhance flight safety as well as extend the life of the runway by several years to enable the airport continue to serve civil aviation

Status New Project 1994 Proposal

September 1994

MOZ 4 03 Civil Aviation Projects in the Beira Port Transport System Development Plan



Estimated Costs
Total USD 23 3 million
Foreign USD 22 1 million
Local USD 1 2 million

Funding Secured
Foreign USD 10 0 million
Local USD 1 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 12 1 million

Executing Agency
Ministry of Transport and Communications
Start 1990
Duration 5 Years

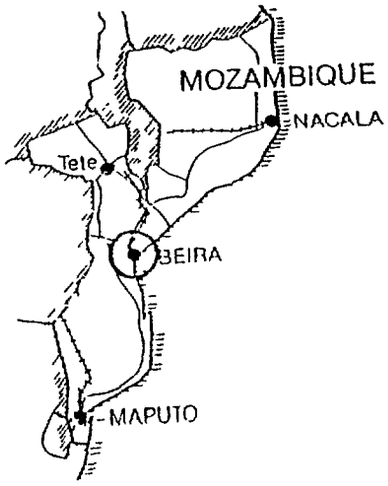
Objectives To improve the flight traffic services in the Beira region by general rehabilitation and modernization of related civil aviation facilities

For details see Beira Port Transport System 10 Year Development Plan

Subprojects Included in Programme		Cost - Total	For'n	Local	Funding - Secu	Nego	Gap
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	0 0	3 6
C CE 3	Airport Building, Chimoio	1 5	1 2	0 3	0 3	0 0	1 2
C ME 2	Communication and Navigation at Beira Chimoio and Tete	3 0	3 0	0 0	1 0	0 0	2 0
C ME 3	Fire Fighting Equipment for Beira Chimoio and Tete	2 5	2 5	0 0	2 5	0 0	0 0
C ME 4	Maintenance Equipment	0 5	0 5	0 0	0 0	0 0	0 5
C ME 5	Airport Lighting, Chimoio	6 5	6 5	0 0	6 5	0 0	0 0
C TA 1	Technical Assistance	2 8	2 8	0 0	0 0	0 0	2 8
		23 3	22 1	1 2	11 2	0 0	12 1

September 1994

MOZ 4 08 Improvement of ATC Equipment in Beira FIR, Mozambique



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
Foreign USD 0 0 million

Financing Gap
Total USD 8 0 million

Executing Agency

Start 1994
Duration 1 Year

Objectives In order to improve the flight safety standards, within Beira FIR (Flight Information Region) which covers the air space over the territory of Mozambique, major investments in air traffic control 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 Mozambique to detect and monitor flights and thus reduce the possibility of airspace violations

With the proposed equipment two serious accidents in the last years in Mozambique could have been avoided

The radar equipment must provide automatic aircraft identification of transponder equipped aircraft

The capital investment components of this project are as follows

- Installation of Surveillance Radar at Beira including spares, ancilliary and test equipment,

  Installation of primary and secondary radar at Maputo with inter linking telecommunications to Beira,

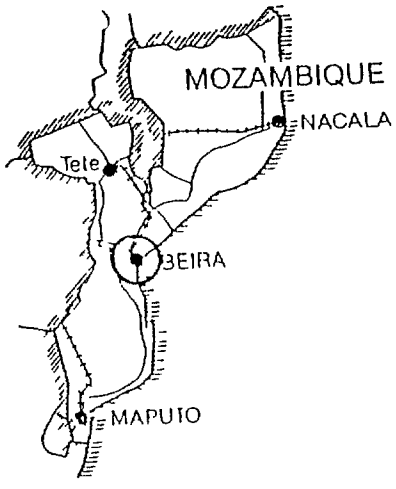
  Provision of uninterruptible power supply and air conditioning at the radar transmitter sites, and

  Costs for training of needed air traffic control and maintenance manpower

Status Funding is sought

September 1994

MOZ 4 10 Telecoms and Navaids for Beira FIR



Estimated Costs
Total USD 2 8 million
Foreign USD 2 6 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 6 million

Executing Agency
Ministry of Transport and Communications Mozambique
Start 1994
Duration 1 Year

Objectives The project comprises repairs and refurbishment of Beira Flight Information Centre and Beira and Maputo ATC towers supply of new ATC and Telecommunications equipment plus spares, tools and test equipment at both airports, and replacement of the VOR at Beira with a VOR/DME for en route and approach and landing functions

Description The project consists of the following components at Maputo

Three ATC cnsoles complete with voice switching and other ancillary equipment including SELCAL for fixed and mobile communications

VHF direction finding equipment

Telephone exchange system

Navaids monitoring equipment

Repair and refurbishment of the ATC tower and technical buildings

Spares, tools, test equipment workbenches etc needed to establish a central telecom/navaids workshop at Maputo

Duplicate telecom equipment for maintenance training

The following components are needed at Beira

ATC consoles for the control tower and FIC complete with voices switching and other ancillary equipment and navaids monitors, including SELCAL for fixed and mobile communications,

One HF transmitter/receiver for ATS/DS circuit with Lusaka

Repair and refurbishment of the ATC tower and FIC

One VOR/DME,

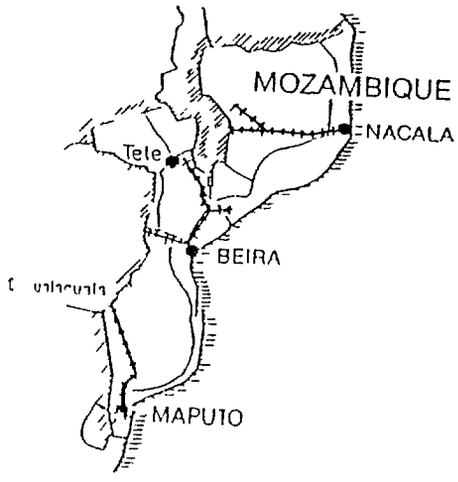
Additional spares tools and workshop facilities needed to maintain equipment in Beira

In addition engineering consulting services will be required to prepare specifications and supervise implementation

Status Funding sought

September 1994

MOZ 4 11 Technical Assistance to ADM



Estimated Costs
Total USD 2 2 million
Foreign USD 1 9 million
Local USD 0 3 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 3 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 9 million

Executing Agency
Aeroportos de Mocambique

Start 1994
Duration 3 Years

Objectives The project would provide technical assistance to ADM to improve telecommunications/navaids maintenance, air traffic services, security at the airports and financial management and fellowships for training abroad of ADM personnel

Description The technical assistance is proposed to comprise the following six experts

One Telecommunications/Navaids Equipment Specialist for 24 months to assist ADM to set up a central workshop at Maputo and maintenance workshops at Beira and other major airports, to establish an inventory system for spares and tools to develop and implement preventive maintenance procedures and schedules and to provide on the job training to ADM technicians

One Senior Air Traffic Controller, to be attached to the chief of the operations unit in the ADM headquarters, to perform refresher training, proficiency checks provide instruction at the aviation school (ENA) review airspace configuration develop the operations manual for air traffic control and review equipment and procedures at the operational units
This expert will have to serve the DNAC and ENA as well for part of the time and will be needed for two years

Two Financial Management Experts for a total of 40 months to reorganise the finance unit and the accounts in the ADM headquarters and to establish new reporting procedures, based on the recommendations made by an ICAO mission The experts should be attached to the Administrative Division

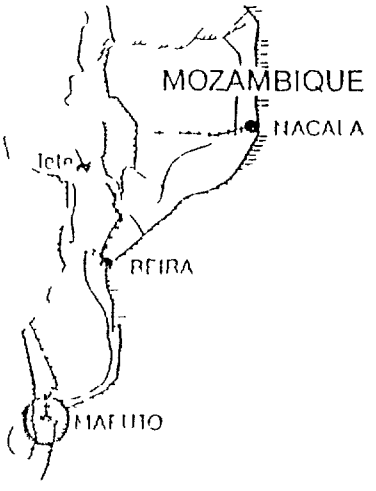
One Aviation Security Expert to review security arrangements at the airports, train security staff identify equipment needs and be responsible for the implementation of projects to improve security including the completion of the fencing of Maputo Airport The expert would serve in the Operations unit in the ADM headquarters for a period of 12 months

It is proposed that the techncial assistance be supported by a fellowship programme of finance training in related disciplines for ADM staff abroad

Status Funding sought

September 1994

MOZ 4 12 Maputo Airport Master Plan Study



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 7 million

Executing Agency
Aeroportos de Mocambique

Start 1994
Duration 1 Year

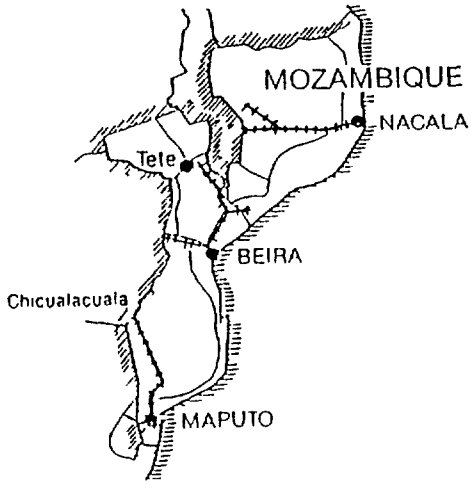
Objectives The project comprises a study to prepare master plan for the phased development of airport facilities and equipment

Description The purpose of the study would be to prepare plans for the development of the airport over the period up to 2010 addressing the major issues which now face ADM The likely development of international and domestic air traffic needs to be examined given possible changes in the internal security situation and relations with South Africa The operations and space requirements of the passenger terminals for the short and longer term need to be assessed carefully
The Condition of the secondary runway, taxiways and apron needs to be assessed and rehabilitation measures identified
The condition of the air cargo building and other aviation support facilities needs to be assessed
The location of the ATC tower and fire fighting facilities should be examined
The land requirements of ADM and other airport users such as LAM should be addressed
The costs and feasibility of alternatives should be evaluated priorities established and phased development plan and a land use plan prepared
A high priority programme would be identified in the first phase of the master plan study to allow for early implementation of urgent items

Status Funding sought

September 1994

MOZ 4 13 Technical Assistance to DNAC



Estimated Costs
Total USD 2 1 million
Foreign USD 2 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 1 million

Executing Agency
National Directorate of Civil Aviation
Start 1994
Duration 3 Years

Objectives The project would provide techncial assistance to the National Directorate of Civil Aviation (DNAC) to strengthen vital regulatory and planning functions and to build up the DNAC's capability to execute these functions on a self sustained basis in the future The project also provides for fellowships for training abroad where necessary to supplement the techncial assistance

Description It is proposed that the technical assistance comprise the following six experts

One Flight Operations Expert a senior commercial pilot to establish the flight operations unit within the Department to inspect air operators and to train a local counterpart This expert is needed for 3 years and will serve as the chief of the flight operations unit

One Airworthiness Expert an aeronautical engineer to strenghten the airworthiness unit and perform inspection of aircraft and maintenance workshops and to develop policies in respect of inspection including the roles to be played by operators and other outside units This expert is needed for 2 years and will serve as the chief of the airworthiness unit

One Search and Rescue (SAR) Expert to organise the SAR service in accordance with national and international requirements, to prepare the necessary SAR manual to train personnel and to prepare letters of agreement with neighbouring countries and SAR centres This expert is needed for 12 months

One Legal Expert to establish consolidated documents on air laws and regulations and to prepare ratification of conventions and protocols This expert is needed for 12 months, he would serve as an adviser in the Air Traffic Department

One Economist an expert in air transport matters to train a local counterpart in the economic regulation of civil air transport This expert needed for 12 months

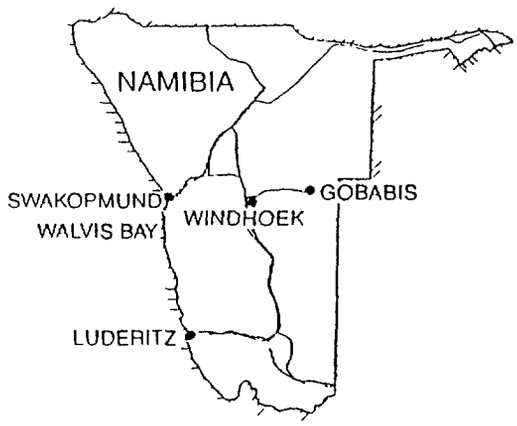
One Aeronautical Information Services (AIS) Expert to reorganise the AIS unit and train local counterpart staff This expert will also assist ADM to develop the briefing services The expert is needed for 12 months

The technical assistance would be supplemented with a fellowship programme for allowing for training abroad in the areas covered by the technical assistance The fellowship programme would thus constitute an integral part of the training provided by the technical assistance experts and would be administered by them

Status Funding sought

September 1994

NAM 4 07 Technical Assistance to DCA



Estimated Costs
Total USD 1 4 million
Foreign USD 1 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 4 million

Executing Agency
Ministry of Works, Transport and Communications
Start 1994
Duration 2 Years

Objectives The project would provide the Department of Transport (DOT) in the Ministry of Works Transport and Communication with 2 civil aviation experts over a period of 2 years each to assist with the establishment of a selfsustained unit within the DOT capable of performing functions related to international co operation the economic regulation of air transport and aviation safety

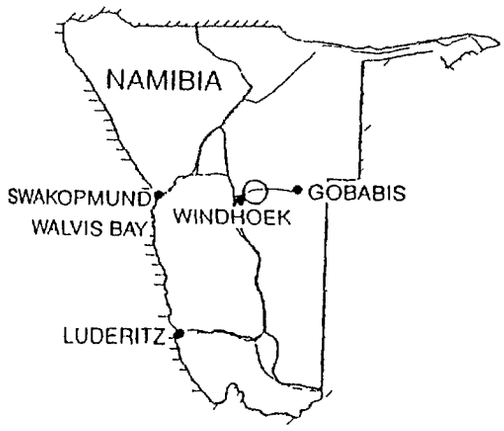
Description The project comprises two civil aviation experts It is also proposed that the project includes funds to make it possible to recruit consultants for short assignments and to organise training abroad of local staff in areas to the technical assistance
The technical assistance team is proposed to comprise One Civil Aviation Adviser to assist with the establishment of flight safety standards in particular for large aircraft including procedures for inspections and for accident and incident investigations He would also be involved in the formulation of policies for the future development of the Directorate including manpower development policies and the definition of the roles to be played by operators and other external units in the flight safety work The Civil Aviation Adviser would be an experienced pilot He would report to the Director of Civil Aviation and serve for a period of about 24 months with a possibility for an extension for another 6 to 12 months

One Adviser in Air Transport Matters who would have extensive experience in the economic regulation of air services through air services agreements and licences as well as in the new regulatory policies for air transport which have been or are being implemented in Europe and North America He would also have experience of air law, the international conventions underlying air laws the planning of the aviation sector and the formulation of aviation policies He would serve for a period of 24 months in the Air Transport Section, envisaged to be established as part of the regulatory Affairs Division

Status Funding sought

September 1994

NAM 4 08 En Route Navigation Aids for Windhoek FIR



Estimated Costs
Total USD 2 0 million
Foreign USD 1 8 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 8 million

Executing Agency
Ministry of Works, Transport and Communications
Start 1994
Duration 1 Year

Objectives The project would provide for the preparation of an air navigation plan and the design installation of three VHF omnidirectional radio range beacons and distance measuring equipment (VOR/DME)

Description Background to and the Need for the Project

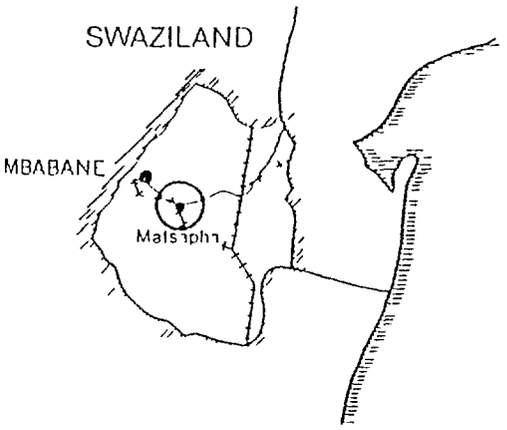
The internationally standardised radio navigation aid for civil aviation is VOR/DME There are currently only three VORs and two DMEs in Namibia Although this is basically in conformity with the ICAO Air Navigation Plan, the present number is not enough to provide navigation guidance to aircraft and to permit an efficient organisation of the airspace The proposal of the Plan is based on the structure and magnitude of aviation several years ago With the increase in aviation expected to develop after independence including to and from SADC Member States it will be necessary to establish VOR/DMEs along certain key air routes and to identify important entry/exit points of the controlled airspace

In order to determine the optimal location of the beacons it is necessary to update the existing navigation and airspace plan It is likely that at least three VOR/DMEs will be required

Status Funding sought

September 1994

SWA 4 05 Technical Assistance to the Civil Aviation Branch



Estimated Costs
Total USD 1 2 million
Foreign USD 1 1 million
Local USD 0 1 million

Funding Secured
Foreign USD 1 1 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Transport and Communications
Start 1993
Duration 3 Years

Objectives To strengthen and build up competence in the execution of functions related to the regulation of air transport flight safety security and air navigation services
To improve manpower skills through fellowships and training courses

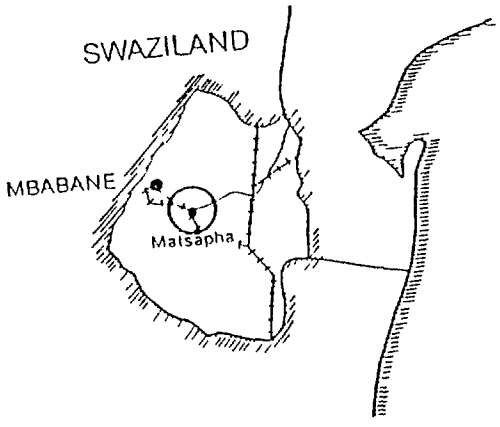
Description Technical Assistance will comprise

One Flight Operations Expert (Senior Commercial Pilot) to man the flight operations unit and establish operational procedures for the unit including defining the roles of operators and other external units in the flight safety work and training of a local counterpart (36 months)
One senior Air Traffic Services Instructor/Adviser to perform refresher courses training proficiency checks and performance evaluation of all air traffic services personnel He will be assigned to the head of the air traffic services division (12 months)
Short term experts in the fields of aviation laws and regulations, international conventions airport security general management etc (12 months)

Status Funding has been secured from ADB Tenders are issued and TA is expected to start in October 1993

September 1994

SWA 4 06 Development of Matsapha Airport



Estimated Costs
Total USD 15 0 million
Foreign USD 12 0 million
Local USD 3 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 3 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 12 0 million

Executing Agency
Ministry of Transport and Communications
Start 1994
Duration 6 Years

Objectives To develop Matsapha Airport in order to cope with projected future traffic demands and provide reasonable service levels

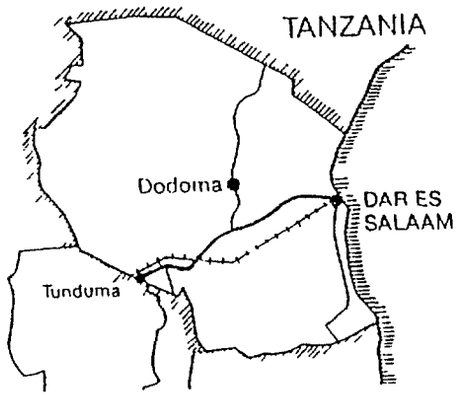
Description Development includes a new passenger terminal building with car parking area a new apron and taxiways a new cargo building and relocation of the fuel farm

The project comprises a detailed design phase and a construction phase The detailed design phase will also include the review of traffic projections and the assessment of a construction phase in stages The review will also discuss possibilities to reduce overall costs of the project The detailed design phase is estimated to cost USD 0 9 million while the construction supervision contract is estimated at USD 0 6 million Both items are included in the total cost estimate

Status Funding is sought for a staged implementation

September 1994

TAN 4 02 Technical Assistance to the DCA



Estimated Costs
Total USD 1 3 million
Foreign USD 1 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 3 million

Executing Agency
Ministry of Communication and Works
Start 1994
Duration 3 Years

Objectives To provide technical assistance to the Directorate of Civil Aviation (DCA) (i)in electronic engineering to assist in the procurement and installation of new equipment planned for Dar es Salaam FIR and to continue and conclude ongoing efforts to establish a preventive maintenance programme for existing and new equipment, and (ii) in flight operations to continue and conclude an ongoing institution building programme in this field The project also includes funds for short term consultants and for financing fellowships in the areas covered by the technical assistance

Description It is proposed that the technical assistance comprise the following experts

One Telecommunications/Navaids Equipment Specialist to assist the DCA's Air Navigation Services Division's engineering branch in implementing the preventive maintenance programmes formulated by previous specialists financed by UNDP/ICAO and by France He will also assist in preparing specifications and tender document, evaluating tenders and supervising the installation of new radio navigation aids and telecommunications equipment included in project TAN 4 04 Following implementation he will assist in instigating maintenance programmes for the new equipment
The specialist will be required for 36 man months

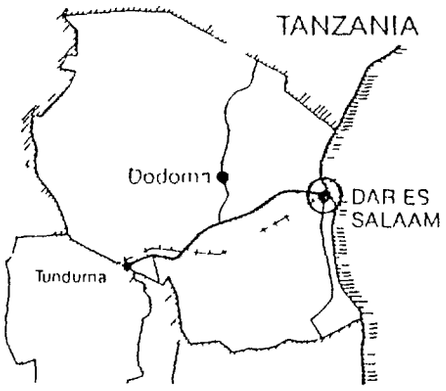
One Flight Operations Expert an experienced commercial pilot to train staff in the DCA's Flight Safety Division and to assist the DCA and the Consultants to be recruited under TAN 4 05 in the formulation of appropriate policies for the flight safety work, and the identification of an appropriate institutional structure and its manning This expert will be required for a period of 24 months

The technical assistance would be supplemented with funds to allow for the recruitment of consultants for short term assignments and to finance a fellowship programme for providing training abroad The fellowship programme would constitute an integral part of the training to be provided by the technical assistance experts and would be administered by them

Status Funding sought

September 1994

TAN 4 03 Dar es Salaam Airport Facilities Repairs



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency
Ministry of Communications and Works
Start 1994
Duration 1 Year

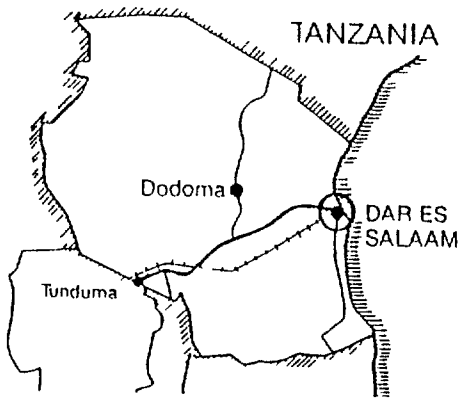
Objectives To repair the power supply system at the airport

Description The most serious unresolved problem at the airport is the unreliable power supply Voltage fluctuations in the mains supply are tripping the standby generators at frequent intervals and contributing to the difficulties being experienced with telecommunications navigation and other electronic equipment at the airport Three standby generators provide sufficient power for all the airport but the switchgear is wearing out from frequenct use and the airport is running out of spares Remedial action is needed urgently

Status Funding sought

September 1994

TAN 4 04 Telecoms and Navaids for Dar es Salaam FIR



Estimated Costs
Total USD 4 4 million
Foreign USD 4 2 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 4 2 million

Executing Agency
Ministry of Communications and Works
Start 1994
Duration

Objectives To provide telecommunications equipment for aeronautical fixed and mobile services, and replacement of old or unserviceable VOR/DMEs at Dar es Salaam, Kilimanjaro and Mbeya, and a new VOR/DME at Dodoma to ensure that the basic requirements for the ICAO Air Navigation Plan are met

Description The project comprises

Four HF transmitters/receivers for aeronautical mobile service

Spares for repair of VHF/ER equipment at Lolkisale Mtwara and Tabora

Replacement VOR/DME,s and ancillary equipmentat Dar es Salaam, Kilimanjaro and Mbeya

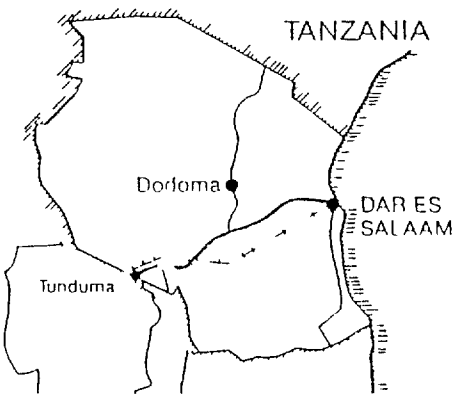
New VOR/DME together with ancillary equipment and all necessary site development at Dodoma

Replacement locator NDB at Dar es Salaam

Status Funding sought

September 1994

TAN 4 05 Study and Design of New Organizational Structure for Civil Aviation Sector



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 9 million

Executing Agency
Ministry of Communications and Works
Start 1994
Duration 1 Year

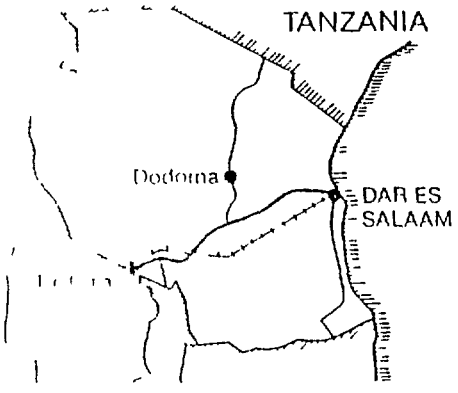
Objectives To provide consultancy services to the Ministry of Works and Communications (MOWC) (i) to prepare the preliminary design of a new organisational structure to replace the Directorate of Civil Aviation (DCA) and to be responsible for the operations of airports and air navigation services and to perform the regulatory functions in civil aviation in Tanzania (ii) to formulate operational policies for the new unit (s) proposed to be established and (iii) to propose a strategy and time schedule for the implementation of the new structure and policies

Description It is envisaged that the consultant's team would comprise one senior aviation expert one management and organisation expert one economist and one legal expert plus short term experts for accounting and specific aviation disciplines The staff would be expected to work closely with the DCA s staff and with the technical assistance experts provided under separate projects (see TAN 4 02) The total inputs is estimated at 40 man months and to cost USD 0 9 million The team leader for the project would report to the Permanent Secretary of the MOWC and the MOWC would make available the required office space and office support

Status Funding sought

September 1994

TAN 4 06 Upgrading of the Flight Calibration Unit



Estimated Costs
Total USD 7 0 million
Foreign USD 7 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 7 0 million

Executing Agency
Ministry of Communications and Works
Start 1994
Duration 2 Years

Objectives To upgrade the operations of the Flight Calibration Unit of the Directorate of Civil Aviation (DCA) to enable it to market cost effective services in the Region and other neighbouring countries

Description It is envisaged that the following inputs will be needed to upgrade the Unit

Technical Assistance on Flight Calibration Engineer for 3 years and one Navaids Maintenance Engineer for 2 1/2 years

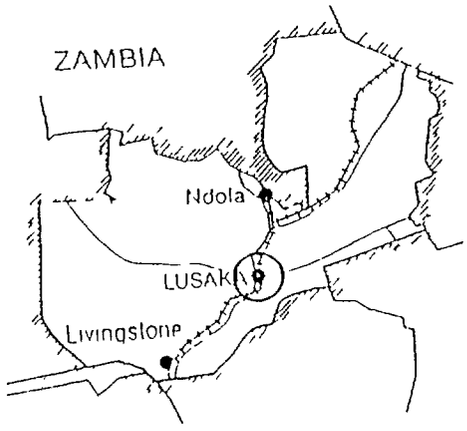
Fellowships amounting to about 100 months including training of navaids technicians at airports served by the unit

A new (turbo prop) aircraft expansion of the existing airborne calibration equipment and additiopnal equipment for the ground electronics laboratory

Status With financing from FINNIDA, ICAO will undertake a feasibility study for the development of the Unit (Development of the Tanzania Flight Calibration Unit for use by the SADC States)
The preliminary cost estimate is USD 7 0 million, almost all of which in foreign exchange The project and it priority are subject to the findings of the above mentioned feasibility study The project will be implemented by the DCA
Funding sought

September 1994

ZAM 4 07 Replacement of Lusaka Airport Airfield Lighting
(ZAM 2)



Estimated Costs
Total USD 2 6 million
Foreign USD 2 5 million
Local USD 0 1 million

Funding Secured
Foreign USD 2 5 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency

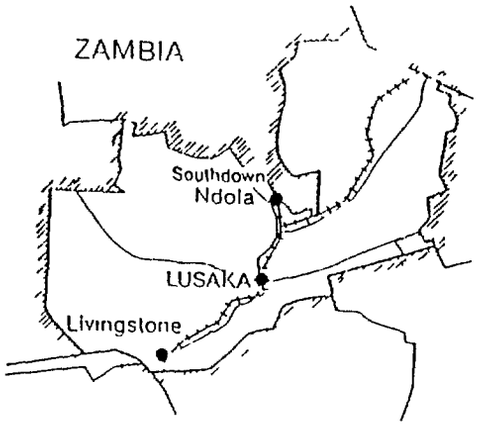
Start 1991
Duration

Objectives To replace the Lusaka Airport airfield lighting

Status Belgium is financing the project
Implementation is ongoing

September 1994

ZAM 4 08 Technical Assistance to NACL



Estimated Costs
Total USD 2 2 million
Foreign USD 2 0 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 0 million

Executing Agency
Department of Civil Aviation, Zambia
Start 1994
Duration 10 Years

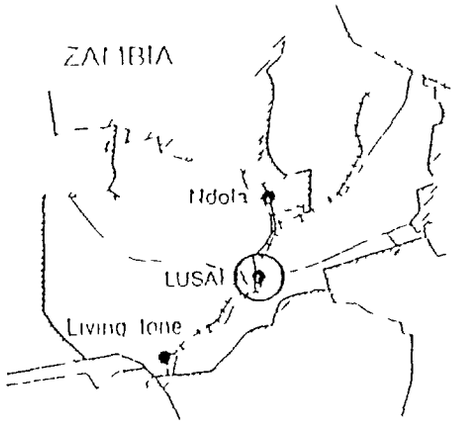
Objectives: To furnish NACL with technical assistance experts to strengthen and build up the maintenance operations capability of National Airports Corporation Limited The project also includes fellowships for both NACL and the Department of Civil Aviation (DCA)

Description: The project comprises three techncial assistance experts It is also proposed that the project should include funds to make it possible to recruit consultants for short assignments and to organise training abroad, where required, for staff working in the areas benefitting from the technical assistance The project is furthermore proposed to include funds earmmarked for staff of the DCA working in the areas of ATS telecoms operations and maintenance and aerodrome operations and maintenance

Status: Funding sought

September 1994

ZAM 4 09 Rehabilitation of Lusaka Airport Runway



Estimated Costs
Total USD 5 5 million
Foreign USD 3 3 million
Local USD 2 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 2 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 3 3 million

Executing Agency
Ministry of Power Transport and Communications
Start 1994
Duration 2 Years

Objectives To carry out the resurfacing of the main runway taxiways and the apron

Description The project comprises the following components

Resurfacing of the 1200 m section with a regulating course

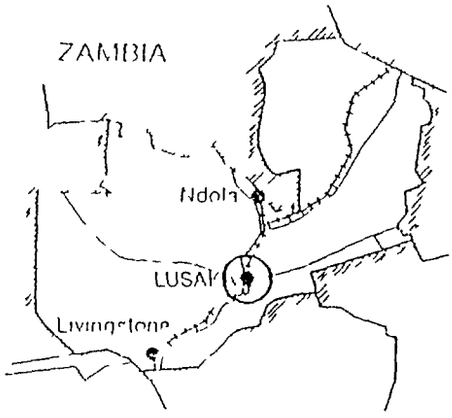
Resurfacing of the remaining asphalt section of runway

Consulting services for prequalification of contractors tendering tender evaluation and construction supervision

Status Funding sought

September 1994

ZAM 4 10 Telecoms and Navaids for Lusaka Airport and FIR



Estimated Costs
Total USD 4 0 million
Foreign USD 3 5 million
Local USD 0 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 3 5 million

Executing Agency
Ministry of Power Transport and Communications
Start 1994
Duration 3 Years

Objectives To provide aeronautical telecommunications and navigation aids necessary to provide adequate air navigation services in Zambia and communications with adjacent FIRs

Description The project will comprise of supply and installation of the following categories of equipment

1 NDB at Lusaka

4 x 1 KW HF transmitters and receivers for ATS/DS circuits to Beira Dar es Salaam Kinshasa and Luanda and AMS within the Lusaka FIR,

Teleprinters at Lusaka

Additional consoles at Lusaka

No break power supply at en route VHF station at Ndola

1 remote control air ground VHF transmitter/receiver at Mfuwe linked to Lusaka FIC/ACC

2 VORs at West Two and Kaoma for en route navigation

1 KW NDB at Kitwe for en route navigation

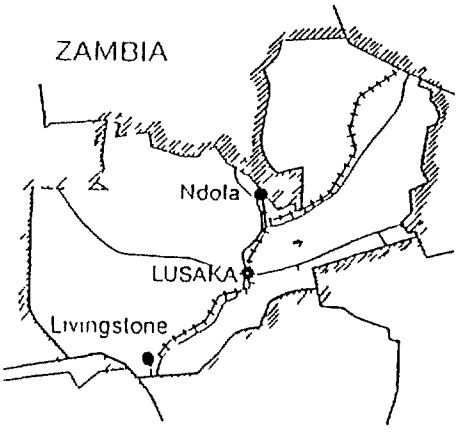
Training VOR

Spares training manuals tools and test equipment

Status ADB interested in funding feasibility study

September 1994

ZAM 4 11 Technical Assistance to ZASTI



Estimated Costs
Total USD 2 2 million
Foreign USD 2 0 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 0 million

Executing Agency
Ministry of Power Transport and Communications
Start 1994
Duration 5 Years

Objectives To provide techncial assistance to upgrade the training provided by the Zambia Air Services Training Institute (ZASTI) in airport operations and maintenance and air navigation services

Decsription The project prepared by ZASTI can be divided into (i) assistance for training in the operations and maintenance of airports and air navigation services, and (ii) assistance for aircraft related training Only the first part is included here

The assistance required for airport operations and maintenance and air navigation services includes

Telecomm/Navaids Maintenance Instructor for 36 man months

Aerodrome control simulator

Improvements to the telecomm/navaids laboratory and additional training equipment

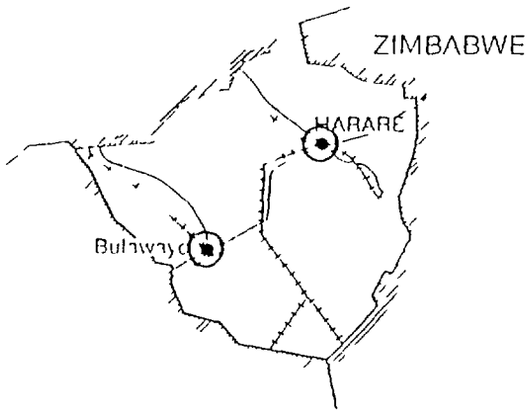
Rehabilitation of equipment in the telecommunications operations and meteorology laboratories

Fellowships for training in the following courses
search and rescue air traffic services instructor and meteorology

Status ADB interested in funding a feasibility study

September 1994

ZIM 4 04 Improvement and Expansion of Radar Coverage Zimbabwe



Estimated Costs
Total USD 24 0 million
Foreign USD 24 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 24 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Ministry of Transport
Zimbabwe
Start 1991
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 needed

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 automatic aircraft identification of transponder equipped aircraft

The project will include

(a) primary and secondary radar for Harare International Airport
(b) primary and secondary radar for Bulawayo Airport,
(c) a second dual channeel for Harare International Airport
(d) air traffic control simulator at Harare International Airport

(a) constitutes phase I of the project and (b) (c) and (d) is Phase II

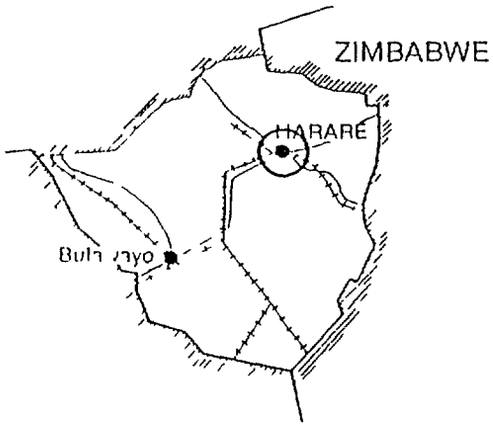
The total estimated project cost is USD 24 0 million

Status

Completed

September 1994

ZIM 4 05 Development of Harare Airport



Estimated Costs
Total USD 100 0 million
Foreign USD 30 0 million
Local USD 70 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 70 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 30 0 million

Executing Agency
Ministry of Transport

Start 1991
Duration 5 Years

Objectives To develop the Harare International Airport

Decsription Harare International Airport needs to be developed in order to

(a) improve aviation safety with the introduction of air navigation facilities

(b) improve airport capacity and achieve internationally accepted levels of service for passengers cargo and aircraft

(c) establish Harare International Airport as a gateway to the landlocked Zimbabwe and also as a main hub for the SADC region as a whole

The Study was completed in 1988, culminating in a Master Plan for Harare International Airport

Contract for recommended urgent works costing Z$36 5 million include apron extension catering, cargo and passenger terminal improvements was awarded
Works started in December 1990 and due for completion within 23 months
In Line with the development programme an Engineering Management Consultant has been appointed with main duties to design plan advise and coordinate the implementation of the development programme

Status Under implementation and expected to be completed in 1997

September 1994

Telecommunications

AAA 5 04 Implementation Plan for Regional Earth Station Connectivity Project

Estimated Costs
Total USD 16 9 million
Foreign USD 15 1 million
Local USD 1 8 million

Funding Secured
Foreign USD 3 8 million
Local USD 1 8 million

Funding Under Negotiation
Foreign USD 3 3 million

Financing Gap
Total USD 8 0 million

Executing Agency
SATCC

Start 1990
Duration 5 Years

Objectives 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

Description SADC 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

With the launching of Intelsat VI 335 5 Satellite (Oct 1989) and in accordance with the Intelsat Operational plans, the regions Earth Stations will be facing the same Satellite for regional connectivity Initial interconnectivity (1990 1992) is being realised through usage for conventional SCPC and FDM equipment at a total estimate cost of USD 200 000

The survey study undertaken through CIDA SATCC Technical Services Fund has 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	1 5
MOZAMBIQUE STDA	IDR/DCME/HPA/Digital link	3 2
SWAZILAND, STDB	IDR/DCME/LNA	2 0
TANZANIA, STDA	See Project TAN 5 03	
ZAMBIA STDA	IDR/DCME/Digital link	2 7
ZIMBABWE, STDA	IDR/DCME See Project TAN 5 08	1 3
	TOTAL	15 5

Status CIDA has financed the study survey under the auspices of SATCC Technical Services Fund
USAID is financing the drawing up of detailed technical specification being undertaken by GTE for Earth Stations in Lesotho Swaziland, Zambia and Zimbabwe
BTI has provided proprietary IDR equipment in Zimbabwe and Tanzania
Introduction of IDR equipment in Mozambique is on a planning stage, financed by France
Financing is sought for project implementation in Zambia Angola and Malawi

September 1994

AAA 5 05 Study on the Harmonization of Telephone and Telex Tariffs for the Sub Region

Estimated Costs
Total USD 0 3 million
Foreign USD 0 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 2 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 1 million

Executing Agency
SATCC

Start 1991
Duration 3 Years

Objectives 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

Description 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 undertook a study in consultation with the Administrations which determined

recommendations on the accounting rate standards and accounting rate division structure to be adopted in the SADC countries
the impact of current Sub regional alternative routing on the balance of payments between countries using the recommended accounting rates divisions,
as a follow up the 9th SATA Conference recommended a further study survey to determine the reduction in collection charges for intra SADC traffic in order to encourage the growth of regional traffic

The ITU recommendations on accounting rate standards and accounting rate divisions for the SATCC countries were adopted by Administrations
Further Administrations with effect from 1st April 1990 recommended adoption SKA (Sender Keeps All) accounting arrangements for intra SADC relations
The study on harmonization of collection charges for Intra SADC traffic undertaken by HN Engineering financed by the CIDA SATCC Technical Services Fund has been completed

Status Financing is required for further study on determination of extra SADC accounting rate standards and divisions

September 1994

AAA 5 06 Study on the Development of a Regional Manufacturing Strategy

Estimated Costs
Total USD 0 5 million
Foreign USD 0 5 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 3 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
SATCC

Start 1991
Duration 3 Years

Objectives 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 SADC 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 SADC 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 SADC industries

A pre feasibility study financed by CIDA recommended the requirement for detailed technical specification for telephone cables and mechanical products CIDA is to finance the follow up study
A pre feasibility study is required to determine the strategies for the manufacture of electronic products

Status CIDA financed the study on cables and mechanical aids
Financing is required for feasibility study on electronic products

September 1994

AAA 5 07 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 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 1 million

Executing Agency
SATCC

Start 1994
Duration 1 Year

Objectives Study to determine standardized maintenance procedures and schedules on the inter country PANAFTEL microwave links

Description 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 Financing is required to undertake the Study

September 1994

AAA 5 08 Regional Data Communication Programme

Estimated Costs
Total USD 8 5 million
Foreign USD 8 5 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 5 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 8 0 million

Executing Agency
SATCC

Start 1992
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 increase demand and need for advanced telecommunications and informatics services This demand necessitates the development of data switching networks Zimbabwe Project No ZIM 5 06 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 SADC 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 informatic services regionally

Status Belgium is financing the study
BETELCOM is conducting the study

September 1994

AAA 5 09 Study on Optimisation of Regional Switching and Signalling Facilities

Estimated Costs
Total USD 1 3 million
Foreign USD 1 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 3 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 0 million

Executing Agency
SATCC

Start 1993
Duration 2 Years

Objectives Identification of equipment and operational requirements to optimise the traffic handling capability of the regional network

Description The study will be undertaken to determine and make proposals for the following

The handling capability of the ITSC's in the SADC countries both for originating transit and terminating traffic

Grade of service between the ITSC's and links comprising the regional network and

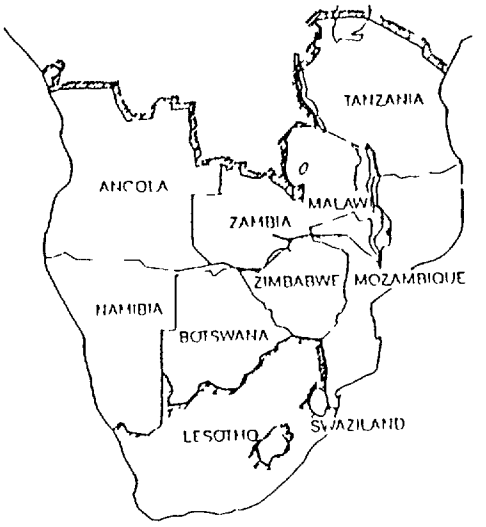
Extent of ISD automatisation in each country for the SADC regional traffic

INTECH through financing by SIDA Undertook a pre appraisal study and made recommendations, for feasibility study to determine improvement of present network, forecasting of future requirements, modification and expansion proposals and cost estimation for project implementation

Status The study has been carried out by Telecoms Australia Int , with funding from SATCC Australia Trust Fund
Financing is required for the implementation of project elements emanating from the study

September 1994

AAA 5 10 Study for Establishment of Regional Maintenance/Repair Workshops



Estimated Costs
Total USD 0 2 million
Foreign USD 0 2 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 1 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 1 million

Executing Agency
SATCC

Start 1990
Duration 4 Years

Objectives Provision of equipment for the optimization of existing repair centres and the establishment of regional repair centre/workshop in one of the SADC countries

Description The Study Survey will determine and make appropraite recommendations for

design model establisment and improvement of national and regional repair centres

quantity levels of essential spares for regional storage and for maintenace of the regional network

procedures to be adopted for repaired assemblies from site to the regional repair centres and

manpower development for repair centres staffing requirements

ITU/with funding from UNDP undertook a pre feasibility study on the establishment of a Regional Repair Centre

The study must be co ordinated with P AAA 5 03 study on the AXE 10 Repair Centre

Status Pre feasibility study on Regional Repair Centre undertaken by ITU Financing is required for project implementation

September 1994

AAA 5 11 Workshop/Seminar on Digital Synchronisation Planning

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
SATCC

Start 1992
Duration

Objectives To attain national, regional and international expertise in Synchronisation Planning in the introduction of digital equipment in the regional network and to to draw up a Synchronisation plan for the region

Description The digitalisation of the National Network in the SADC countries has already attained considerable range The introduction of IDR/DCME equipment in the Earth Station of the region has necessitated the need for the digital network to be Synchronised Synchronisation equipments is usually quite expensive and hence the need for harmonised and optimised synchronisation plan in the region which will also offer security to the availability of the network

The project will involve the provision of financial and technical assistance for

Carrying out a training session on Network Synchronisation Planning

Preparation of national Master Synchronisation Plans,

Preparation of a Co ordinated and harmonised Synchronisation Plan for the SADC countries

The Workshop/seminar will be attended by two participants from each SADC Administration

Status Financing was provided by Sweden and the study was undertaken by Intech from Norway
A Seminar was held in Windhoek July 1992 Financing will be required for implementation of recommendations emanating from the seminar

September 1994

AAA 5 12 Establishment of Network Management Control Centres

Estimated Costs
Total USD 0 3 million
Foreign USD 0 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 2 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 1 million

Executing Agency
SATCC

Start 1991
Duration 3 Years

Objectives To determine the establishment of Network Management Control Centres for the SADC Countries

Description Network engineered to handle normal traffic load become overloaded with large increase in customer ceeling Means must be provided for network surveillance and control for efficient network performance under the modest range of conditions

The project will consist of determining

- equipment requirements for NM facilities
- design and develop actional and regional Network Management centres
- develop communication networks between the centres for real time exchange of network data for co ordination of network control actions
- devise a regional organisation structure for the NM system
- propose a training programme for the operation of the system

Status Pre feasibility Study, Executive Seminar and Regional Workshops undertaken with funding from SATCC Australis Trust Fund

Financing is required for project implementation

September 1994

AAA 5 13 Study on Establishment of Satellite Land Based Mobile Service

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 3 million

Executing Agency

Start 1994
Duration 1 year

Objectives: To determine the viability for the establishment of Satellite Based Land Mobile System to provide facilities for transborder communication in the SADC Countries

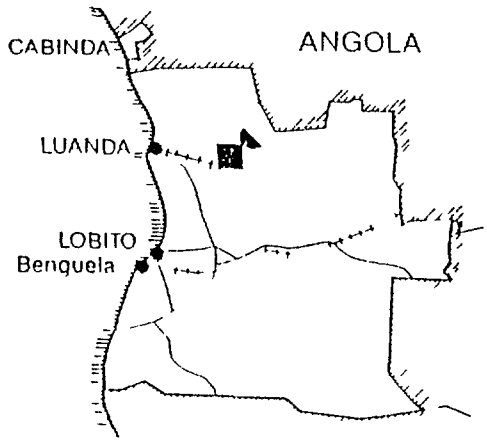
Description: The project will determine the technical parameters, network configuration and national regulatory policy issues for the establishment in the SADC Countries of Satellite Based Land Mobile Service for transborder communication in support of road/rail hauliers, ACIS etc taking into account

- Constraints due to HF Crossborder Communication
- transborder use of Land Mobile earth stations
- developments and actions at regional level to facilitate the transborder use of the service
- tariff structure to be adopted for the service
- training programme needed for the successfull implementation of the programme

Status: Financing is required to undertake the study

September 1994

ANG 5 01 Telecommunication Projects in the 10 Year Development Plan for Lobito Port Transp System



Estimated Costs
Total USD 42 4 million
Foreign USD 42 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 19 1 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 23 3 million

Executing Agency
Ministry of Transport and Communications Angola
Start 1992
Duration

Objectives Rehabilitation upgrading and provision of telecommunication facilities serving the Lobito Port Transport System and the interconnection to the SADC Countries Under the Ten Year Development Plan for the Lobito Port Transport System

Status A Techncial Co ordination Conference to discuss the plan was held in February 1989 NORAD has financed the rpovision of HF Radio Maritime Communications to Lobito Harbour and provision of link Luena (Angola) Zambezi (Zambia)

SIDA has financed the Technical Assistance to ENATEL and ADB has financed the Microwave Luanda Benguela and expansion of telex exchange

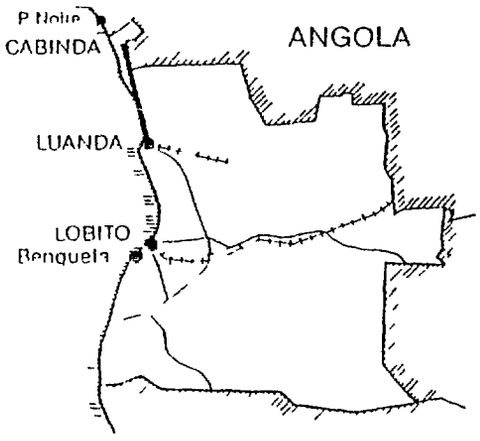
BTI (UK) has completed the Maritime Radio Communications Study The project has been rescoped

Financing is required to finance the other project elements

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
T M 1	Technical Assistance to ENATEL	2 5	2 5	0 0	2 5	0 0	0 0
T MC 1	Provision of HF Radio Maritime Communications to Lobito Harbour	0 8	0 8	0 0	0 8	0 0	0 0
T MC 2	Expansion of Maritime Communi cation Facilities	10 4	10 4	0 0	0 0	0 0	10 4
T PT 1	Microwave Link Benguela/Lobito Luau	11 4	11 4	0 0	4 4	0 0	7 0
T PT 2	Spur Routes along the Benguela /Lobito Luau Corridor	5 9	5 9	0 0	0 0	0 0	5 9
T PT 3	Extension/Rehabilitation of Switching & Outside Plant Along the Corridor	9 1	9 1	0 0	9 1	0 0	0 0
T PT 4	Rehabilitation of Troposcatter Link Malange Saurimo Luena Zambia	0 0	0 0	0 0	0 0	0 0	0 0
T PT 5	Microwave Link Luanda Benguela /Lobito	2 3	2 3	0 0	2 3	0 0	0 0
		42 4	42 4	0 0	19 1	0 0	23 3

September 1994

ANG 5 03 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 1 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 4 1 million

Executing Agency
Ministry of Transport and Communications Angola
Start 1994
Duration 4 Years

Objectives The project seeks to provide a large capacity microwave system from Luanda to Cabinda, as part of the PANAFTEL terrestrial network which will give SADC Countries access to the Central and Western African Subregion

Description Presently on the Panaftel section Luanda Cabinda a troposcatter system is in operation

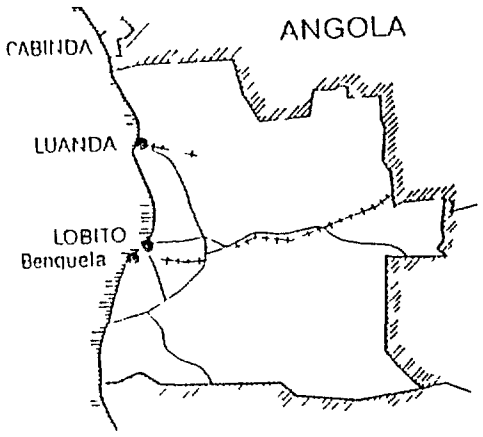
The project calls for the implementation of large capacity system consisting of about 8 hops The link will provide for the needs of the national regional and international traffic, giving also access to the Panaftel network of the western countries of Africa

Status At a preliminary planning stage Survey data and details of the link are required for preparation of technical specifications

Financing is required for project implementation

September 1994

ANG 5 06 Expansion of Telecommunication Training Centre, Angola



Estimated Costs
Total USD 21 5 million
Foreign USD 21 0 million
Local USD 0 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 21 0 million

Executing Agency

Start 1994
Duration 2 Years

Objectives The project consists of

a) upgrading and expanding the existing National Telecommunications Training Centre to combined ENATEL and EPIEL training school in order to provide the much needed skilled staff for the operation of the telecommunication network,

b) establishemnt of the Telecommunication Training Institute to provide the necerrary manpower skills to the electronic and telecommunication enterprises

Description a) The ENATEL 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 classroom 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 relation of the site to allow for the buildings expansion and extensions

b) This project is to be co ordinated with the proposed Telecommunications Training Institute to be establish in the country This part of the project involves

Provision of Technical Assistance for course and syllabus development and instructors for three years	USD 8 0 million
Construction of the Institute facilities	USD 12 0 million
TOTAL	USD 20 0 million

Status Financing is required for project implementation

September 1994

ANG 5 09 Provision of Digital Exchanges for Angola Development Programme (1990 2000)

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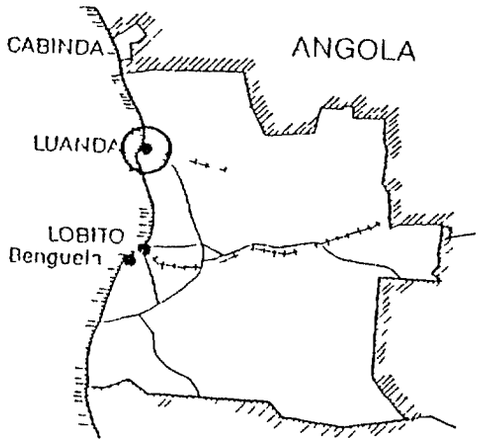


Estimated Costs
Total USD 70 0 million
Foreign USD 52 0 million
Local USD 18 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 18 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 52 0 million

Executing Agency
Empresa Nacional de Telecomu nicacoes (ENATEL)
Start 1993
Duration 10 Years

Objectives Provision of digital telephone switching equipment for national regional and international transit exchanges in Malanje Huambo Benguela, Lubango in order to provide high quality switching capacity along the PANAFTEL trunk network

Description Provision of digital exchange equipment and outside plant (local network) in each of the following national centres

	Estimated Exchange lines	Estimated Trunks	Estimated costs USD in million
Luanda	20 000	247	14 0
Malanje	6 000	100	4 0
Cabinda	3 000	8	3 0
Huambo *	15 000	110	8 0
Kuito *	3 500	23	3 5
Benguela *	13 500	80	9 0
Lubango	8 000	74	5 0
Ondjiva	1 000	10	1 5
Luena *	1 000	6	1 5
Namibe	3 000	18	2 5
Vije			

The project consists of the following components

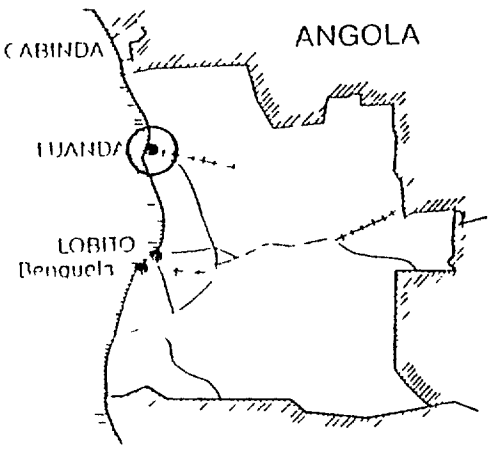
Technical assistance for drawing up of the detailed technical specification
Switching, power and Test equipment,
Installation commissioning and training

ENATEL will cover costs towards some civil works buildings and complementary projects

Status Financing is required for supply installation and commissioning of exchanges

September 1994

ANG 5 10 Provision of Domestic Satellite Network ANGOSAT for Angola



Estimated Costs
Total USD 70 0 million
Foreign USD 65 0 million
Local USD 5 0 million

Funding Secured
Foreign USD 16 0 million
Local USD 5 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 49 0 million

Executing Agency
Empresa Nacional de Telecomunicacoes
Start 1992
Duration 10 Years

Objectives Expansion of international, regional and national trunk telecommunication transmission systems which will enable Angola to improve its PANAFTEL and regional routes by provision of domestic satellite and terrestrial links

Description Domestic Satellite System (ANGOSAT)

This part of the project involves the provision of dedicated earth stations to national provincial centres initially (1990 1995) to Luanda Luena, Huila Lubango and establish circuits between these locations

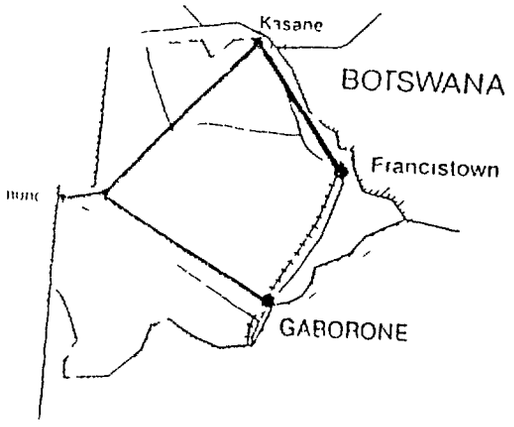
Terrestrial Links

Feeder terrestrial links from the national centres of Luena to Zambia, Benguela Lubango, Lubango Namibe Huambo Kuito, Vige Banza Congo, Mavinga Huambo, Malange Saurimo Saurimo Luena, Ndjiva to Namibia for the provision of interconnection to the SADC region, and possible provision of submarine cable along the Angolan Coastline

Status France has financed part of project
Additional financing is required for remaining part

September 1994

BOT 5 03 Expansion of the Microwave Trunk Network, Botswana (Phase 3)



Estimated Costs
Total USD 34 4 million
Foreign USD 28 4 million
Local USD 6 0 million

Funding Secured
Foreign USD 15 5 million
Local USD 6 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 12 9 million

Executing Agency
Botswana Telecommunications Corporation
Start 1992
Duration 3 Years

Objetives — To extend the Microwave Trunk Network with connections to neighbouring SADC Countries

Description — 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 PANAFTEL 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

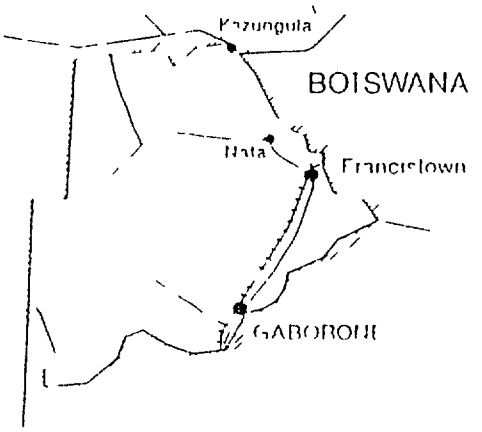
The provision of complementary telephone exchange equipment will be handled by the Botswana Telecommunications Corporation

Status — Norad has provided USD 15 5 million to finance part of the project Phase II was completed in early 1991 The portion of phase III Ghanzi Jwaneng microwave link is under implementation, with NORAD funding

Financing is required for implementation of remaining part of phase III

September 1994

BOT 5 05 Rural Telecommunications Development for Botswana



Estimated Costs
Total USD 9 3 million
Foreign USD 0 2 million
Local USD 9 1 million

Funding Secured
Foreign USD 0 2 million
Local USD 9 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Botswana Telecommunications Corporation
Start 1990
Duration 4 Years

Objectives The study seeks to determine and evaluate the technical and economic options for the development of rural telecommunications services throughout Botswana

Description 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 BOT 5 03 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 Study completed financed by ADB The study has been accepted by Botswana Government Botswana Telecommunications corporation is implementing the recommendations of the study, in that its development plans have activities similar to the study's recommendations

September 1994

LES 5 02 Rural Communication System Lesotho

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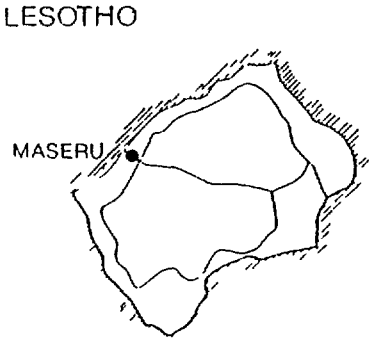


Estimated Costs
Total USD 10 0 million
Foreign USD 9 5 million
Local USD 0 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 4 8 million

Financing Gap
Total USD 4 7 million

Executing Agency
Lesotho Post and Telecommunication Corporation
Start 1993
Duration 3 Years

Objectives

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 scheudles 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

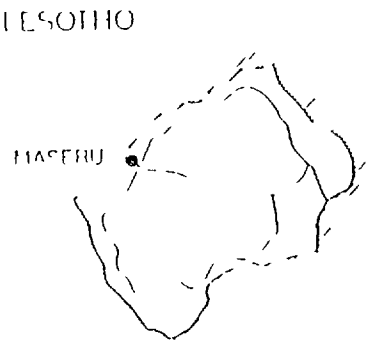
Status

Canadian International Development Agency has provided financing for the feasibility study under the auspices of the SATCC Technical Services Fund
Telletra of Spain has provided the technical and commercial offer for implementation

Financing is under negotiation with Spain for part of the project

September 1994

LES 5 03 Rural Automatic Telephone Exchanges Lesotho



Estimated Costs
Total USD 5 5 million
Foreign USD 5 0 million
Local USD 0 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 2 5 million

Financing Gap
Total USD 2 5 million

Executing Agency
Lesotho Post and Telecommunications Corporation
Start 1994
Duration 1 Year

Objectives 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

Status Financing is under negotiation with France for part of the project

September 1994

LES 5 05 Provision of New ITSC and Digitalization of Nationa' Exchanges Lesotho

- -

Estimated Costs
Total USD 23 3 million
Foreign USD 22 8 million
Local USD 0 5 million

Funding Secured
Foreign USD 3 3 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 19 5 million

Executing Agency
Lesotho Telecommunications Corporation
Start 1993
Duration 4 Years

Objectives Provision of new digital International Telephone Switching Centre to replace the existing combined Local / Exchange / National Transit / International exchange and the replacement of some manual and electromechanical exchanges with digital systems in order to extend ISD facilities

Description New Digital International Telephone Switching Centre
The current ITSC (AXEIO) 4096 local lines and 248 International Trunks is a combined International Exchange National transit and local exchanges for the Maseru area Due to the hybrid functions of the switch problems affecting the entiry network are more often experienced when new software facilities are introduced and hence the proposal for a new and separate stand alone ITSC to cater solely for international traffic with capacity of 500 International Trunks
Digitalization of Manual and Electromechanical Exchanges
Provision and installation of digital exchanges and associated trunk transmiossion equipment to replace the manual and obsolote electromechanical exchanges as follows

SITE	EXISTING TYPE	PLANNED CAPACITY (LINES)
Qacha's Nek	Electromechanical	640
Mapoteng	"	400
Mokho Hong	"	640
Morija	"	500
Van Royens Gate	"	400
Kukhune	Manual	640
Mantsonyane	"	400
Marakabei	"	256
Mpharane	"	180
Peka	"	500
Semonkong	"	256
Sekake	"	256
Sehlabathebe	"	180

The project components comprise

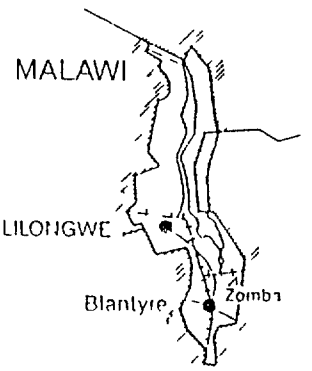
(i) Switching and associated trunk transmission equipment plus associated power and test equipment

(ii) Installation commissioning and training

Status Transmission equipment has been financed by France
Financing is required for both detailed definition and implementation of the project

September 1994

MAL 5 03 Supply of Digital Equip for the Expansion of Tele Exchngs in Blantyre Lilongwe Zomba



Estimated Costs
Total USD 28 0 million
Foreign USD 26 0 million
Local USD 2 0 million

Funding Secured
Foreign USD 26 0 million
Local USD 2 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Malawi Dept of Posts and Telecommunications
Start 1992
Duration 2 Years

Objectives Digitilization and expansion of the 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

Description Provision of digital exchange equipment in each of the following national centres

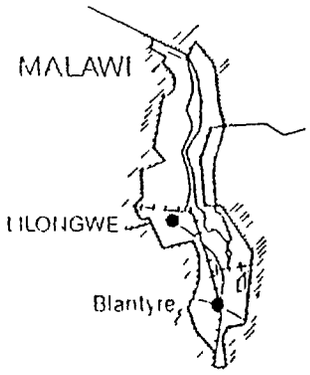
	Estimated Exchange Lines	Estimated Costs USD in Millions Total	Foreign	Local
PHASE I 1987 1990				
Blantyre	10 000	3 4	3 3	0 1
Implementation period 1989 1990				
Lilongwe	9 000	7 6	7 4	0 2
Implementation period 1988 1990				
Zomba	5 000	2 5	2 3	0 2
Implementation period 1988 1990				
PHASE II 1990 1996				
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 ADB has financed the project

September 1994

MAL 5 04 Expansion of Telecommunication Training Centre MPO Malawi



Estimated Costs
Total USD 5 0 million
Foreign USD 1 0 million
Local USD 4 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 4 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 0 million

Executing Agency
Department of Posts and Telecommunications MALAWI
Start 1991
Duration 3 Years

Objectives Provision of basic and medium level training facilities to meet Malawi's Manpower requirements for its expanding telecommunications network infrastructure

Description During the past few years the total basic level training needs have moe than doubled The existing buildings for classroom and equipment accommodation has been severely constrained and is insufficient

The project involves

Construction of buildings and associated accommodation and facilities for a maximum of 60 trainees

Training aids and test equipment for external plant subscribers apparatus switching and transmission maintenance

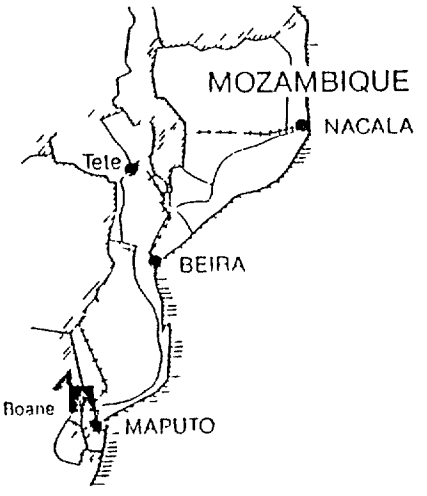
Staff training and fellowships in advanced telecommunicatio technologies

Malawi Department of Posts and Telecommunication is undertaking the construction of the building all the local costs of the project at a total of USD 4 0 millions

Status Financing is required for procurement of training aids, test equipment staff training and provision of fellowships

September 1994

MOZ 5 01 National/Regional Satellite Communication System of Mozambique



Estimated Costs
Total USD 44 1 million
Foreign USD 43 6 million
Local USD 0 5 million

Funding Secured
Foreign USD 43 6 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Telecommunications of Mozambique
Start 1984
Duration 10 Years

Objectives The project seeks to expand the international, regional and national trunk telecommunications transmission systems which will enable Mozambique to improve its PANAFIEL and regional connectivity

Description 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 SIDA was proposed for the Boane antenna There is further need for the introduction of IDR/DCME to comply with INTELSAT digitalisation of the Space Segment

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
France undertook study 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 (8 4 million) The domestic satellite earth stations in Maputo Beira and Nampula were comission in August 1986

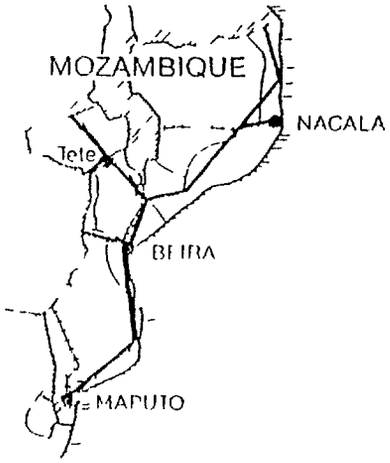
Part 2
Financing was secured from CIDA (USD 2 2 millions) The project was completed late 1987
This part of the project should be co ordinated with SATCC Project AAA 5 04
France will finance the provision of IDR/DCME equipment

Part 3
Feasibility study was undertaken by HN Engineering of Canada under the auspices of the SATCC Technical Services Fund CIDA (Canada) financed the domestic satellite stations at Lichinga and Pemba
France financed the study for the provision of domestic staellite stations to cover the rest of the country

France provided finance (108 MFF) for the implementation of the rest of the Domestic Satellite Stations

September 1994

MOZ 5 03 National Telecomms 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 125 2 million
Local USD 39 8 million

Funding Under Negotiation
Foreign USD 24 0 million

Financing Gap
Total USD 158 7 million

Executing Agency
Telecomunicacoes de Mozambique

Start 1985
Duration 10 Years

Objectives Expansion of the telecommunications system up to 1995 in order to provide switching and transmission capability to SADC countries

Description 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, the possible provision of Submarine Cable System along the Mozambique Coastline and the international extension Tete / Blantyre, Chimoio / Mutare tete / Katete Nampula / Mtwara

A number of plantsof the National Telecommunications Development Plan, which are related to the Beira Corridor have been extracted from the present project and group under the Project Moz 5 05 Telecommunication Projects in Beira Port Transport System Development Plan
Study Surveys 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
NORWAY	USD 6 0	million	grant

Implementation of projects for provision of equipment in Phase I is at various stages of completion

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 Beira been finalised with Germany

Phase II and Phase III (1987 1994)

Financing is being sought for the implementation of this part of the project CIDA, under the SATCC Technical Services 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

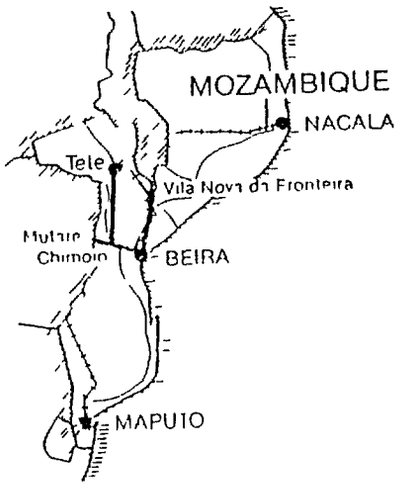
NORAD has financed the microwave link Harare Tete Blantyre Installation completed in 1989

Feasibility study for the provision of Submarine Cable System along the Mozambican Coastline, has been financed by KFW (Germany)

Financing will be required for implementation of the projects emanating from the study

September 1994

MOZ 5 05 Telecommunication Projects in Beira Port Transport System Development Plan



Estimated Costs
Total USD 20 2 million
Foreign USD 18 3 million
Local USD 1 9 million

Funding Secured
Foreign USD 1 0 million
Local USD 1 9 million

Funding Under Negotiation
Foreign USD 0 0 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

Description The National Telecommunication Development Plan of 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 MOZ 5 01 and MOZ 5 03

The following projects will complete the System ensuring also a proper operation of the plants

For details see Beira Port Transport System 10 Year Development Plan

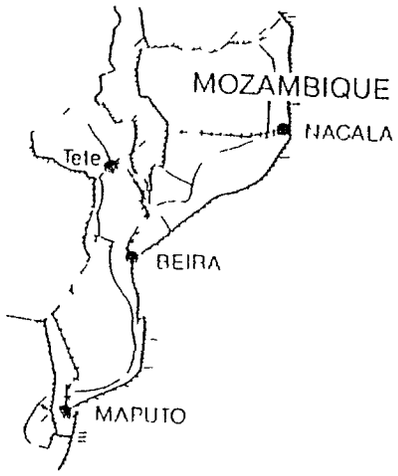
Technical Assistance to TDM is being provided by SIDA

Status NORAD 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

Subprojects Included in Programme		Cost Total	For'n	Local	Funding Secu	Nego	Gap
T CE 1	Spur Routes Beira Machipanda Mozambique	3 7	3 3	0 4	0 4	0 0	3 3
T CE 2	Crossborder Section of the Beira Chimoio Mutare Digital Microwave Link	0 9	0 9	0 0	0 9	0 0	0 0
T CE 3	Digital Microwave Link Beira Caia Tete, Mozambique	8 7	7 8	0 9	0 9	0 0	7 8
T CE 4	Spur Routes along Beira Vila Nova da Fronteira Malawi Corridor	6 3	5 7	0 6	0 6	0 0	5 7
T TA 1	Technical Assistance to TDM, Mozambique	0 6	0 6	0 0	0 1	0 0	0 5
		20 2	18 3	1 9	2 9	0 0	17 3

September 1994

MOZ 5 06 Maritime Radio Communication Project, Mozambique



Estimated Costs
Total USD 9 5 million
Foreign USD 9 0 million
Local USD 0 5 million

Funding Secured
Foreign USD 0 3 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 2 6 million

Financing Gap
Total USD 6 1 million

Executing Agency
Telecomunicacoes de Mozambique

Start 1987
Duration 8 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

Description 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

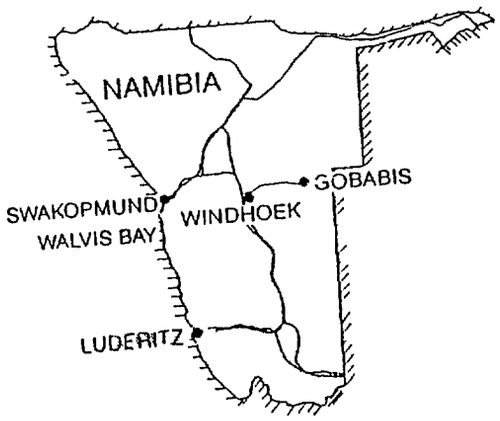
evaluation of the project in respect of the requirements and considering the existing facilities
preparation of the tender documents and evaluation of the proposals
supervision of the implementation of the contract
training
technical assistance

Status Existing Equipment Survey completed by Norway
Italy financed the feasibility study

Financing is sought for financing the projects emanating from the study

September 1994

NAM 5 01 Extension of International Telecommunications Services
Namibia



Estimated Costs
Total USD 14 5 million
Foreign USD 13 5 million
Local USD 1 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 1 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 13 5 million

Executing Agency
Telecom Namibia

Start 1994
Duration 2 Years

Objectives To improve international connectivity, diversity and a reduction of the level of reliance and financial out payment for transit through South Africa for international services

Description All international services to and from Namibia are switched through South Africa international gateway exchanges and satellite earth stations via the single analogue microwave link from Windhoek to Upington
The project consists of the provision of technical assistance and consulting services for feasibility studies detailed techncial specifications and implementation of the following

1 0 Standard A satellite earth station in Windhoek equipped with IDR/DCME equipment and SCPC circuits to work to Germany America Britain Zambia and Angola via Intelsat AOR 335 5 satellite
2 0 Digital backhaul link from earth station to gateway exchange
3 0 International EWSD telephone gateway exchange in Windhoek with CCITT No 5, No 7 and R2 (blue book) signalling capabilities
4 0 International EDX telex gateway exchange in Windhoek

Status A basic site determination survey has been done by ITU to determine a suitable site near Windhoek for a Standard A satellite earth station
Preliminary traffic counts have been used to determine the following circuit requirements

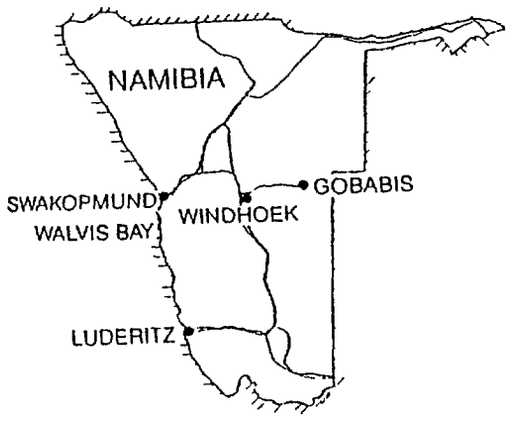
Europe	49 i/c	38 o/g
Britain	36 i/c	28 o/g
America	18 i/c	22 o/g
Zambia	13 i/c	12 o/g
Angola	4 i/c	3 o/g

The gateway exchange shall terminate the foregoing satellite traffic as well as 1400 analogue channels to other Namibian exchanges 1400 to South Africa and 34Mbit/s to Botswana into the Panaftel Network

Financing is now required to implement this project

September 1994

NAM 5 02 Telecommunications Master Plan Study, Namibia



Estimated Costs
Total USD 3 7 million
Foreign USD 3 6 million
Local USD 0 1 million

Funding Secured
Foreign USD 3 6 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Telecom Namibia

Start 1993
Duration 2 Years

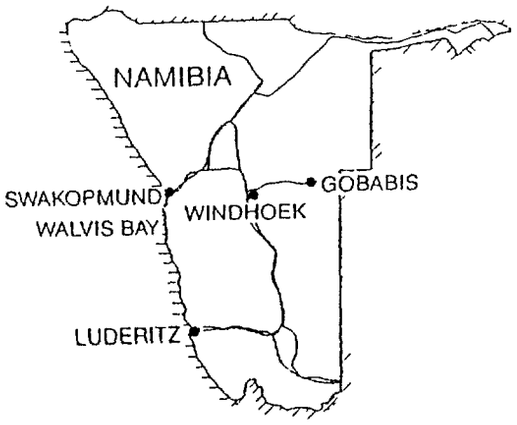
Objectives To preparatio of a long Range Master Plan (1991 2011) for the development of the national telecommunications structure to operate as a public corporation and the setting up of the Planning Unit

Description
1 1 Transformation into a Public Corporation
1 1 1 Study and report on the most effective way in which to create a Posts and Telecommunications Corporation
1 1 2 Prepare all the required legislation for incorporation
1 1 3 Assist DOPAT with the transformation to a PTC by training personnel putting financial and service structures in place and assisting with the transition phase
2 1 Preparation of a Master Plan including
2 1 1 Fundamental Plans for switching numbering routing signalling
2 1 1 Fundamental Plans for switching, numbering, routing, signalling, synchronisation and transmission,
2 1 2 Traffic, tariffs and subscriber forecasts,
Development and Investment Plans for short, medium and long term manpower and training requirements
2 2 Identify and define expansion projects to meet
technical and economic guidelines of the national network,
the financial and economic viability of the Posts and Telecommunications Corporation
2 3 Set up Fundamental Planning Unit to undertake the periodic updating of the following
2 3 1 demand traffic and economicanalyses,
2 3 2 investment plans preparation and project identification
2 4 Study the economic financial and management viability of separate posts and telecommunications companies

Status SIDA financed the study and implementation of the establishment of Telecom Namibia separated for Postal

September 1994

NAM 5 03 Extension of Backbone Trunk Network Namibia



Estimated Costs
Total USD 32 0 million
Foreign USD 30 0 million
Local USD 2 0 million

Funding Secured
Foreign USD 3 7 million
Local USD 2 0 million

Funding Under Negotiation
Foreign USD 11 0 million

Financing Gap
Total USD 15 3 million

Executing Agency
Telecom Namibia

Start 1994
Duration 5 Years

Objectives To extend high capacity digital transmission for interconnection to the north and east of the country with interconnection to Panaftel links to the neighbouring countries and provision of automatic switching and ISD facilities for national regional and international services

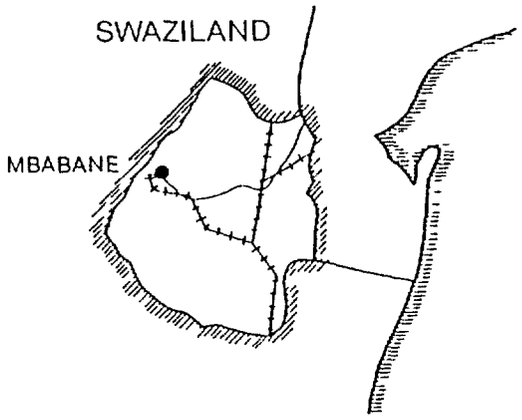
Decsription The project involves the

1 Supply, installation and commissioning of equipment identified through the detailed definition and determination of the following
1 1 Digital trunk connection to Botswana through Gobabis with associated spurs and telephone exchanges at Windhoek International Airport, Omitara Witvlei Gobabis Buitepos and the farming community along the route
1 2 Digital link Tsumeb to Rundu with a spur to Tsumkue in Bushmanland extension to Katima Mulilo and a spur to Botswana
1 3 Associated digital EWS telephone exchanges at Tsumeb Rundu Tsumkwe and later at Katima Mulilo and Grootfontein
1 4 Digital microwave link from Keetmanshoop to Luderitz to serve the fishing and mining activities at this port
2 1 Technical assistance for drawing up detailed technical requirements and specifications for above project elements

Status Financing is required for implementation of all these project elements Norway is to finance the Namibia Botswana Microwave Link Belgium is financing part of the project, 130 million BEF

September 1994

SWA 5 05 Extension of Nat Switching Centre and Associated Network Digitalization Swaziland



Estimated Costs
Total USD 12 0 million
Foreign USD 10 0 million
Local USD 2 0 million

Funding Secured
Foreign USD 10 0 million
Local USD 2 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Swaziland Posts and Telecommunication Corporation
Start 1992
Duration 3 Years

Objectives Provision and digitalization of new regional / national transit switching centres and associated remote exchanges with ISD facilities to replace the present trunk switch which is congested and obsolete

Description The project involves the supply installation and commissioning of digital switching and associated trunk transmission equipment as follows

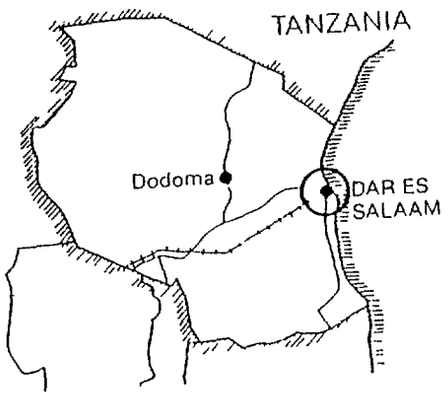
Switching	Estimated Exchange lines	Type	Estimated Cost USD millions
Mbabane	2048	Transit/Local	6 5
Bhunya	256	Local	
Malkerns	512	Local	
Manzini	1024	Transit/Local	
Ngwenya	512	Local	
Radio and Transmission Six links 2 MBits and 34 MBits			1 0
Cables for local network			1 7
Consultancy and Logistics			0 8

Detailed survey of requirements and technical specification is necessary before proceeding to the implementation stage

Status Financing has been secured and project under implementation

September 1994

TAN 5 02 Extension of ITSC Capacity and Associated Telephone Exchanges
Dar es Salaam Tanzania



Estimated Costs
Total USD 100 2 million
Foreign USD 90 9 million
Local USD 9 3 million

Funding Secured
Foreign USD 6 2 million
Local USD 9 3 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 84 7 million

Executing Agency
Tanzania Posts & Telecommuni
cations Corporation
Start 1991
Duration 5 Years

Objectives Provision of a new digital international telephone Switching Centre national transit centre and associated replacement rehabilitation and expansion of telephone exchanges and local networks 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 and the traffic handling capability of the network

(ii) allow expansion of PANAFTEL terrestrial circuit groups with neighbouring SADCC countries and improve calling facilities through the introduction of international subscriber dialing (ISD)

Description The Dar es Salaam telecommunication Network which constitute 43/ of the total national network consists of old obsolete step by step and crossbar equipment which create traffic congestion and is not capable of expansion to meet future demand due to non availability of spares for maintenance and extension

Tanzania Posts and Telecommunications Corporation proposes as a first priority to extend and rehabilitate the ITSC national transit and three local exchanges in Dar es Salaam and associated local network

The first phase of the project involves the supply installation and commissioning of digital exchange and associated power and transmission equipment as follows

Exchange	Existing capacity	Estimated trunks	Lines
ITSC	150(Crossbar)	2 000	
National/Local Transit		3 000	2 000
3 x Local Exch	4 600	2 490	8 000
External Plant (cable etc)			240 000 p/K

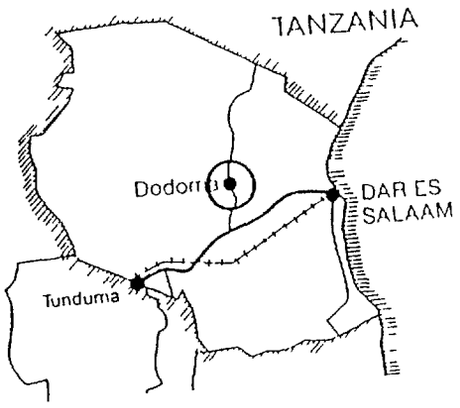
The ITSC in Dar es Salaam has been commissioned
However a detailed survey and technical specif cation for the whole Dar es Salaam exchange requirements including local network is necessary before proceeding to the implementation stage

Status Belgium has financed ITSC and other exchanges

Financing is required for the turnkey rehabilitation and extension of the remaining portion of the project

September 1994

TAN 5 04 New Transit Digital Telephone and Telex Exchanges for Dodoma
Tanzania



Estimated Costs
Total USD 2 8 million
Foreign USD 2 5 million
Local USD 0 3 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 3 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 5 million

Executing Agency
Tanzania Posts and Telecom
munications Corporation
Start 1994
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 TAN 5 05 The exchange has to interconnect with the new international exchange in Dar es Salaam Project TAN 5 02

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

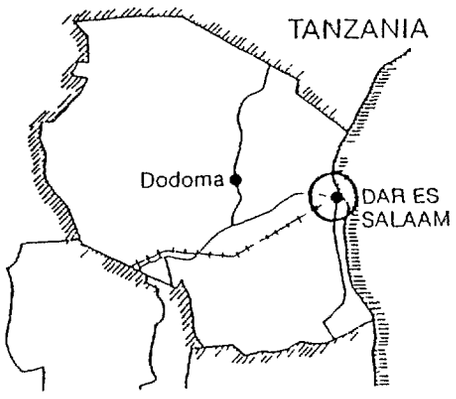
The new switch will serve subscribers in Dodoma Mwanza Arusha Mbeya and also be capable of routing regional and international telex messages on the PANAFTEL routes through Dodoma

The project will include supply and installation all relevant spares and test equipment and training for operations and maintenance staff

Status Financing is required for implementation of the project

September 1994

TAN 5 05 Digital Microwave Link Dar Dodoma Zanzibar and Exp of Multiplex Equip at Dodoma



Estimated Costs
Total USD 25 7 million
Foreign USD 25 2 million
Local USD 0 5 million

Funding Secured
Foreign USD 25 2 million
Local USD 0 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Tanzania Posts and Telecom
munications Corporation
Start 1993
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 involve 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 Morogora 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

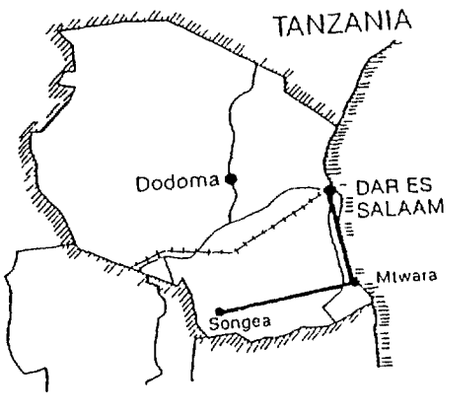
to determine the existing and projected traffic,
to determine the equipmenttypes currently in use on these microwave systems
to define an overall multiplex plan
to determine the availability and cost of suitable multiplex equipment
to work out an implementation plan

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	Telletra has undertaken a survey of requirements for the provision and installation of equipment in collaboration with Tanzania Posts and Telecommunications Corporation

September 1994

TAN 5 07 Provision of Digital Microwave Link Dar es Salaam Mtwara Songea and Exchange at Songea



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
Foreign USD 0 0 million

Financing Gap
Total USD 30 0 million

Executing Agency
Tanzania Posts and Telecom
munications Corporation
Start 1994
Duration 3 Years

Objectives

The project aims to provide telecommunication services for PANAFIEL link along the coast to Mozambique and into the Southern Corridor consisting of

PART I
a new digital microwave link from Dar es Salaam south along the coast to the port of Mtwara

PART II
a new digital microwave link from the port of Mtwara to Songea into the PANAFIEL network and
a combined digital transit and local exchange at Songea for traffic routing from this new link into the PANAFIEL network

Description

PART I

Telephone trunking between the Mtwara area and Dar Es Salaam is presently provided by 120 channel troposcatter system Songea 500 Km to the east of Mtwara will be connected to the North South network by a 2 ghz 960 channel microwave system

PART II
A new digital exchange is proposed for Songea to replace the existing manual exchange Transmission systems from other comunities in the area centre on Songea and hence the switch be equipped for both transit and local traffic in order for the Mbwara Songea Link to interconnect with the North South PANAFIEL system

The proposal is to provide a new digital microwave system to link Dar Es Salaam Mtwara and Sogea and thence from Songea to the main Noth South PANAFIEL system and also from part of the PANAFIEL network to interlink with Mozambique

A survey of the proposed microwave routes with the analasys has been completed by the Tanzania Posts and Telecommunications Corporation A traffic analysis for the System has been conducted as part of the national traffic survey The proposal is for 34 Mbit digital microwave system

Status

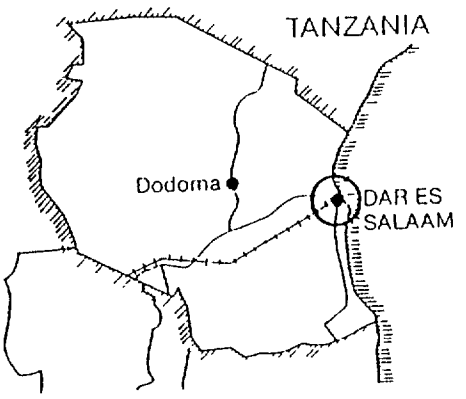
PART I

Financing is being sought for the propagation study survey for the Dar es Salaam Mtwara Link and the envisaged projects wich will be developed from the study

PART II
Financing is required to provide a digital exchange at Songea and the interconnecting Mtwara Songea 34 MBit digital microwave link

September 1994

TAN 5 08 Provision of Digital Exchanges, Tanzania



Estimated Costs
Total USD 44 1 million
Foreign USD 40 5 million
Local USD 3 6 million

Funding Secured
Foreign USD 24 8 million
Local USD 3 6 million

Funding Under Negotiation
Foreign USD 5 5 million

Financing Gap
Total USD 10 2 million

Executing Agency
Tanzania Posts and Telecom
munications Corporation
Start 1991
Duration 3 Years

Objectives Provision of digital exchanges to extend ISD facilities for national regional and international traffic

Description The existing switching network in Tanzania consits of old strowger and cross bar analogue systems which in most cases is absolete and difficult to find spares for maintenance and repairs It comprises of 181 analogue local exchanges, of which 144 are manual and 37 are automatic The total installed capacity is 78 000 lines with about 60 000 connected subscribes There are 74 000 waiting applicants due in most cases to lack of line plnnt

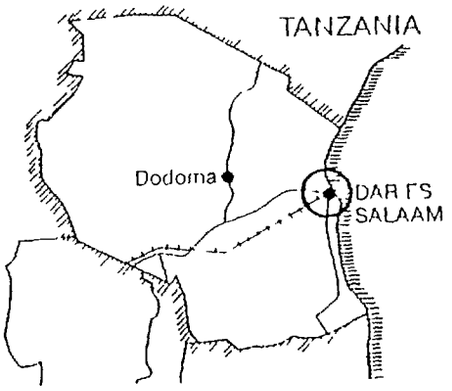
The project consists of the extension rehabilitation of outside plant and provision of new digital exchanges with automatic ISD facilities to the following Tertiary Centres

Exchange	Planned Capacity	Estimated Costs in millions USD Local	Foreign
Zanzibar	6 400	0 6	6 3
Arusha	7 200	0 6	6 3
Dodoma	8 700	0 2	7 1
Mwanza	13 800	1 2	11 6
Mbenya	6 000	0 5	5 8
Morogoro	3 200	0 5	3 4

Status Additional financing is required for drawing up technical specification and project implementation

September 1994

TAN 5 09 Rehabilitation of Trunk PENAFTEL Links TANZANIA



Estimated Costs
Total USD 20 9 million
Foreign USD 18 9 million
Local USD 2 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 2 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 18 9 million

Executing Agency
Tanzania Posts and
Telecommunications Corporation
Start 1994
Duration 3 Years

Objectives Extension and rehabilitation of the digital backbone PANAFTEL links to provide high quality traffic to national, regional and international centres

Description Performed of the existing backbone analogue transmission network is very poor and congested due to aging of equipment under dimensioning and non availability of spares for maintenance and operations

The project consists of supply installation and commissioning of equipment for rehabilitation and extension programme of the North South and East West trunk network as follows

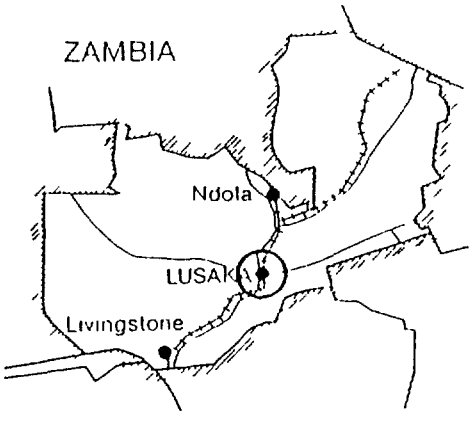
	Cost Estimate Forex USD millions
140 MBTIS digital links Dodoma Arusha Moshi to the north	4 2
140 MBTIS digital links Dodoma MBEYA Sumbawanga to the South	6 9
140 MBTIS digital links Dodoma Mwanza Nyamanyama to the West	7 2
With 34 BTIS and 8 MBTIS Spurs for Mosh Mkuu and Moshi Mwanga respectively	
provision of technical assistance for drawing up of technical specification	0 1
training of technicians who will be operating and maintaining the system	

TPIC will provide complementary civil works and buildings

Status Financing is required for project implementation

September 1994

ZAM 5 01 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
Foreign USD 2 5 million

Financing Gap
Total USD 0 0 million

Executing Agency
Zambia Posts and Telecommunications Corporation
Start 1994
Duration 2 Years

Objectives 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

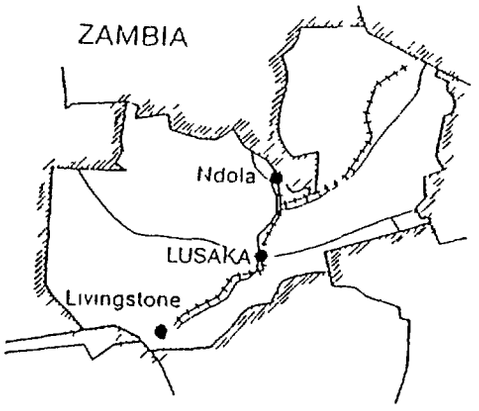
Interworking equipment for ITMC and other digital and analogue exchanges will also be required

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 SIDA (SWEDEN) has shown interest to finance the extension and modification of the AXE 10 ITSC

September 1994

ZAM 5 02 Expansion of the Earth Station at Mwembeshi Zambia



Estimated Costs
Total USD 11 1 million
Foreign USD 9 1 million
Local USD 2 0 million

Funding Secured
Foreign USD 7 1 million
Local USD 2 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 0 million

Executing Agency
Zambia Posts & Telecommunications Corporation
Start 1989
Duration 5 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 (Mwambeshi II) antenna facing AOR primary satellite with SCPC and CFDM carriers

PHASE II

Provision of IDR/DCME equipment in Mwembeshi II This part of the programme should be co ordinated with SATCC Project AAA 5 04

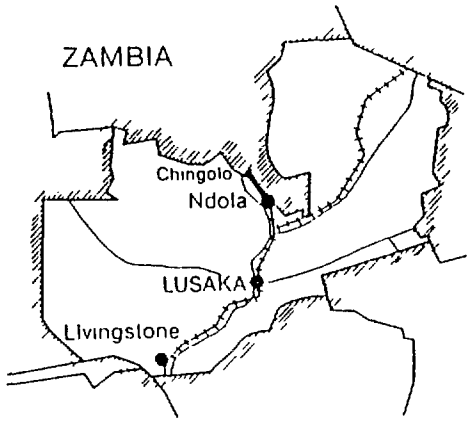
provision of new transmitting and receiving carriers FDM and CFDM for the existing standard A antenna (Mwembeshi I) facing IOR primary satellite, and also refurbishing of the antenna

provision of new high capacity digital Microwave backhaul link from Mwembeshi to the LUSAKA International Terminal Equipment Station

Status Canada has financed Phase I for Mwembeshi II
Financing is required for provision of IDR/DCME equipment as per P AAA 5 04

September 1994

ZAM 5 03 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
Posts and Telecommunications Corporation
Start 1994
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 SADC 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

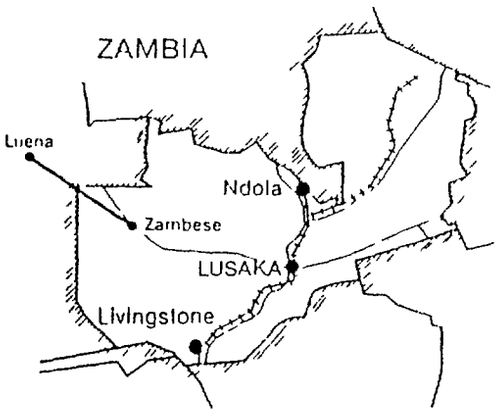
Technical specifications for the 960 channel microwave radio system has been prepared by ITU A bilateral project agreement was signed late 1985 between Zambia and Zaire

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 SADC countries

Status Financing is required for project implementation

September 1994

ZAM 5 04 Microwave Link Zambezi Luene 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
Foreign USD 3 8 million

Financing Gap
Total USD 0 0 million

Executing Agency
Posts and Telecommunications Corporation Zambia
Start 1994
Duration 2 Years

Objectives The project aims to provide a microwave radio relay system between Zambia and Angola which will improve access of SADC 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

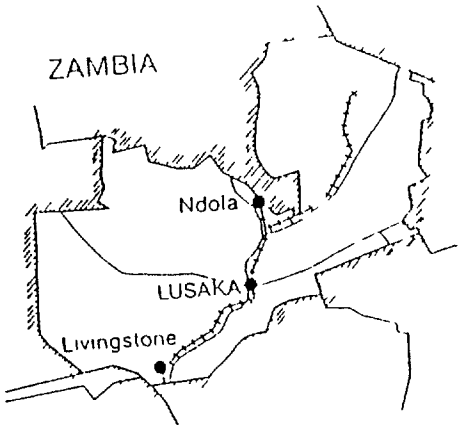
Status On the Zambia side the network expansion programme in the north western areas provides high capacity 960 channel microwave link up to Zambezi funded by NORAD

Angola is in the process of expanding the national network with microwave and domestic satellite systems up to Luena see project ANG 5 10

Financing is required to finance the provision of large capacity microwave radio system between Luena and Zambezi NORAD has shown interest in financing the project Decision postponed due to the security situation

September 1994

ZAM 5 06 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 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 1 6 million

Financing Gap
Total USD 0 0 million

Executing Agency
Posts and Telecommunications Corporation, Zambia
Start 1994
Duration 2 Years

Objectives Provision of microwave system between Zambia and Zimbabwe, linking directly Harare and Lusaka having also capacity for the future terrestrial traffic Mozambique Zambia

Description 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

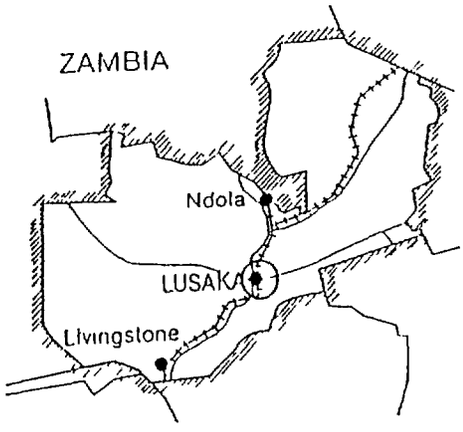
Currently there is a 120 Channel UHF radio link operating between Lusaka and Siavonga and no civil works are involved A 300 Channel system has been installed between Kariba and Harare at the Zimbabwean end

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 Italy has shown interest to fund the project

September 1994

ZAM 5 09 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 4 million

Executing Agency
Posts and Telecommunications Corporation, Zambia
Start 1994
Duration 2 Years

Objectives 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

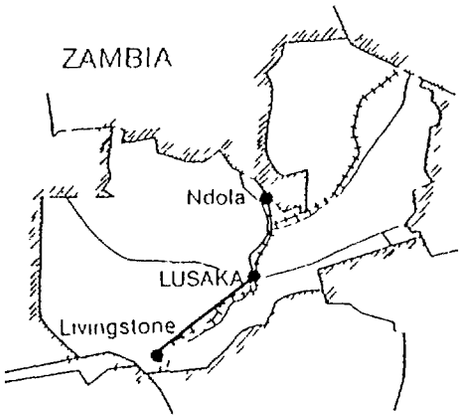
(3) Set up a Fundamental Planning Unit whose functions should include following activities

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

September 1994

ZAM 5 10 Upgrading Lusaka Livingstone and Southern Ring Microwave Trunk Network Zambia



Estimated Costs
Total USD 18 0 million
Foreign USD 17 0 million
Local USD 1 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 1 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 17 0 million

Executing Agency
Zambia Posts and Telecommunications Corporation
Start 1994
Duration 2 years

Objectives Upgrading and digitalization of the main Lusaka Livingstone PANAFTEL microwave trunk network to provide high quality transmission capability for national regional and international traffic through to Zimbabwe Botswana and Namibia

Description The existing 960 channel analogue microwave radio system is old and channel capacity is approaching saturation in the transmission of national, regional and international traffic The system carries the main PANAFTEL traffic to Zimbabwe Botswana as well as the intermediate national traffic

Currently the multiplex part of the link is being upgraded by NORAD to allow limited growth of channel capacity for international and regional traffic
The system is also planned to complete the Souther Trunk Network Ring (Livingstone Sesheke Mongu) with PANAFTEL extension to Namibia via Sesheke
The project consists of

Phase I

140 MBit digital radio equipment with appropriate spurs along the route
Expansion of power housing and associated facilites
Provision of spares test equipment and training of maintenance technicians

Phase II

34 MBit Digital radio equipment with associated spur along Livingstone Sesheke Mongu link

34 MBit Digital radio equipment extension for the PANAFTEL link through Sesheke to Namibia

Provision of associated Rural exchanges external plant power test equipment and spares

A detailed propagation survey and technical specification of requirements is necessary for project implementation

Status Financing is required for project implementation

September 1994

ZIM 5 07 Supply of Digital Telephone Exchanges in Zimbabwe

Estimated Costs
Total USD 68 0 million
Foreign USD 62 9 million
Local USD 5 1 million

Funding Secured
Foreign USD 47 5 million
Local USD 5 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 15 4 million

Executing Agency
Posts and Telecommunications Corporation, Zimbabwe
Start 1988
Duration 7 Years

Objectives 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

Description Provision of digital telephone exchange equipment in each of the following regions

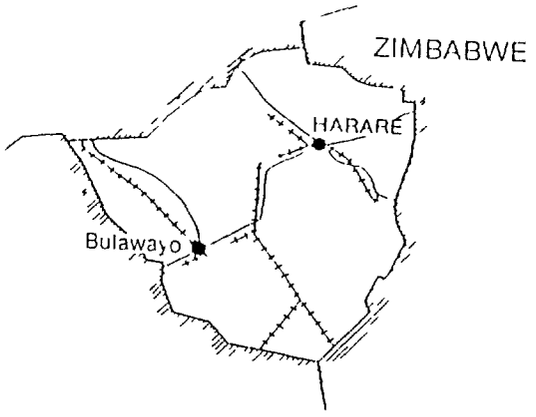
Phase I, 1987 1992	
Mashonaland/Manicaland	65 000
Implementation period 1991 1992	
Matabeleland	10 000
Implementation period 1991 1992	
Midlands/Masvingo	18 000
Phase II, 1992 1995	
Mashonaland/Manicaland	45 000
Implementation period 1993 1994	
Matabeleland	13 000
implementation period 1993 1994	
Midlands/Masvingo	9 000
Implementation period 1994 1995	

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 with implementation by Fujitsu

Japan is financing the Mashonal and/Manicaland project with implementation by Fujitsan
Financing of digital exchanges in Matebeleland is sought

September 1994

ZIM 5 08 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 1 5 million
Local USD 1 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 9 0 million

Executing Agency
Posts and Telecommunications Corporation, Zimbabwe
Start 1990
Duration 4 Years

Objectives

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 1993 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 AAA 5 04 Implementation Study for a regional Earth Station Connectivity Project

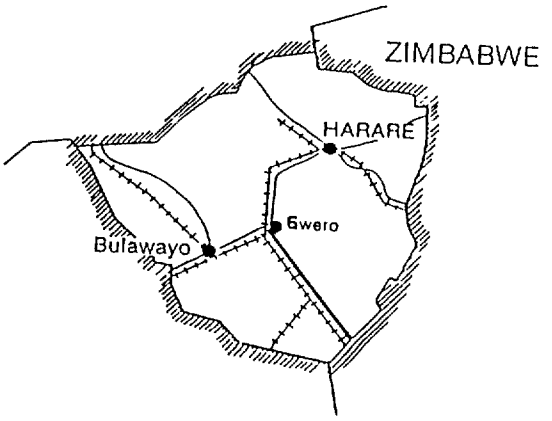
Japan has provided detailed technical specification for the project, and USAID has provided planning specification as part of Project AAA 5 04

Status

The first phase of the reorientation of the Standard A earth station and provision of IDR Intermediate Data Rates was done in mid 1990
Zimbabwe government is soliciting finance for the second earth station in the Indian Ocean region from the governments of Japan and United States of America Negotiations are in progress

September 1994

ZIM 5 10 Extension of ITSC GWERU Zimbabwe



Estimated Costs
Total USD 4 2 million
Foreign USD 4 0 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 4 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
Posts and Telecommunications Corporation Zimbabwe
Start 1994
Duration 1 Year

Objectives Provision of extension and modification of the telecommunication system for international regional and national interworking to the International Switching Centre in Gweru

Description The project comprises
Supply and installation of a large capacity APZ 212 processor with CCTT Nr 7 and R2 International Swicthing Signalling Software packages as a replacement to the existing APZ 210 processor which has a limited capacity for regional and international use

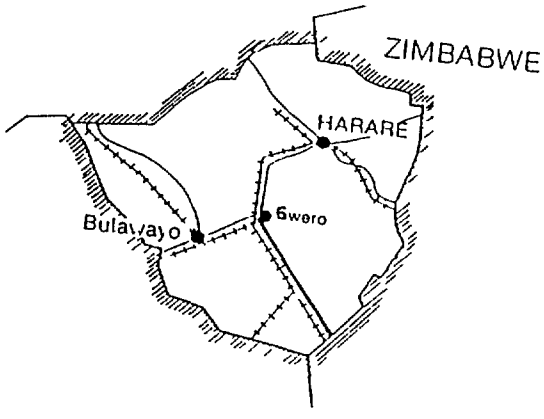
Supply and installation of code senders and receivers analogue and digital R2 International Signalling System for regional interworking along the PANAFTEL Network

Provision of technical assistance for management support and training of technicians for operating and maintainning the system
A pre appraisal study financed by SIDA reviewed for upgrading and rehabilitating the ITSC

Status SIDA is considering providing finance for project implementation

September 1994

ZIM 5 11 Digital Microwave Link Gweru (Zimbabwe) to Maputo Mozambique



Estimated Costs
Total USD 18 5 million
Foreign USD 16 0 million
Local USD 2 5 million

Funding Secured
Foreign USD 0 0 million
Local USD 2 5 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 16 0 million

Executing Agency
Zimbabwe Posts and Telecom Corp and TDM
Start 1994
Duration 2 Years

Objectives Provision of digital radio microwave system from Gweru and Masvingo in Zimbabwe to Maputo, Mozambique along the Limpopo Railway Line to carry high quality and reliable PANAFTEL traffic between the two countries and Swaziland

Description The project will complete the PANAFTEL network between Mozambique and Zimbabwe The existing rehabilitation of the Limpopo Railway Line between Maputo and Rutenga will require improved telecommunications in both Mozambique and Zimbabwe
The project consists of
(a) the provision of digital microwave radio equiment for
140 Mbits system for Gweru Masvingo Beitbridge with 140 Mbits spur link between Rutenga and Sango in Zimbabwe
140 Mbits digital crossborder link, Sango (Zimbabwe) to Chicualacuala and Macia in Mozambique
140 Mbits digital radio link between Maputo Macia Chokwe Chocualacuala with spur links to provide communication facilities to 9 towns and communities along the Limpopo Railway Line,

(b) Supply of associated civil works and power supplies
(c) Supply of some digital rural exchanges along the route
(d) Training of maintenance personnel
(e) Technical assistance for detailed technical specification of the project and commissioning of the link
Zimbabwe PTC and TDM will provide some financing for complementary civil enginering projects

Status Financing is required for project implementation

September 1994

Meteorology

308A

AAA 6 01 Meteorological Expert Services and Fellowships

Estimated Costs
Total USD 7 3 million
Foreign USD 7 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 7 3 million

Executing Agency
National Meteorological Services
Start 1994
Duration 5 Years

Objectives The basic aim of the project is to increase the number of well educated and adequately trained staff members of the meteorological services in the Region

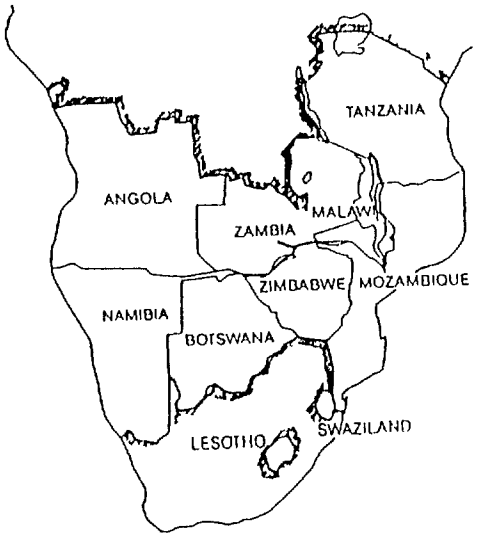
Description Emphasis is for the time being placed on agrometeorology, data processing, telecommunications and equipment maintenance In order to increase the ability of the services to produce more user oriented meteorological information of various kinds the assistance of expatriate experts are required for a limited period of time Training of personnel will be accomplished by the provision of fellowships

The cost figures above include the expert service and fellowship components of projects AAA 6 02 through to AAA 6 07, cf the respective project briefs

Status Financing is being sought

September 1994

AAA 6 02 Regional Drought Monitoring Centre Harare



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
Foreign USD 0 0 million

Financing Gap
Total USD 1 0 million

Executing Agency
Department of Meteorological Services Zimbabwe
Start 1994
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/88/044) its main objectives are to enable the preparation and dissemination of meteorological information etc of vital importance to both planning and operational measures within the field of agriculture The centre is supposed to cooperate closely with the SADC/FAO "Regional Early Warning System for Food Security" also located to 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

The above estimated costs are related to purchase of equipment Necessary funds for the provision of expert services and fellowships (USD 1 5 million) are included in project AAA 6 01

Status

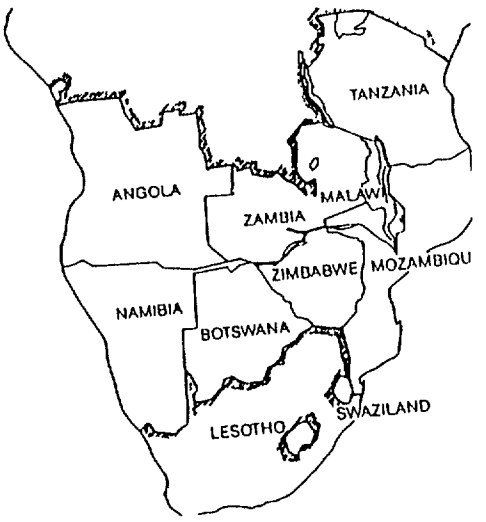
The Centre is now operational but some more equipment and additional personel resources training facilities etc are still needed in order to bring the RDMC up to the intended level of operation

The secured fundings so far have been made available by the Goverment of Zimbabwe through Zimbabwe bilateral arrangements and by UNDP/WMO

Additional fundings are being sought in order to guarantee continued operation as well as the scope and quality of the Drought Monitoring Information prepared at the Centre

September 1994

AAA 6 03 Regional Meteorological Telecomms Hub and Data Exchange, Lusaka



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
Foreign USD 0 0 million

Financing Gap
Total USD 1 0 million

Executing Agency
Meteorological Department
Zambia
Start 1994
Duration 5 Years

Objectives The main objectives of the RHT Lusaka are to enable the collection and dissemination of real time observational meteorological data with the Southern African region in partial fulfilment of the World Weather Watch (WWW) programme of the World Meteorological Organisation (WMO) The data are of vital importance in operational weather forecasting requirements and for use in economic sectors such as aviation and other modes of transport, agriculture construction water resources etc

Description The establishment of the RTH, Lusaka is expected to result in the achievement of efficient and effective collection and distribution of the observational weather data within Southern African countries in accordance with the requirements and procedures stipulated under the Global Telecommunications system (GTS) component of the World Weather Watch of WMO and also of the International Civil Aviation Organisation (ICAO) The estimated costs stated above are related mainly to purchase of equipment (Foreign) The provision of Expert Services and fellowships is included in Project AAA 6 01

Status The RTH, Lusaka is expected to be partially operational in its final premises within the first half of 1993 following the installation of the single system Automatic Message Switching System (AMSS) supplied by Netsys The equipment was procured under the FINNIDA/SATCC/WMO project (1987 92) which came to an end on 31st December 1992 A new two storey office block to house the RTH was constructed at a cost of USD 652 581 funded by the Government of Zambia
Additional external assistance in terms of funds is needed to facilitate upgrading of the AMSS to a full dual system This entails the purchase and installation of a second DCP including two model MT225BI multitech 2400 bps modems and two model MT932BA multitech 9600 bps modems

September 1994

AAA 6 03 Provision of an Automatic Mes sage Switching System (AMSS)
(TAN 1) for NMC Dar es Salaam

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
Ministry of Communications and Transport Tanzania
Start 1994
Duration 2 Years

Objectives The Tanzanian telecommunication and forecasting centres are still operating manually and are linked to the Regional Telecommunications Hub (RTH) Nairobi at a low speed of 75 bauds It is thus intended through this project to modernize the telecommunication facility by computerizing at the Dar es Salaam NMG

Description The System required should be capable of handling most of the synoptic data and NWP products and hence the reed for the following

Automatic Message Switching System (AMSS)

2 Printers 1200/2400 bits/sec

2 Modems 1200/2400/sec full duplex
(v 29 and x 25)

A stock of spare parts

Training of engineers/technicians and operators at factory

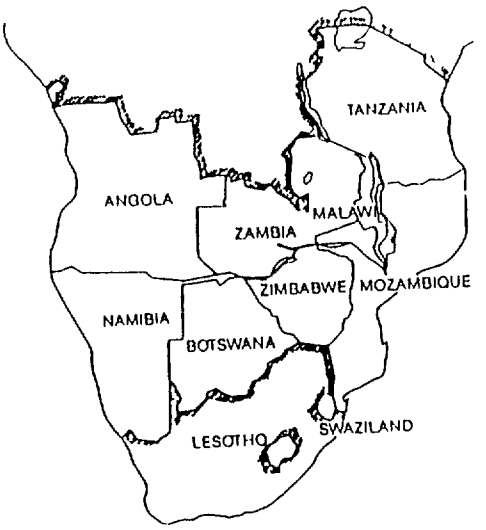
Training of a WMO Class I meteorologist on telecommunication computer procedures

Installation and testing of equipment

Status Two modems have already been secured from Phase II of the FINNIDA/SATCC/WMO Meteorology Project which ended on 31st December 1992

September 1994

AAA 6 04 Regional Maintenance Support of Meteorological Services



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency
WMO and the National
Meteorological Services
Start 1994
Duration 2 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 upgrading of the maintenance facilities at the National Meteo Services is in progress as a result of FINNIDA partial funding (project AAA 6 06)

However at a meeting in 1988 the Directors of the SATCC Meteo Services decided that a consultant should be hired to

identify specific areas of maintenance and calibration of equipment that could be undertaken cost effectively at a Regional level

and furthermore

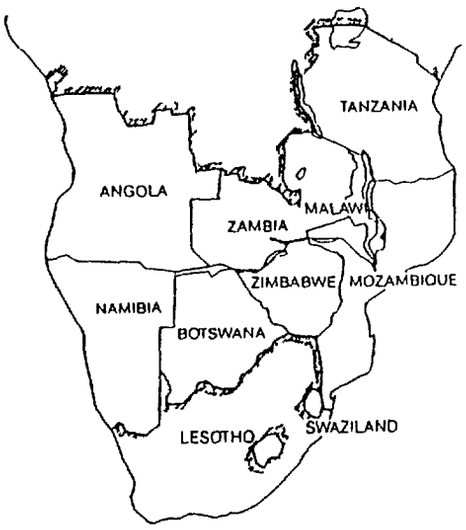
to investigate the need for a Regional Maintenance Facility including proposals for its implementation

So far, the cost of tools, spare parts etc is estimated at USD 0 4 million Another USD 0 4 million intended for training and expert services are included in Project AAA 6 01

Status The Phase II of the FINNIDA support expired at the end of 1992 Lack of funds for completing other ongoing projects has forced the management to withdraw unused means intended for this project, leaving only a relatively small amount of money (approx USD 50 000) It has now been agreed to utilize this sum to initiate activities towards the establishment of a Regional Calibration and Comparison Facility The new unit has been set up in Gaborone Botswana Additional financing is being sought

September 1994

AAA 6 05 Data Processing in Meteorological Services



Estimated Costs
Total USD 1 4 million
Foreign USD 1 4 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 4 million

Executing Agency
National Meteorological Services
Start 1994
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 facilitate these operations

Description

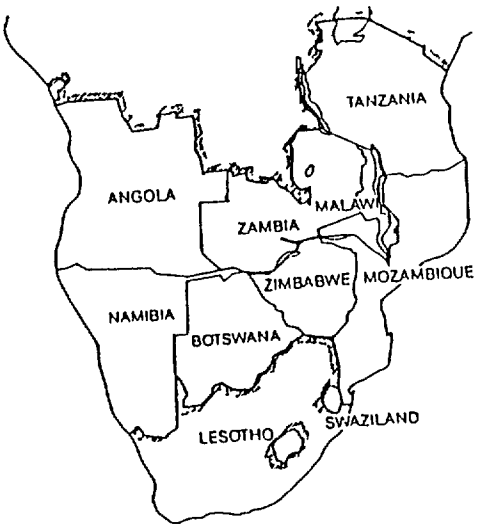
A computarized system for non real time application has been developed under WMO auspices (CLICOM)
It contains both hardware and software adapted to the need for uncomplicated but yet advanced data processing facilities enabling the services to handle the national observational data in a rational manner and also to prepare various kinds of statistics and calculations
It is, furthermore, proposed that microcomputers for real time data processing should be made available for some of the weather services

Status

The installation of CLICOM has been finished and training of staff members is ongoing under FINNIDA funding arrangements
Financing is being sought for the provision of microcomputers for real time data processing and upgrading the CLICOM software system

September 1994

AAA 6 05 Provision of Data Processing System
(TAN 1)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
Ministry of Communications and Transport Tanzania
Start 1994
Duration 2 Years

Objectives To provide NMC Dar es Salaam with an equipment capable of interacting with received information graphically modifying maps computing specialized forecast parameters, provide display service i e the ability to receive data and forecast from elsewhere and disply them authomatically, and finally to be able to plot the data

Description The equipment being sought should consist of the following

Data Processing System (DPS)

Automatic Data Plotter

Graphical Work Station

Specialized Meteorological Software

Personal Computer with Telecommunications Interfaces

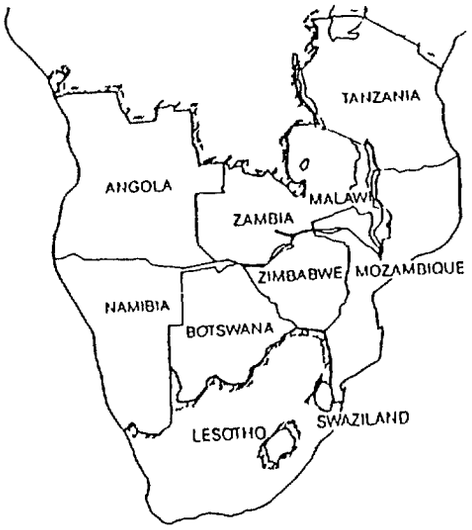
Dot Matrix Printers

The project should also include the training of engineers/technicians and operators as well as the installation and commissioning tests for both the hardware and software A guarantee for provision of spare parts for at least five years is also envisaged

Status The original intention was to obtain the equipment through bilateral aid or the WMO VCP but so far there has not been any encouraging response
Financing is being sought

September 1994

AAA 6 06 Meteorological Observational Networks



Estimated Costs
Total USD 5 6 million
Foreign USD 5 6 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 5 6 million

Executing Agency
National Meteorological Services
Start 1994
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 extension of the regional observing network to meet certain prerequisite inputs for the preparation of required meteorological end user products

Description During phase I of the FINNIDA support a partial rehabilitation of observing as well as maintenance facilities took place This process has been continued during phase II and the network extended by adding some new facilities The project includes the following components

(1) Establishment of approx 20 new stations in the Region (some of these equipped with radiosonde facilities)

(2) Establishment of agrometeorological and automatic weather observing stations and provision of instruments for a continued rehabilitation process

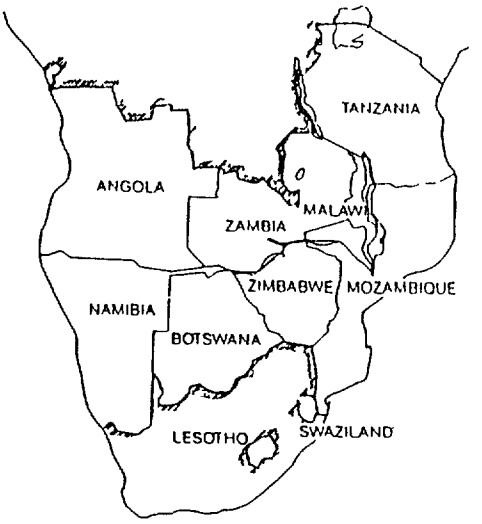
(3) Provision of vehicles for inspection of meteorological observing sites

Financing of expert services and fellowships at an estimate cost of USD 0 4 million is included in project AAA 6 01

Status Additional funding is sought

September 1994

AAA 6 06 Strengthening of the Swaziland Meteorological Service
(SWA 1)



Estimated Costs
Total USD 1 0 million
Foreign USD 0 8 million
Local USD 0 2 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 2 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 8 million

Executing Agency
National Meteorological Service Swaziland
Start 1994
Duration 3 Years

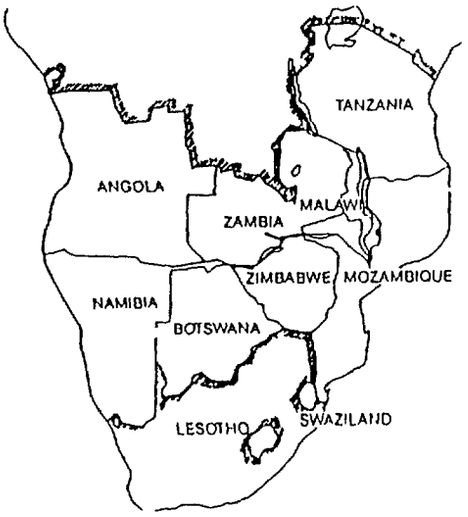
Objectives Until very recently meteorological activities in Swaziland used to be carried out by different ministries and private organizations In July 1992, Parliament approved a Bill for the establishment of a Unified National Meteorological Service The establishment of the Unified National Meteorological Service is still under process The main objective is therefore to develop a Unified National Meteorological Service and a basic infrastructure to meet the increasing demands for reliable meteorological data and information for the various socio economic activities

Description The establishment of a Unified National Meteorological Service is expected to result in the following achievements
- Rehabilitation and expansion of the network of observing stations
- Improvement of the data collection and processing systems
- Development of Weather forecasting and early warning capabilities
- Provision of training for nationals locally and broad
- Provision of expert and consultant services

Status The establishment of a Unified National Meteorological Service is still under process
Since 1987 assistance was provided by the FINNIDA/SATCC/WMO Meteorology Project in the form of equipment fellowships, expert and consultant services But this project terminated at the end of December 1992
Additional funding is required for strengthening the capabilities of the newly established Meteorological Service both technically and institutionally to enable it to provide efficient and reliable Meteorological service to users

September 1994

AAA 6 06 Strengthening of the Tanzania Meteorological Service
(TAN 1)



Estimated Costs
Total USD 1 7 million
Foreign USD 1 6 million
Local USD 0 1 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 6 million

Executing Agency
Ministry of Communication & Transport Tanzania
Start 1994
Duration 4 Years

Objectives

Strengthened institutional capacity in the strategic planning of meteorological programs to ensure more effective application of meteorology to economic development better use of human and financial resources planning and management

Manpower development with emphasis on institution building and increased capability to provide specialized applications of meteorology

Description

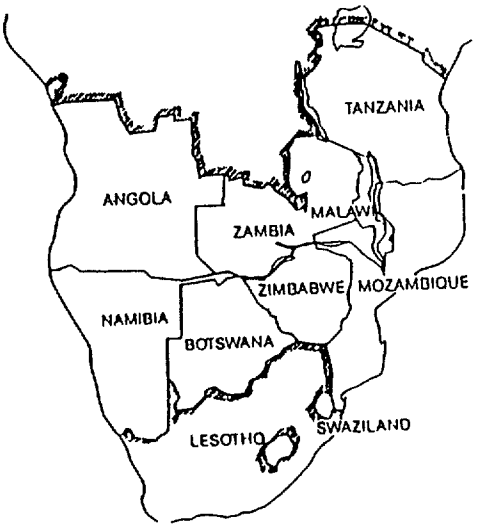
The project will consist of the following
- Instruments for Met Observing Network (synoptic + agrometeorology)
- Upgrading of Telecommunication Network
- Upgrading of the National Data processing
- Office equipment for printing of agrometeorological bulletins
- Conventional meteorological and agrometeorological equipment to re equip the 12 agrometeorological stations and for the establishment of 13 additional agrometeorological stations
- Provision of Training Aids
- Fellowships
- Weather Radar for Dar es Salaam and Mwanza
- Four 4 wheel drive vehicles for station inspection and maintenance activities
- 25 motorbikes for observers
- Workshop equipment for the calibration and maintenance of meteorological equipment and instruments

Status

Basic infrastructure has been improved during the Phase I & II of the FINNIDA/SATCC/WMO Meteorology Project and thus the present project is supposed among other thinks to assist with improved applications products
Personnel to take up the specialized training fellowships are readily available
Additional inancing is being sought

September 1994

AAA 6 06 Provision of MDD/DRS Equipment for Tanzania
(TAN 2)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
Ministry of Communications and Transport Tanzania
Start 1994
Duration 2 Years

Objectives To be able to capture broadcast of products which will be through the MDD System
World Meteorological Centres such as Bracknell are already using the MDD system and thus the provision of this equipment will enable NMC Dar es Salaam to review hard copy analysed charts and other information without having to go through the GTS via Nairobi

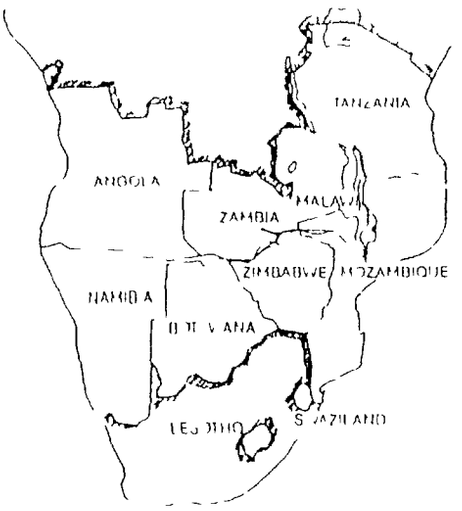
Description Funds are requested for the provision of

MDD/DRS Systems
Training of engineers/technicians and operators
Stock of spare parts
Installation and testing of the equipment

Status External funding is requested for the implementation of this project

September 1994

AAA 6 07 Meteorological Telecommunications



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
Foreign USD 0 0 million

Financing Gap
Total USD 2 5 million

Executing Agency
National Meteorological Services
Start 1994
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 The project is strongly connected to the RTH Lusaka (see Project AAA 6 03)

Description

A substantial rehabilitation and upgrading of the various national meteorological telecommunications facil ties 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

The Directors of the Met Services have adopted a three step implementation plan in which provisions been made for this modernization as well as for the development of the RTH Lusaka
The estimated total cost is expected to be revised during the second step of the implementation phase

Cost of the required provision of expert services and fellowships USD 0 6

million is included in Project AAA 6 01

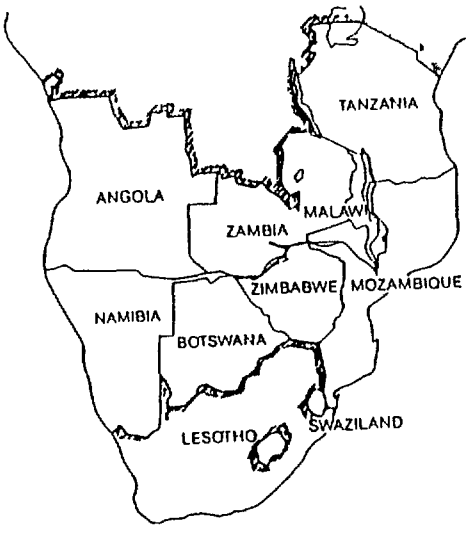
Status

Financing partly secured by Finland for the implementation of this project has since been terminated

At the 10th SATA Conference in Livingstone Zambia in Feb 1990 the Telecommunications Administrations agreed to assist the Meteo Services of their resp Countries in establishing the data network within the Region for inter connection to the RTH Lusaka and similarly for the RDMC Harare AAA 6 02
Additional financing is being sought

September 1994

AAA 6 07 Primary Data User System PDUS for Satellite Image Reception
(TAN 1) NMC Dar es Salaam



Estimated Costs
Total USD 0 7 million
Foreign USD 0 6 million
Local USD 0 1 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 1 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 6 million

Executing Agency
Ministry of Communications and Transport Tanzania
Start 1994
Duration 2 Years

Objectives Provision of a PDUS will enable the NMC Dar es Salaam to receive digital data which is more accurate than the analogue data normally received by the Secondary DataUsers System (SDUS) Also with PDUS NMC Dar es Salaam will be able to receive the NOAA Vegetation Index Images which are vital for Crop Monitoring and Early Warning activities for the Agricultural Sector

Description The project consists of the provision of

One PDUS equipment

Training of one engineer on the hardware and two meteorologists on the operation of the equipment

Installation and commissioning of the System

Spares

Status Space for housing the PDUS is available as this will replace the old SDUS

September 1994

AAA 6 08 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 5 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 0 0 million

Executing Agency
WMO and National Meteorological Services
Start 1989
Duration 5 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 will be implemented during the years 1987 1992 and comprises 42 countries in Africa In addition to regional and national components an International Data Resque Co ordinating Centre (IDCC) located in Brussels should be responsible for the overall supervision of the project jointly with WMO
The SATCC project covers the regional and national components of the SADC Region The regional centre is planned 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 aproximately 320 000 USD

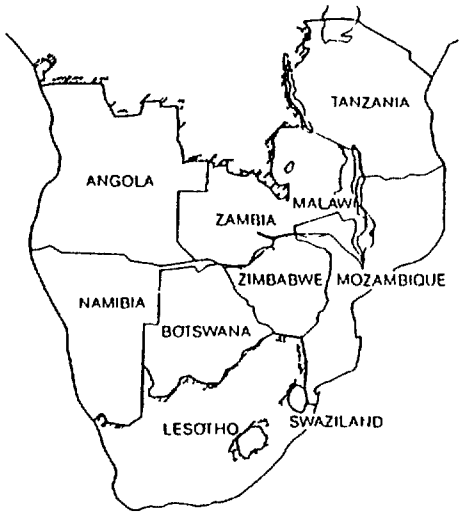
At the national level certain microfilm equipment should be provided for the national meteorological services at a cost of approximately 20 000 USD for each or for the participating SADC countries together 180 000 USD

Status

The project is fully financed by Belgium and project officials are working in the Region from time to time

September 1994

AAA 6 09 Meteorological Buoys



Estimated Costs
Total USD 1 8 million
Foreign USD 1 8 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 8 million

Executing Agency
National Meteorological Services
Start 1994
Duration 2 years

Objectives

Mozambique and Tanzania are responsible for safety in the Mozambique channel and Tanzania coast line and have 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 location of meteorological observing buoys in the Mozambique Channel and Tanzania Coast Lines 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

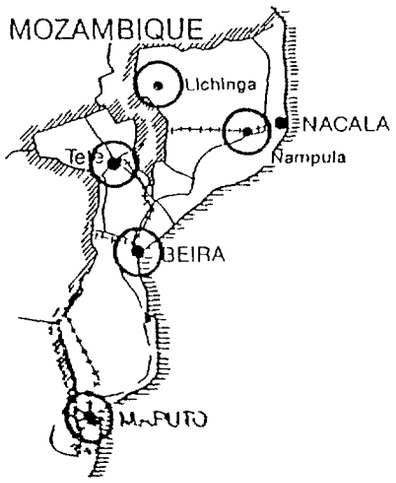
training
adequate telecommunications for data transmission
spare parts

Status

The original intention was to acquire moored, meteorological buoys located to the Mozambique Channel This type of equipment has however, turned out to be very expensive New technique has instead made it more convenient to utilize drifting buoys (at a considerable lower cost)
Measuring as well as current position data is received via a satellite connection
Financing is being sought

September 1994

MOZ 6 02 Aeronautical Meteorological 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
Foreign USD 0 0 million

Financing Gap
Total USD 0 7 million

Executing Agency
Ministry of Transports and Communications Mozambique
Start 1994
Duration 3 Years

Objectives Old and partly obsolete meteorological measuring eqipment 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

Three ceilometers for measuring the cloud base

Four pieces of equipment for measuring the visibility

Two pieces of equipment for detection of wind shear in the lowest 1000 metres

Miscellaneous components

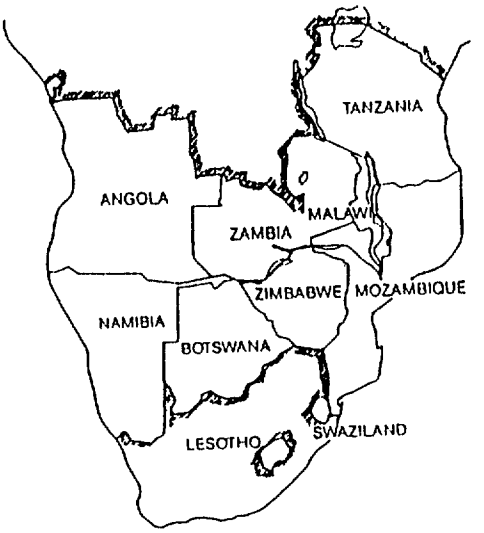
Status Financing is being sought

September 1994

Postal Services

324A

AAA 7 05 Management Projects



Estimated Costs
Total USD 4 5 million
Foreign USD 4 5 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 4 5 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 4 years

Five management projects are proposed in the Postal Development Plan Two of them, GM 1, General Policies for Management of Autonomous Postal Administrations and GM 2 Organisational Restructuring of Postal Administrations are closely linked
GM 1 is proposed to be carried out as a common effort executed by SATCC in order to form a basis for GM 2 GM 1 can also be carried out directly by a Member State Project GM 2 is proposed to be executed by the Member States

The reason for not combining these two projects into one project is that it is of the outmost importance to establish regulatory policies for a Government owned Postal Corporations as a basis for incorporation of Postal Administrations It is envisaged that this approach will reduce the risk for failures resulting from incoherent regulatory policies, as been experienced elsewhere in the World in the operation of Government regulated Corporations

The other three projects GM 3 National Postal Master Plans, GM 4, Financial Information Systems and GM 5 Statistical Systems are necessary components for improving the overall Management level

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
GM 1	General Policies for Management of Autonomous Postal Administrations	0 2	0 2	0 0	0 0	0 0	0 2
GM 2	Organisational Restructuring of Postal Administrations	1 7	1 7	0 0	0 0	0 0	1 7
GM 3	National Postal Master Plans	1 0	1 0	0 0	0 0	0 0	1 0
GM 4	Financial Information Systems	1 1	1 1	0 0	0 0	0 0	1 1
GM 5	Statistical Systems	0 5	0 5	0 0	0 0	0 0	0 5
		4 5	4 5	0 0	0 0	0 0	4 5

September 1994

AAA 7 05 General Policies for Management of Autonomous
(GM 1) Postal Administrations

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 6 weeks

Objectives

It is generally agreed that the Postal Administrations should be given more autonomy in order to act in a more businesslike manner and to take better care of the interests of the customers Efforts in this direction are being made in industrialised countries as well as in Southern Africa
Corporations that have been established are however often facing economic and operational problems One cause of these problems is that the role of the Government vis a vis a corporation has not been sufficiently well defined This project is needed in order to serve as the basis for preparing regulatory policies to be applied by the Governments

Description

The project comprises the preparation of recommendations on the role of the Government vis a vis an autonomous and self supporting postal administration The recommendation shall include policies for the operation of the Postal Administration and guidelines on how the Government shall act in order to make sure that social aspects as well as commercial interests of the services are taken care of

The scope of work for the rxpert assistance shall include the following issues related to an autonomous postal administration

* definition of the service to be performed commercial and social
* principals for financing of the services
* proposal on type of autonomy and structure of the administrations
* proposal for regulatory policies to be applied by the Government taking into account their impact on pricing investment quality of service and ability to compete on the market
* preparation of policies for the operation of the Organisation and
* proposal on implementation process

Status

Financing is being sought

September 1994

AAA 7 05 Organisational Restructuring of Postal Administrations
(GM 2)

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
Foreign USD 0 0 million

Financing Gap
Total USD 1 7 million

Executing Agency
Postal Administration

Start 1994
Duration 2 years

Objectives In accordance with the UPU Washington General Action Plan the goal is that all Postal Services should gain legal status as independent management systems Thus this project aims at incorporation of the postal organisations

Description The project comprises technical assistance to the Member States to undertake all necessary preparatory work for incorporation and restructuring of the Postal Administrations

The scope of work for a technical assistance team will include the following components observing that as a basis for the work the outcome of Project GM 1 should be used

* review of current situation and envisaged future development
* services to be performed letter, parcel and financial services
* financial targets and ways and means to meet them
* appropriate organisational structures, including the design of a nationwide structure for operations, allowing for decentralised management,
* draft legislation and regulations including Postal Act and creation of a Board
* demands to be met by management systems such as accounting systems, statistics, short and long term planning quality of service measure and forecasts (see also projects GM 3 4 and 5)
* pricing policies and
* salary policies manpower and manpower development policies including job descriptions

Status Financing is being sought

September 1994

AAA 7 05 National Postal Master Plans
(GM 3)

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
Foreign USD 0 0 million

Financing Gap
Total USD 1 0 million

Executing Agency
SATCC

Start 1994
Duration 18 months

Objectives Plans for medium and long term postal services normally form part of the National Development Plan

Autonomous Postal Administrations need to have more elaborate Plans in order to be able to plan their operations in more detail than is normally presented in the national plans

Description The project comprises technical assistance to the Member States to prepare Master Plans for medium and long term development of the postal services The Master Plan shall include a review of the expected development in traffic, staffing infrastructure networks and investments

The Master Plans should focus on strategic and longer term aspects and be prepared in such a way that they could be updated regularly by the Postal Administration staff

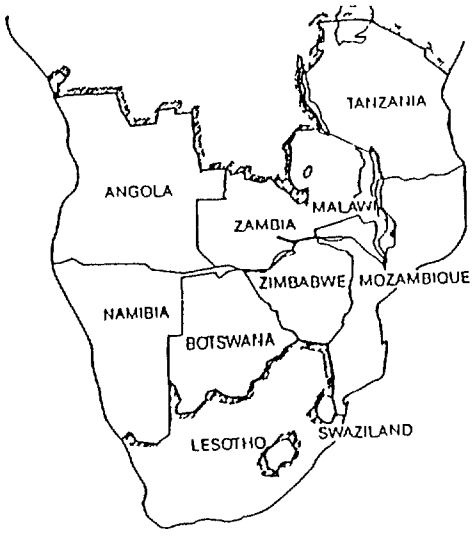
The Master Plan which would be based on clear objectives and embody government policies, would comprise the following components

* objectives for standard of services (access speed reliability queueing etc),
* traffic forecasts,
* plans for mail distribution and routing
* development of post office networks in urban and rural areas
* need for increased manpower
* overall training needs
* investment plans short, medium and long term
* financial targets and postage rates, and
* review of the economic and financial viability of the Plan

Status Financing is being sought

September 1994

AAA 7 05 Financial Information Systems
(GM 4)



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
Foreign USD 0 0 million

Financing Gap
Total USD 1 1 million

Executing Agency
Postal Administration

Start 1994
Duration 1 year

Objectives

In most Member States post and telecommunications are organized in one unit with common departments for e g personnel supplies and finance The financial statements for such an organisation do not give a clear indications of the costs and benefits related to postal services

Where the Postal Administration is a part of a Government department, its income goes direct to the treasury and costs are drawn from the Government budget

For the Postal Administration to be able to develop as a service enterprise regardless of its status it is essential for the management to be able to determine

if the postal business, or parts of it, is running at a profit or loss,
if the profitability is improving or not, and
if measures taken are contributing favourably to the financial result

Description

The project comprises the establishment of a comprehensive financial system suitable for an autonomous organisation

Technical assistance is primarily needed for establishing a financial information system and the development of work routines for handling the system

The following major issues should be dealt with

* preparation of annual budgets
* Balance Sheet
* Profit and Loss Account
* invoicing
* introduction of a computerized modern accounting system, and
* terminal fees for international mail

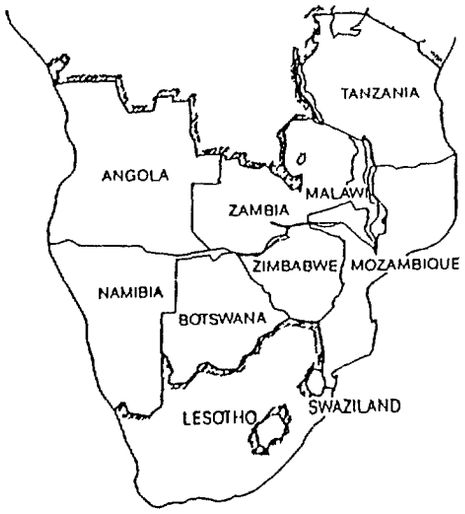
In some countries projects aiming at developing accounting systems have already started In other countries systems have to be introduced

Status

Financing is being sought

September 1994

AAA 7 05 Statistical Systems
(GM 5)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency
SATCC

Start 1994
Duration 1 year

Objectives

In several Member States, the statistics available are often misleading In a survey from 1989 it was found that reported mail volumes were often two to three times higher than could be reasonably expected from postage revenues

For successful implementation of its tasks the management needs reliable statistical information on
- mail volumes
- average postage rates for major types of mail
- mail conveyance times
- market shares
- mail sorted (volume hours used)

Since 1990 Tanzania has been a pilot country for the development and implementation of improved statistical systems Task forces have been sent out to large post offices to check data collection procedures Seminars on statistics have been held in which problems and difficulties have been discussed

In general statistics are needed for calculating productivity and staffing standards Reviews of grading levels will also benefit from reliable information statistics

A costing system (calculation of the average cost of a service or a product over all its production steps) can be introduced Finally, the profitability of various services can be calculated and rate fixing methods based on costs and revenues can be introduced

Description

The project comprises technical assistance to the Postal Administration for introducing reliable statistical information systems

A first step should be devoted to basic statistics
- complementary survey of the present s tuation covering available statistics methods and quality,
- design of new statistical systems,
- implementation of new systems (including training)
- introduction of control methods such as,
  * task forces to check data gathering and
  * comparisons between mail volume and postage revenues

In a second step the need for further statistical information will be dealt with This includes

- time and costs spent in the introduction cycle
- operational standards (time needed for different production steps)
- the issue of periodical statistical reports and computerization

Status

Financing is being sought

AAA 7 06 General Postal Projects

Estimated Costs
Total USD 3 2 million
Foreign USD 3 2 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 3 2 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 4 years

This group of four projects GP 1 Marketing GP 2 Mail Conveyance GP 3 Counter Service and GP 4 Postal Financial Services is designed to

* improve the quality of service to the customers
* develop new products and
* increase the market

The projects can be implemented regardless of the type of organisation that is eventually developed for the Postal Administration

All projects shall be implemented on a national level The technical assistance should preferably be coordinated by SATCC Technical Unit as common activity

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
GP 1	Marketing	0 4	0 4	0 0	0 0	0 0	0 4
GP 2	Mail Conveyance	0 6	0 6	0 0	0 0	0 0	0 6
GP 3	Counter Service	0 2	0 2	0 0	0 0	0 0	0 2
GP 4	Postal Financial Services	2 0	2 0	0 0	0 0	0 0	2 0
		3 2	3 2	0 0	0 0	0 0	3 2

September 1994

AAA 7 06 Marketing
(GP 1)

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 4 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 2 years

Objectives

A modern business oriented enterprise has to market its products and services in order to promote the market or increase its market shares

The Postal Administrations need to become more customer oriented and to strengthen their marketing functions As basis for these efforts a market survey should be carried out in which customers'opinions preference and demands on the services offered by the postal administrations should be analysed The analyses should be followed by marketing campaigns for the products A basic precondition for the success of the project is that an acceptable level of service can be offered to the customers

Description

The project comprises technical assistance for improving the marketing of the postal products mail financial service EMS and philatelic service as well as market survey

The project includes five sub projects

(i) Market Survey

This sub project comprises the following components

exchange of experience between the Postal Administrations for preparation of survey methods and interview questionnaires etc
carrying out of surveys,
analysis of the practical implication of findings on cooperation between the Postal Administrations and the main customers improvement of staff attitudes etc
preparation of a marketing strategy and an implementation programme

The technical assistance shall include expert assistance for the preparation of survey methods, analysis of the survey, and in holding a series of seminars interchanged with survey work Finally the expert shall assist the Member States in preparing the marketing strategy

The assistance is expected to include three two week seminars and to cover a total time of six months A total of six manmonths of assistance will be needed at a cost of USD 160 000

(ii) Marketing of Mail Distribution

Assistance is needed for preparing information to the customers on mail distribution services conveyance times reliability postage rates etc

The assistance should include the holding of two week seminars alternated with practival work

A total of two manmonths of assistance are needed at a cost of USD 50 000

(iii) Financial Services

The assistance should comprise the holding of three two week seminars The first should be on the concept of financial services, presenting methods and strategy for the marketing and the second should discuss marketing

activities proposed by the Member States The third seminar will be held for the exchange of experience during the implementation period he project will be carried out over a 12 month period with three

manmonths of expert assistance at a cost of USD 120 000

(iv) EMS Expedite Mail Service

EMS is a spearhead product Its success has actually proved that the Postal Administrations are able to compete with private courier firms This subproject covers the implementation of EMS in Angola and Namibia It is proposed that assistance implementing EMS should be given through support from other Member States, and that a seminar be held with participants from all Member States at which and EMS should discuss improvements

Assistance is only needed for the seminar held by an EMS expert estimated at a cost of USD 30 000

(v) Philatelic Service

Philately has a priority position in all SADC Postal Administration A survey carried out by SATCC Technical Unit suggested cooperation in marketing as a means of improving profitability

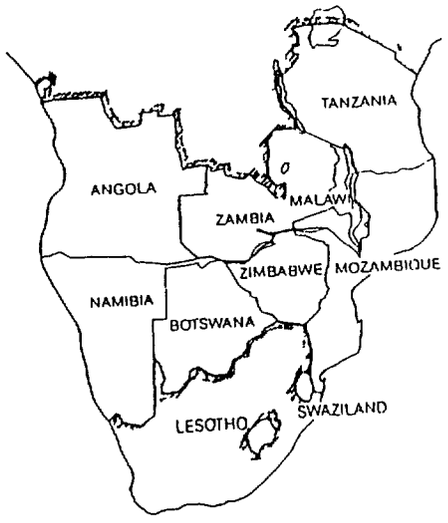
This subproject comprises a seminar at which representatives from the Member States and experts on philately and international marketing should discuss possibilities for cooperation on for example sales advertizing and participation in stamp exhibitions

A task force consisting of members from the Postal Administrations should be formed to prepare a joint marketing programme The expert assistance is estimated to be required for two manmonths at a cost of USD 70 000

Status Financing is being sought

September 1994

AAA 7 06 Mail Conveyance
(GP 2)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 6 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 2 years

Objectives

With only very few exceptions, post office customers in SADC Member States have reason to be dissatisfied with the present quality of service It is not fast enough nor reliable enough to satisfy their demands The effect is that customers try to find other suppliers e g private courier companies or use own messengers This results in loss of income from mail

Considerable improvements in the standard of mail conveyance are needed The following tentative targets are suggested as guidelines

EMS according to bilateral agreements and UPU guidelines
Letters The following conveyance times are proposed

Domestic service

Within a city and surrounding suburbs	1 day
Between provincial capitals	1 2 days
Other areas	3 5 days

International (to and from the capitals)

Europe and USA/Canada	4 7 days
SADC Member States	4 7 days
Other countries	4 10 days

These standards apply to air mail letters It is recommended that the SAL (Surface Air Lifted) concept should be used whenever possible

Parcels

A standard similar to the one for letters should be adopted for air mail parcels making allowance for additional time needed for custom procedures Surface parcels will need a longer conveyance time, and in some cases (overseas boat transport) a substantially longer time

Description

The project comprises assistance for holding a series of seminars on how to improve quality of service for mail conveyance

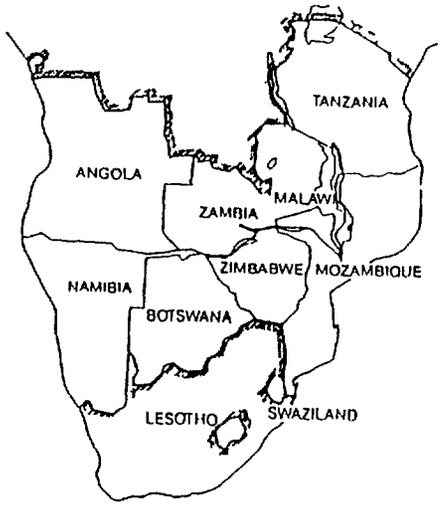
The technical assistance comprises the holding of seminars covering the following main issues

present mail handling procedures
present conveyance times transport situation staff skills and attitude (see also Project SI 3),
analysis of major causes for delays and possible improvement measures
setting of appropriate targets,
steps to be taken for implementation of improvement measures
methods for control of mail conveyance time and
manuals for mail handling

	The seminars will be interchanged with practical work and assistance from experts
Status	Financing is being sought

September 1994

AAA 7 06 Counter Service
(GP 3)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 2 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 6 months

Objectives

Generally mail distribution services are combined with simple forms of financial services including savings bank transactions The network of post offices is well suited for providing these services However only limited consideration has been given to counter service

The main problems are

complicated working routines,
limited scope of services offered
poor staff attitudes and
long queueing times

Description

The project comprises technical assistance with the development of financial services, with the aim of achieving the following objectives improved customer services, rationalized counter procedures and improved profitability of counter services

Expert assistance is needed for studying

production conditions such as working routines possibilities for multipurpose counters, including security with regard to money, parcels and registered letters,
measures to be taken to reduce queueing time and
proposal for improved counter services

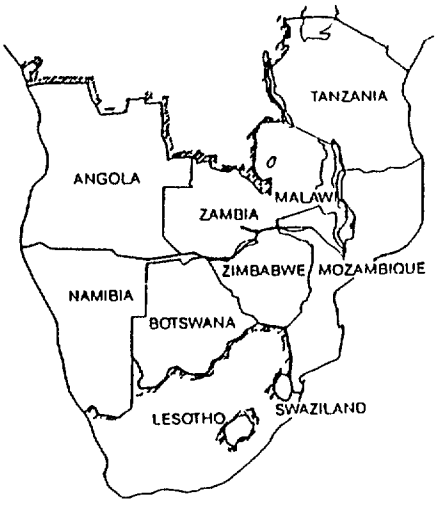
Seminars should be held on the basis of the findings and recommendations of this study

Status

Financing is being sought

September 1994

AAA 7 06 Postal Financial Services
(GP-4)



Estimated Costs
Total USD 2 0 million
Foreign USD 2 0 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 0 million

Executing Agency
SATCC/Postal Administrations

Start 1994
Duration 3 years

Objectives

Financial service systems are well developed in most industrialized countries Improved financial service is an important component for the development of trade and commerce in the Member States

Efforts are thus currently being made by several of the SADC states to introduce some form of postal giro system

In some SADC states post office savings banks already exist while in other countries they need to be introduced

Description

The project consists of expert assistance for a study on the feasibility of introducing improved financial services in the Member States

The study shall deal with savings bank transactions and modern payment systems, such as a postal giro system

Expert assistance is needed for a feasibility study covering all Member States and including

- review of existing financial services and banking systems
- present market potentials for
  - savings bank transactions (deposits and withdrawals) at post office counters
  - payment systems including prospects for postal giro systems
  - Evaluation of necessary conditions for financial services
  - fast conveyance of payment forms
  - accounting routines and forms
  - security measures
  - legal matters
- analysis of the capacity of the Postal Administrations to handle a giro system and need to introduce a postal giro system
- preparation of a cost benefit analysis and
- recommendation of alternative financial services and products to be introduced

Based on the feasibility study one or two pilot countries should be chosen for implementation of the proposed services

The assistance will comprise 12 manmonths of consultancy services for the feasibility study (If deemed feasible the introduction of postal giro systems could be studied as a separate task Terms of Reference for such a study have been prepared by SATCC)

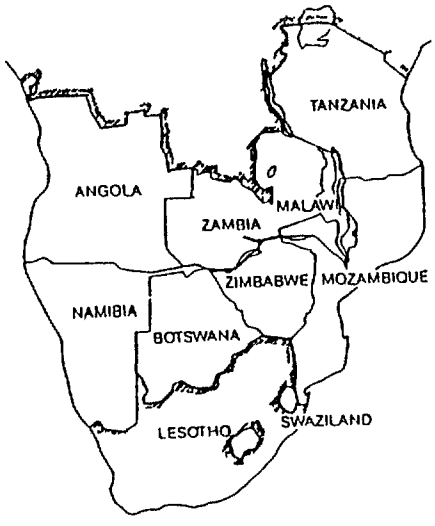
The implementation work is estimated to take about ten manmonths in each of the two pilot countries

The intention is that after due evaluation of the results in the pilot countries implementation should take place in the remaining Member States Assistance for this work is estimated to requ re six manmonths for each country

Status Financing is being sought

September 1994

AAA 7 07 Manpower Development



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 9 million

Executing Agency
SATCC/Postal Administration

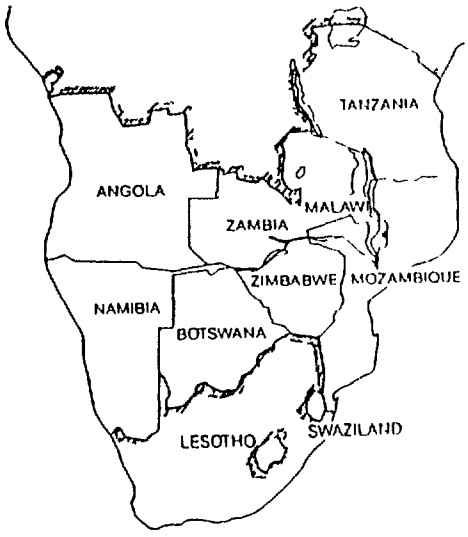
Start 1994
Duration 4 years

The manpower development activities are divided into three projects MP 1 Human Resources Development Programme MP 2 Various Training Projects, and MP 3 Development of the Multi Country Training Centre in Malawi

Subprojects Included in Programme		Cost			Funding		
		Total	For'n	Local	Secu	Nego	Gap
MP 1	Human Resources Development Programme	0 5	0 5	0 0	0 0	0 0	0 5
MP 2	Urgent Training Projects	0 3	0 3	0 0	0 0	0 0	0 3
MP 3	Development of the Multi Country Training Centre in Malawi	0 1	0 1	0 0	0 0	0 0	0 1
		0 9	0 9	0 0	0 0	0 0	0 9

September 1994

AAA 7 07 Human Resources Development Programme
(MP 1)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 5 million

Executing Agency

Start 1994
Duration 1 year

Objectives All Postal Administrations have their own national training schools for basic education

The proposals made in the Postal Development Programme on improved management and quality of service increase the need for qualified staff Thus the standard of training has to be improved It is foreseen that the number of employees will increase with increasing economic standard population and literacy in the Member States

The human resources development programme is therefore needed in order to secure staffing of the administrations with qualified personnel

Description The project comprises assistance to the Postal Administrations in preparing comprehensive human resources development programmes and aims at assessing the need for instructors and training facilities

Technical assistance is needed for the preparation of the programme The assistance should preferably be divided into two subprojects

(i) Development programme for basic education and training of instructors

A preliminary survey in this respect was carried out by SATCC Technical Unit in 1986 This work has to be updated and extended in order to form a firm basis for improving the training capacities in the Member States

The total manpower input for this subproject is estimated at 12 manmonths at a cost of USD 0 3 million

(ii) Regional development plan for managment supervisory and clerical personnel

Technical assistance is needed for the following main issues in the plan

assessment of future manpower by type of skill
appraisal and assessment of training needs
review of development and operations of training facilities and indication as to which training could best be implemented on national level and which at a regional level
establishment of procedures for training candidate selection
development of curricula
preparation of guidelines for evaluating the effectivness of training programmes,
determination of requirements for teaching aids and
preparation of project packages

Detailed Terms of Reference for the plan have been prepared by SATCC

Status Financing is being sought

September 1994

AAA 7 07 Urgent Training Projects
(MP 2)

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
Foreign USD 0 0 million

Financing Gap
Total USD 0 3 million

Executing Agency

Start 1994
Duration 1 year

Objectives The success of most of the development activities suggested in this programme is dependent on the ability and willingness of the staff to understand and adapt to a new situation This project thus addresses the most urgent training needs in this respect Almost all projects in the development programme contain a component of training This specific project is designed to give the operative staff complementary training in order to create new attitudes towards customers in meeting their demands

Description This project aims at obtaining technical assistance and financial support for a number of specific training needs such as the training of
- supervisors
- instructors
- accounting staff and
- language training (english for Portuguese speaking countries)

Assistance is needed for the following training activities

(i) Training of Supervisors

Supervisors and supervisors to be are the key staff when building a new postal organisation

Common courses for all Member States are proposed to be held with the purpose of improving their ability to
- train and inform their subordinates,
- identify and solve problems arising and
- fulfil their day to day duties

(ii) Instructors courses

There will be a substantial increase in the volume of training that should be given at the national training schools

Consequently their will be an urgent need for training of instructors

(iii)Accounting courses

The need for traing courses for accountants is strongly linked to the introduction of modern financial systems

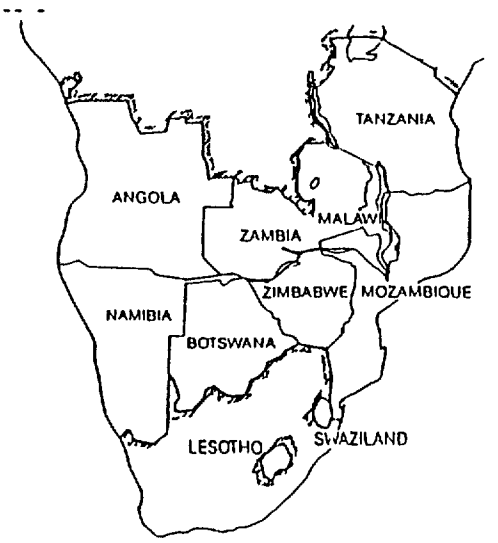
This training activity will consist of a number of seminars courses and follow up activities

(iv) Language courses

Status Financing is being sought

September 1994

AAA 7 07 (MP 3) Development of the Multi Country Training Centre in Malawi



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 1 million

Executing Agency

Start 1994
Duration 4 months

Objectives

The Multi Country Training Centre was established under a United Nations Development Programme (UNDP) in 1972 as a training project for the posts and telecommunications administrations of the governments of Botswana Lesotho Malawi and Swaziland (BLMS) At that time training was designed to cater for the needs of BLMS governments in maintenance planning and improvement of posts and telecommunications services

During 1973 1984 MCTC was a donor run institution under the auspices of the Malawi Posts and Telecommunications Administration

During 1985 1987 it was assisted by EEC under Lome I and II aid agreements

On 24th July 1987 the governments of Botswana Lesotho Malawi and Swaziland signed an Inter Governmental Agreement (IGA)

The Agreement was put into force on 1st July 1988 and the MCTC was thereafter registered with the SADCC secretariat The IGA contains a provision that any SADC member country can become party to this Agreement

Since 1st April 1989 the centre has been funded and managed by the BLMS countries

The principal objectives of the centre are

To provide training in posts and telecommunications in order to meet
- training requirements for newly recruited staff
- training needs for staff engaged on maintenance and provision of existing services
- required training for staff engaged on the planning and implementation of development projects
- training needs for MCTC Instructional personnel to keep abreast of developments in technology and related skills and
- requirements that satisfy ITU training levels 1 2 3 and 4

In order to cater for new course and to be able to accommodate participants from all SADC member states new training wings and extended facilities are needed

Description

The project aims at converting the Multi Country Postal Training Centre in Malawi (MCTC) into a higher level Regional Training Centre for SADC Postal Administrations

Technical assistance is needed for the preparation of a development programme for financing of new training wings and upgrading of the facilities as determined in the programme

Status

Financing is being sought

September 1994

AAA 7 08 Strengthening of Infrastructure

Estimated Costs
Total USD 2 1 million
Foreign USD 2 1 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 2 1 million

Executing Agency
SATCC/Postal Administration

Start 1994
Duration 4 years

This group of projects includes projects related to improvement and the construction of postal terminals (SI 1), the provision of equipment (SI 2) and improvements in transport (SI 3)

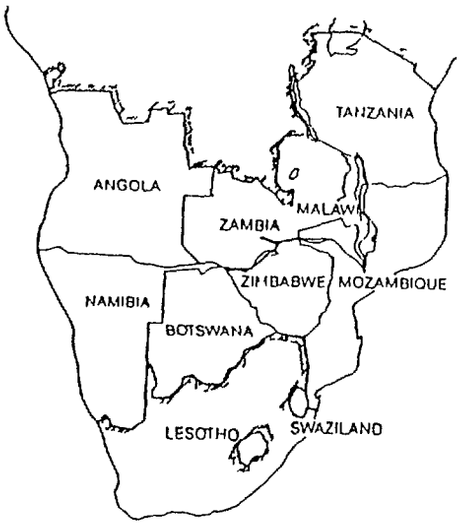
Generally there is a need to improve the postal terminals in order to make provision for better services to the customers and to create conditions for better working routines and environment

The transport of mail is in several Member States hampered by the low availability of vehicles and unreliable service by contracted transporters

Subprojects Included in Programme		Cost				Funding	
		Total	For'n	Local	Secu	Nego	Gap
SI 1	Postal Terminals	0 4	0 4	0 0	0 0	0 0	0 4
SI 2	Purchase of Equipment	1 3	1 3	0 0	0 0	0 0	1 3
SI 3	Transport Plans and Vehicles	0 4	0 4	0 0	0 0	0 0	0 4
		2 1	2 1	0 0	0 0	0 0	2 1

September 1994

AAA 7 08 Postal Terminals
(SI 1)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 4 million

Executing Agency
SATCC

Start 1994
Duration 15 months

Objectives

Several Member States have old postal terminals unsuitable for modern mail handling and service to the customers There is a lack of post office boxes resulting in both individuals and companies having to share the limited number available With increasing mail volumes the need for improvement will be further accentuated

A feasibility study on the construction of a new sorting centre in Harare has been carried out financed by Sweden in 1989 Similar studies are needed in several Member States

There will also be a need for improving and/or constructing new facilities in towns and rural areas in most of the Member States

Investment programmes for new facilities have been prepared in most countries but have not been followed by implementation due to lack of funds

Description

The project provides expert assistance in the preparation of implementation programmes for new postal terminals

Technical assistance is needed for the preparation of national investment plans for postal terminals

The existing facilities should be examined in light of the future need for improved service and increased access to postal service

On the basis of these examinations feasibility studies and programmes should be prepared for the upgrading of existing facilities and the construction of new facilities

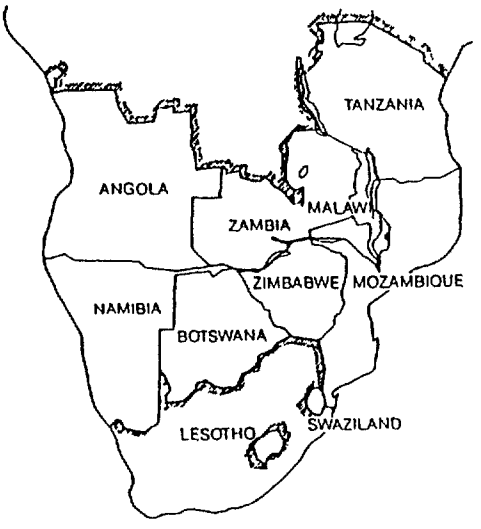
Costs for implementing the programme should be calculated taking into account the ability of the Postal Administrations to raise there owns funds and the need for donor financing

Status

Financing is being sought

September 1994

AAA 7 08 Purchase of Equipment
(SI 2)



Estimated Costs
Total USD 1 3 million
Foreign USD 1 3 million
Local USD 0 0 million

Funding Secured
Foreign USD 0 0 million
Local USD 0 0 million

Funding Under Negotiation
Foreign USD 0 0 million

Financing Gap
Total USD 1 3 million

Executing Agency
Postal Administration

Start 1994
Duration 1 year

Objectives

Most of the Postal Administrations suffer from a lack of equipment in sorting centres and at counters Sometimes very basic equipment is not available such as typewriters calculators stamp pads, bags or sorting frames

Some equipment is produced within the Member States Other more advanced equipment such as computers needs to be imported and paid for in foreign currency

In many developed countries rationalisation of the postal services has resulted in smaller offices and sorting centres being closed There is consequently a large second hand supply of postal equipment Such equipment is especially useful for smaller post offices in the Member States

Description

This project comprises assistance in the purchase of general postal equipment

The Postal Administrations should themselves survey their need for additional equipment and suitable sources for purchasing this equipment Minor assistance may be needed in order to assess the need for new modern equipment

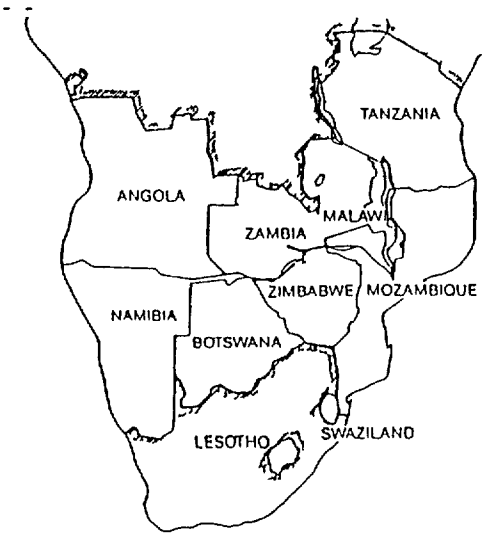
Industrial countries with excess equipment that can be supplied at low costs or as grants to the Member States should be asked to list the equipment Based on these lists, the postal services should be able to select material needed for their services

Status

Financing is being sought

September 1994

AAA 7 08 Transport Plans and Vehicles
(SI 3)



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
Foreign USD 0 0 million

Financing Gap
Total USD 0 4 million

Executing Agency
SATCC

Start 1994
Duration 2 years

Objectives

Mail is transported by the Postal Administrations own vehicles by contracted transporters and by public transport services (rail road waterway and air services)

Mail transport is not always given sufficiently high priority resulting in the fact that mail is delayed and that the first available transport opportunity is not used

This is the case especially for national and regional conveyance based on low tariff contracts As these contracts are less attractive for the transporters they often result in low priority for postal consignments and integrity problems in the form of frequent losses and tampering with mail

It is necessary to prepare policies for the conveyance of mail to be applied by public and private transporters The agreements between Postal Administrations and transporters need to be reviewed and amended if necessary The demand for vehicle fleets for the Postal Administrations need to be determined

Description

The project comprises technical assistance to the Postal Administrations for preparing postal transport plans

Expert assistance is needed to survey the current transport situation its deficiencies and need for improvement

The expert shall also assess whether it is feasible for the Postal Administrations to have their own vehicle fleet and bus services as is the case in Zambia

Policies for the shipment of mail should be prepared for approval by the SATCC bodies concerned

Status

Financing is being sought

September 1994

Criteria and Procedures for Project Selection

2461

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 SADC They shall, therefore, guide the SADC 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 SADC 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 SADC, 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 SADC 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 SADC, 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 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 ard compatibility with existing or planned national transport and communications systems,

iii) relationship and compatibility with existing or planned regional transport and 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 be 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 Section 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 **PROCEDURES 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

5 2 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

5 3 In the case of project 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 a matter of general principle, SADC 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

7.1 Implementation refers to the preparation and execution of a project, but does not include subsequent operation and maintenance (e g of a plant)

7 2 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.

7 3 The SATCC Technical Unit will provide the required assistance to member States in all stages of the project

7 4 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

7 5 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 guide 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

7 6 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

7 7 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

7 8 The Sector Coordinating country is responsible for reporting of 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

Funding Status of Projects

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
TABLE 2 (A) REGIONAL OPERATIONAL COORDINATION											
	PROJECTS										
MULTIMODAL											
AAA.0 01	Technical Assistance to	8 10	7 20	0 90	6 90	(NORDICS)				4 60	Financing for the following period,
	SATCC				0 30	(ITU)					Nordics 1 March 1990-31 March
					0 90	(SADC)					1994 Regional 1993 1994 budget,
											ITU 1990-93
AAA.0 02	Operational Coordination	(32 40)	(32 40)		(32 40)		(5 00)		(0 30)		
	Development Programme										
(01)	Road Infrastructure	0 70	0 70		0 70	(DEN)					Financing for the period 1991 93
(02)	Road Traffic & Transport	0 70	0 70		0 70	(NOR					Financing for the period 1991 93
(03)	Railway Administrations	30 00	30 00		25 00	(USA)	5 00	(USA)			Including (i) Study on Train Operations
											Improvement (ii) Reg.Rolling Stock
											Info System (iii) TA for Railways
											Restructuring. USD 25 mio for CFM
											Restructuring
(04)	Civil Aviation Administrations	0 30	0 30						0 30		
	Techn Assist for the Implem										
	of the Yamoussoukro Declarat										
(05)	National Airlines										Financed under Project AAA.0 01
(06)	Port Administration				-						Included in NORAD financing of project
											AAA.0 05
(07)	Shipping, Clearing and Forwarding		-								Included in NORAD financing of project
											AAA.0 05
(08)	Telecommunications	(0 50)	(0 50)		(0 50)	(CAN)					SATA Annual Review financed under
											Project AAA.0 05
(09)	Meteorology										Financed under Project AAA.0 01
(10)	Postal Services										Financed under Project AAA.0 01
(11)	Regional Frequency Management	1 90	1 90		0 50	(AUS)			1 40		Feasibility study and detail
	and Radio Monitoring Programme										specification and requirements
											undertaken through the SATCC
											Australia Trust Fund. Project
											redefined to include the outcome
											of the study
(12)	Workshop/Seminar on Telecommunication	0 20	0 20		0 20	(USA)					
	Policy Regulation and Restructuring										
AAA.0 04	Transit Transport Project	10 30	10.30		3 70	(UNDP)			3 90		First phase 1987 1991 Second phase
					2.70	(USA)					1992 1993 Project extended up to
											31st March 1994 under the current

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
											USAID grant
AAA.0 05	SATCC Technical Services Fund	17 40	17 40		10 50	(CAN)	3 20	(USA)			Ongoing Canadian part ended June 1992
					1 00	(NOR)					
					1 90	(GER)					
					0 80	(AUS)					
AAA.0 06	SATCC Statistics Data System	(7 40)	(7 40)		(0 1 0)				(7 30)		
(01)	Telecommunications Statistics Data Base System	0 40	0 40		0 10	(SWE)			0 30		Studies financed under project AAA.0 01 Financing required to complete the project.
(02)	Package of Transport Statistics Programmes	7 00	7 00						7 00		
AAA.0 07	SATCC Housing in Maputo	2 20	2 20		0 80	(NOR)			1 40	0 10	Construction of phase I in progress
AAA.0 09	Package of Transport Statistics Programmes										Included in project AAA.0 06(02)
AAA.0 10	Update on the Adoption of a Common Freight Nomenclature System within the SADC region	0 10	0 10		0 10	(CIDA)				0 10	Final Report has been prepared Completed in 1992
AAA.0 11	Regional Transport & Communications Intergration Study for Southern Africa	5 00	5 00		5 00	(EEC)					Financing secured from EEC
ROADS											
AAA.1 01	Package of Road Safety Programmes	(18 10)	(18 10)		(7 4)				(10 70)		Preparation of country programmes is ongoing.
(01)	Road Safety Programme Angola	2 00	2 00						2 00		
(02)	Road Safety Programme Lesotho	2 00	2 00						2 00		Programme prepared
(03)	Road Safety Programme Malawi	2 00	2 00		2 00	(IDA/IBRD)					Programme prepared
(04)	Road Safety Programme Mozambique	1 90	1 90						1 90		Programme prepared.
(05)	Road Safety Programme Namibia	2 00	2 00						2 00		
(06)	Road Safety Programme Swaziland	1 80	1 80						1 80		Programme prepared
(07)	Road Safety Programme Tanzania	1 60	1 60		1 60	(IDA/IBRD)					Programme prepared
(08)	Road Safety Programme Zambia	3 80	3 80		3 80	(FIN)					Programme prepared
(09)	Road Safety Programme Zimbabwe	1 00	1 00						1 00		Programme prepared.
AAA.1 02	Package of Weighbridge Programmes	(5 30)	(4 60)	(0 70)	(0 70)				(4 60)		Descriptions have been prepared
(01)	Weighbridge Project Angola	0 40	0 30	0 10	0 10	(ANG)			0 30		
(02)	Weighbridge Project Botswana	0 10	0 10						0 10		

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING			STATUS	Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(03)	Weighbridge Project Lesotho	0 10	0 10						0 10		
(04)	Weighbridge Project Malawi	0 20	0 20						0 20		
(05)	Weighbridge Project Mozambique	0 20	0 20						0 20		
(06)	Weighbridge Project Namibia	0 90	0 60	0 30	0 30	(NAM)			0 60		
(07)	Weighbridge Project Swaziland	0 30	0 20	0 10	0 10	(SWA)			0 20		
(08)	Weighbridge Project Tanzania	0 30	0 20	0 0	0 10	(TAN)			0 20		
(09)	Weighbridge Project, Zambia	0 30	0 20	0 10	0 10	(ZAM)			0 20		
(10)	Weighbridge Project Zimbabwe	2 50	2 50						2 50		Funding for an additional 30 weighbridges are sought
AAA.1 03	Implementation of Harmonized Road Maintenance Management System in SADC Countries	1 50	1 50				1 50	(DAN			TOR completed Financing is under negotiation with DANIDA.
RAILWAYS											
AAA.2 09	Study of Interchange Rules for Rail Operations in the SADC Region	0 60	0 60						0 60		Final Report has been prepared. Financing is being sought for implementation
AAA.2 10	Study of the Joint Acquisition of Spare Parts for Wagons and Locomotives	0 10	0 10		0 10	(CIDA)				0 10	Final Report has been prepared Completed in 1992
AAA.2 11	Update of the SADC Railway Rolling Stock Study										TOR for the study has been approved. Cost estimate to be worked out.
AAA.2 12	Development of Railway Accident Investigation Procedures and Courses for SADC Railways										TOR for the study has been approved Cost-estimate to be worked out DANIDA has shown interest in the project.
BOT 2 10	Equipment for Maintenance Depots for Botswana Railways	4 10	4 10		4 10	(BOT)					Ongoing
PORTS AND WATER TRANSPORT											
AAA.3 03	Marine Safety Development Programme for SADC Coastal States	0 50	0 50						0 50		TOR revised to cover all SADC Coastal States Financing is being sought.
AAA.3 04	Package of Port Statistics Programmes	1 10	1 10						1 10		Detailed project descriptions prepared. Financing is being sought.
CIVIL AVIATION											
AAA.4 03	Coordinated Use of Aircraft Maintenance Facilities	0 10	0 10						0 10		Being attempted in house by the Aircraft Maintenance Committee
AAA.4 10	Joint Use of Aircraft and Sub Regional Cooperation	0 50	0 50						0 50		Being attempted in house by the Airline Planning Committee
AAA.4 13	Planning and Design for Implementation	0 80	0 80						0 80		Financing is being sought

TRANSPORT AND COMMUNICATIONS

Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million										
	of the Rationalized Plans in the Region									
AAA.4 14	Feasibility Study of an Inspection Services Unit	0 70	0 70		-			0 70		A pre feasibility study thereof is being attempted through a short term consultancy
AAA.4 15	Feasibility Study of Independent Operators	2 00	2 00		-			2 00		Financing is being sought
AAA.4 17	Establishment of Local User Terminal for SARSAT/COSPAS Application	6 00	6 00					6 00		New project 1993 Financing is beinh sought
TELECOMMUNICATIONS										
AAA.5 03	Study on AXE 10 Repair Centre	0 40	0 40		0 10	(AUS)		0 30		Australia provided prefeasibility on AXE 10 Repair Centre Funding is sought for the centre
AAA.5 04	Implementation Plan for Regional Earth Station Connectivity Project	16 90	15 10	1 80	0 50 0 10 1 80 3 20	(CAN) (USA) (BOT)	3 30	8 00		Study financed under project AAA.0 05 Financing is required for project implementation in ANG MAL and ZAM
AAA.5 05	Study on the Harmonization of Telephone and Telex Tariffs for the Sub region	0 30	0 30		0 10 0 10	(CAN) (ITU)		0 10		Undertaken by ITU and CIDA with financing from Project AAA.0 05 Financing required to complete the study
AAA.5 06	Study on the Development of a Regional Manufacturing Strategy	0 50	0 50		0 30	(CAN)		0 20		CIDA is financing study on cables and mechanical aids Financing is required for Feasibility Study on Electronic Products
AAA.5 07	Model Study on Maintenance Procedures and Schedules for PANAFTEL Terrestrial Microwave Radio Systems	0 10	0 10					0 10		Funding is sought
AAA.5 08	Regional Data Communication Programme	8 50	8 50		0 50	BEL		8 00		Belgium is financing the study Funding for implementation is sought
AAA.5 09	Study on Optimisation of Regional Switching and Signalling Facilities	1 30	1 30		0 30	AUS		1 00		Australia has financed the study Funding for implementation is sought.
AAA.5 10	Study for Establishment of Regional Maintenance Repair Workshops	0 20	0 20		0 10	ITU		0 10		Prefeasibility study on Regional Repair Centre undertaken by ITU Financing is required for project implementation.
AAA.5 11	Workshop/Seminar on Digital Synchronisation Planning	0 20	0 20		0 20	SWE				Sweden financed the study Financing will be required for implementation
AAA 5 12	Establishment of Network Management Control Centres	0 30	0 30		0 20	AUS		0 10		Prefeasibility Study undertaken through the SATCC Australia Trust Fund Financi is required for project implementation
AAA 5 13	Study on Establishment of Satellite and Land Based Mobile Service	0 30	0 30					0 30		Financing is required to undertake the study
	Sub-total OPERATIONAL COORD	**145.30**	**141 90**	**3 40**	**81 60**		**13 00**	**50 70**		

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING			STATUS		Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
TABLE 2(B) TRAINING PROJECTS											
MULTIMODAL											
AAA.0 03	Telecommunications Training Development Programme	5 00	5 00		0 20	BEL	0 30	(NOR)	4 50		Project redefined to include projects emanated from the Training needs Survey
ROADS											
AAA.1 04	Road Transport Training Programme	49 60	49 60		2 40	EEC			47 20		EEC funding to support training of Senior Managers in Road Traffic and Transport. Additional financing is being sought
RAILWAYS											
AAA.2 06	Railway Training Programme	9 10	9 10		5 50	GER			0 50		Based on Study on Railway Training Programmes Project redefined to include former sub-projects 01 and 02 Additional financing is being sought
					3 10	SWITZ					
MOZ 2 13	Development of Railway Training for Portuguese speaking Personnel	26 80	26 30	0 50	9 10	EEC	17 20	(EEC)			Ongoing
					0 50	MOZ					
SWA.2 03	Provision of Technical Assistance and Management Training to Swaziland Railway	4 70	3 50	1 20	3 50	USA					Completed in 1993
					1 20	SWA					
PORTS AND WATER TRANSPORT											
MOZ 3 05	Port Staff Training Institute Mozambique	7 90	6 90	1 00	6 90	NOR					In progress Administration and technical assistance through ILO with NORAD Funding is continuing.
					1 00	MOZ					
TELECOMMUNICATIONS											
ANG 5 06	Expansion of Telecommunication Training Centre Angola	21 50	21 00	0 50	0 50	ANG			21 00		Financing is required for project implementation.
MAL 5 04	Expansion of Telecommunication Training Centre MPO Malawi	5 00	1 00	4 00	4 00	MAL			1 00		Additional financing is being sought.
METEOROLOGY											
AAA.6 01	Meteorological Expert Services and Fellowships	7 30	7 30						7 30		Financing is being sought
	Sub-total TRAINING	**136.80**	**129 70**	**7 20**	**37 70**		**17 20**		**81 90**		
TABLE 2(C MAPUTO PORT TRANSPORT SYSTEM PROJECTS											
ROADS											
LES 1 01	Upgrading of the Road Mohales Hoek Quthing Qachas Nek, Lesotho	121 00	106 00	15 00	14 50	EEC			51 50		Additional funding required to complete the project Sengu River bridge financed separately by DANIDA.
					15 00	LES					
					34 00	USA					
					6 00	DEN					

TRANSPORT AND COMMUNICATIONS

Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING STATUS Amount	Source	Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million										
LES 1 02	Upgrading and Reconstruction of the Road Taung Mokhotlong Sani Top Lesotho	84 00	67 00	17 00	17 00	LES		67 00		Feasibility study & engineering design completed (financed by UK) Financing for implementation is being sought
LES 1 03	Upgrading of the Road Thaba Tseka Taung Mpiti Lesotho	116 00	93 00	23 00	23 00	LES		93 00		Feasibility study has been completed The study is under consideration by the Government and EEC
LES 1 04	Construction of a Road Ramabanta Semokong Sekake Lesotho	45 00	36 00	9 00	9 00	LES		36 00		In view of the development of the Semonkong area it will be necessary to review the design.
LES 1 05	Upgrading of the Road Mokhotlong Oxbow Lesotho	70 00	60 00	10 00	10 00	LES	18 70			Project divided into two separate contracts Construction period will be three years
					20 30	ADB				
					10 00	BADEA				
					2 00	OPEC				
					9 00	KUWAIT				
MOZ 1 04	Rehabilitation of the Road Maputo Swaziland Border Mozambique	21 00	17 00	4 00	0 80	SWE				Works on the Matola bridge completed. Construction work on the road started 1993
					4 00	MOZ				
					16 20	KUWAIT				
MOZ 1 06	Road Linking Southern Zimbabwe with the Maputo Area, Mozambique	25 00	17 50	7 50	7 50	MOZ		17 50		Financing is being sought
SWA.1 01	Rehabilitation/Upgrading of the Road Mozambique Border at Lomahasha Siteki Big Bend	22 00	18 70	3 30	5 70	ADB		9 80		Work completed on the Lomahasha-Siteki section.
					3 20	SWE				
					3 30	SWA				
SWA.1 02	Improvement of the Mbabane Manzini Road, Swaziland	62 00	62 00		50 00	ADB				Ongoing
					12 00	EEC				
ZIM 1 06	Upgrading of Rutenga Boli Sango Road Route 456 Zimbabwe	7 00	7 00					7 00		Financing is being sought
RAILWAYS										
BOT 2 01	Rehabilitation of the Main Railway Line Botswana	(121 90)	(88 10)	(33 80)	(54 50)			(67 40)		
(03)	Section 3 Francistown to Serule	21 30	15 30	6 00	5 30	PR CHINA				
					6 00	BOT				
					10 00	BOT				
(04)	Section 4 Gaborone to Dibete	16 40	5 40	11 00	11 00	BOT				
					5 40					
(05)	Section 5 Dibete to Serule	63 60	50 90	12 70	12 70	BOT		50 90		Financing is being sought
(06)	Improvement to Signals and Telecommunications System	20 60	16 50	4 10	4 10	BOT		16 50		Financing is being sought.
MOZ 2 01	Rehabilitation of the Mozambique Swaziland Railway	(45 10)	(36 70)	(8 40)	(19 50)		(25 60)			

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING		STATUS			Dis -	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(03)	Rehabilitation of Swaziland Railway	23 40	19 00	4 40	4 40	SWA	19 00	(ITA)			Study completed, financed by Italy
	Matsapha Mozambique Border										Funding for implementation is under
											negotiation with Italy
(PR LG)	Railway Rehabilitation	21 70	17 70	4 00	11 10	ITA	6 60	(ITA)			Goba Railway Line Additional funds
					4 00	MOZ					is under negotiation with Italy
MOZ 2 06	Rehabilitation of the Maputo	(217 80)	(207 50)	(10 30)	(92 10)		(33 70)		(92 00)		
	Chicualacuala Railway										
(031)	Phase I Track Renewal Resleepering,	(23 80)	(21 80)	(2 00)	(23 80)						
	Welding Plant, Communications etc										
(032)	Phase II A Completion of Rehabilitation,	(117 70)	(106 10)	(5 60)	(85 70)		(21 80)		(4 20)		Ongoing project.
	Core Programme										
(033)	Phase II B Additional Support Programme	(90 70)	(89 80)	(0 90)	(0 90)				(89 80)		
(A BR1/3)	Housing, Buildings including new workers	6 40	5 20	1 20	1 20	MOZ			5 20		Phase II B
	housing (Mahotas)										
(A LO1 4)	Locomotives Spares Materials and	55 70	55 50	0 20	0 20	MOZ			55 50		Phase II B
	Technical Assistance										
(A WA1 3)	Wagons Spares Materials & Technical	31 50	31 30	0 20	0 20	MOZ			31 30		Phase II B
	Assistance										
(C BG1 2)	Bridge Repairs	2 80	2 70	0 10	0 10	MOZ	0 80	(EEC)			Phase II A.
					0 50	UK	1 40	(JAP)			
(C BR1 3)	Other Buildings and Services Water	3 70	3 70		-		3 70	(EEC)			Phase II A.
	Power Generation										
(C FC-01)	Technical Assistance for Financial	1 20	1 10	0 10	0 10	MOZ	1 10	(USA)			Phase II A. Waiting financing details
	Control										and costs from CFM(S)
(C LO1 6)	Locomotives Spares Tools Workshops	15 20	15 20				15 20	(USA)			Phase II-A. USD 6 4 million under
	Technical Assistance										MOZ 2 12 waiting financing details and
											costs from CFM(S)
(C MD 01)	Rail Depot Equipment	2 00	0 80	1 20	0 80	UK					Phase II A.
					1 20	MOZ					
(C OM 1)	Workshop Study	0 60	0 60		0 60	DEN					Phase II A. Study ongoing
(C QO1 2)	Quarry Equipment and Ballast	3 80	2 00	1 80	2.00	UK					Phase II A.
					1 80	MOZ					
(C RC 01)	Rescue Crane and Rerailing Equipment	5 30	5 30		5 30	GER					Phase II A.
(C RD1/2)	Road Maputo Chokwe-Chicualacuala										Phase II A. USD 25 million under Project
											MOZ 1 06
(C RM1/4)	Track Renewal by BMS	14 00	10 20	3 80	3 80	MOZ	5 40	(EEC)			Phase II A. C RM 03 deleted
					0 80	CAN					
					4 00	UK					

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		ESTIMATED COST			FUNDING		STATUS			Dis	
Project Title		Total	Foreign	Local	Amount	Source	Under Negotiation		Financing Gap	bursed 31 12 92	COMMENTS / STATUS
US $ Million											
(C RZ1/5)	Concrete Sleepers Ballast, Track	32 10	32.10		9 30	CAN					
	Renewal by National Railways of Zimbabwe				5 50	UK					
					3 60	BOT					
					11 00	GER					
					1 20	AUS					
					1 50	SWE					
(C SC1/2)	Stores and Inventory Control	1 50	1 50		-		1 50	(USA)			Phase II-A. Waiting financing details and costs from CFM(S)
(C SF1/2)	Sleeper Factory/Sleepers	5 00	3 70	1 30	1 30	MOZ					Phase II-A.
					3 70	UK					
(C ST1/2)	Signal System Maputo Machava	12 40	12 40		12 40	GER					Phase II A.
(C TA1/3)	Technical Assistance to BMS and CFM	7 70	7 50	0 20	5 20	UK					Phase II-A.
					0 80	POR					
					0 20	MOZ					
					1 50	IDA/IBRD					
(C TE1/2)	Equipment & Tools for Track Maintenance	7 50	7 50		2.90	CAN	4 60	(EEC)			Phase II A.
(CTL1/2)	Telecommunications	3 30	3 10	0 20	3 10	UK					Phase II A.
					0 20	MOZ					
(C TM1/3)	Truck Materials	6 10	6 10		4 90	CAN					Phase II A.
					1 20	EEC					
(C WA1 5)	Wagons Spares Tools Buildings		-								Phase II A. USD 10 6 million under
	Technical Assistance										Project MOZ 2 08
SWA.2 01	Rolling Stock for Swaziland Railway	20 80	20 00	0 80	0 80	MOZ			20 00		Funding is sought for a staged implementation.
SWA.2 04	Dieselization of Swaziland Railway	30 00	30 00		-				30 00		The project will be reviewed and updated in 1994
SWA.2 05	Provision of Operating, Security and Safety Related Equipment for Swaziland Railway	2 40	2 40		-				2 40		Swaziland has requested that the project be deleted from the SATCC Programme of Action
SWA.2 06	Integrated Telecommunications for Swaziland Railway	2 50	1 80	0 70	0 70	SWA			1 80		Swaziland has requested that the project be deleted from the SATCC Programme of Action.
PORTS & WATER TRANSPORT											
MOZ 3 01	Maputo Port, Mozambique	(128 70)	(124 20)	(4 50)	(15 30)				(113 40)		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 70	1 40	0 30	0 30	MOZ			1 40		
(02)	Matola Coal Terminal Mozambique	98 00	98 00		0 00				98 00		Phase 1 (US$ 1 6 million) completed Phases 2 and 3 will be initiated when warranted by foreseen

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
											increase in traffic
(03)	Container Terminal Equipment and	29 00	24 80	4 20	1 80	UK			14 00		
	Management Assistance Port of Maputo				9 00	ITA					
					4 20	MOZ					
	Sub-total MAPUTO PORT	**1184 30**	**1030 90**	**153 40**	**455 40**		**78 00**		**650 90**		
TABLE 2(D) BEIRA PORT TRANSPORT SYSTEM PROJECTS											
MULTIMODAL											
MOZ 0 01	Multimodal Projects in Beira Port	(40 20)	(34 00)	(6 20)	(40 20)					(22 00)	Disbursement as per 31 12 92 show forex.
	Transport System Development Plan										part only
(MS G 03)	Procurement of MIS Hardware		-		-						Tender preparation Costs included in
											project TA C 3
(PR M-02)	Support to Workers	(16 80)	(10 60)	(6 20)	(16 80)						
(PR M 02)	B) Workers Transport	1 10	1 10		1 10	SWE				0 60	Ongoing project (partly terminated)
(PR M 02)	C) Workers Housing	15 70	9 50	6 20	9 50	FIN				8 90	Ongoing project (TA being terminated)
					6 20	MOZ					
(PR M 04)	Core Staff for Beira Corridor	11 70	11 70		11 70	NORDICS				10 30	Ongoing project.
	Authority										
(PR M 06)	Training Facilities	1 20	1 20		1 20	IDA/IBRD					Tender preparation
(PR M 10)	Housing for Technical Assistance	2 30	2 30		2 30	IDA/IBRD				0 80	Ongoing Project
	Personnel										
(TA C 3)	Technical Assistance to Implementation of	1 00	1 00		1 00	IDA/IBRD					To be included in project TA C1/2
	Management Information System (MIS)										
(TA-C1/2)	Technical Assistance to CFM (C)	7 20	7 20		7 20	IDA/IBRD				1 40	Ongoing project
	Central Services										
(TA PR01)	External Training										Ongoing activity Costs included in
											project PR M 06
ROADS											
MOZ 1 01	Road Projects in Beira Port Transport	(74 10)	(73 30)	(0 80)	(14 10)		(60 00)			(10 80)	
	System Development Plan										
(RD CE-01	Road Rehabilitation Beira Machipanda	(74 10)	(73 10)	(0 80)	(14 10)		(60 00)			(10 80)	
(RD-CE-01	A)2 Emergency Repairs Manica Province	5 40	5 40		5 40	EEC				5 40	Completed 1992
(RD CE-01	B) Equipment and Technical Assistance	5 50	4 70	0 80	0 80	MOZ				4 70	Ongoing project
	to Road Maintenance Units				4 70	ADB					
(RD CE-01	C) Reinforcement of the Road	2 20	2 20		2.20	SWE				0 70	Ongoing project
(RD CE 01	D) Reconstruction of the Road	61 00	61 00		1 00	ADB	60 00				Prequalification of Tenderers ADB, EEC

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation		Financing Gap	Dis bursed 31 12 92	COMMENTS / STATUS
US $ Million											
											and SIDA has shown interest to finance the project.
ZIM 1 03	Upgrading of Eastern end of Harare Mutare Mozambique Border Road, Zimbabwe	22 00	18 00	4 00	4 00	ZIM			18 00		The detailed engineering design has been completed with FINNIDA financing
RAILWAYS											
MOZ 2 03	Railway Projects in Beira Port Transport System Development Plan	(165 20)	(148 10)	(17 10)	(131 70)		(19 90)		(13 60)	(31 20)	
(R CF 03)	Track Rehabilitation Blantyre Border	15 50	12 40	3 10	3 10	MAL	12 40	(UK)			
(R CE 04)	Rehabilitation of the Sena Railway Line	(81 40)	(68 50)	(12 90)	(73 90)		(7 50)			(17 20)	
(R CE 04)	Phase 1) Quarry and Sleeper Factory	18 50	18 50		18 50	ITA				17 20	Substantially completed during 1990
(R CE 04)	Phase 2) Restoration of the Railway section Dondo Inhamitanga (158km)	62 90	50 00	12 90	42 50 12 90	ITA MOZ	7 50	(OPEC			Detailed engineering design plus awaiting signing of country agreement with Italy
(R CE 04)	Phase 3) Rehabilitation of the Railway sections Inhamitanga Vila Nova and Dona Ana Moatize		-								To be defined
(R CE 05)	Study Rail Link Kafue Lions Den	0 80	0 80						0 80		
(R ME-01)	Rehabilitation of Wagons	(4 70)	(4 40)	(0 30)	(2 20)				(2 50)	(1 90)	
(R ME 01)	C) Wagon Rehabilitation Programme	2 00	1 90	0 10	1 90 0 10	DEN MOZ				1 90	Completed in 1992
(R ME 01)	D) Conversion of Wagons to Roller Bearings	2 70	2 50	0 20	0 20	MOZ			2 50		Awaiting pledge for financing.
(R ME 02)	Procurement of Locomotive Power	(24 50)	(24 50)		(24 50)					(5 80)	
(R ME 02)	B2) Acquisition of new Main line Locomotives	17 70	17 70		17 70	CAN					Ongoing project.
(R ME 02)	C) Acquisition of new Shunting Locomotives	6 80	6 80		6 80	IDA/IBRD				5 80	Completed in 1993
(R ME 03)	Replacement of Malawi Railway Wagons	2 00	2 00		-				2 00		
(R ME 04)	Rehabilitation of Locomotive Workshop	5 30	5 30		5 30	USA				1 20	Ongoing project
(R ME 05)	Extension of Limbe Workshop	0 60	0 60		0 60	UK					
(R MF 06)	Facilities Spares Equipment for CFM(C) Workshops										Taken out of Beira Port Trp System
(R OP 02)	Electrification Study				-						Taken out of Beira Port Trp System
(R ST 02)	New Radio Telecommunication System for Beira Machipanda Railway	6 70	6 30	0 40	6 30 0 40	ITA MOZ					Redefinition of project content. Revision of project document
(R ST 03)	Train Control System	5 10	4 70	0 40	0 40	MOZ			4 70		Planning phase

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation		Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million											
(R ST-04)	Wagon Control System CFM(C)	1 00	1 00		-				1 00		System analysis/design ongoing
(R ST 05)	Telephone Exchanges outside Beira	0 50	0 50		-				0 50		Planning phase
(R ST 06)	Solar Power Panels Blantyre to Border	0 10	0 10		-				0 10		
(R TA 02)	Technical Assistance to Malawi Railways	2 00	2.00						2 00		
(TA R 01)	1A) Technical Assistance to CFM (C) Railway Division	2 50	2 50		2.50	SPA				1 20	Ongoing project 2nd Contract 1992 to 1993
(TA R 03)	Technical Assistance to Rehabilitation of Wagons	2 00	2 00		2 00	DEN				1 40	Ongoing Project
(TA R 05)	Technical Assistance to Track Maintenance	2 90	2 90		2 90	AUS				0 70	Ongoing project.
(TA R1 2)	1B 2) Technical Assistance and Training to CFM (C) Railway Division	7 60	7 60		7 60	IDA/IBRD				1 80	Ongoing project
PORTS AND WATER TRANSPORT											
MOZ 3 02	Port Projects in Beira Port Transport Development Plan	(122 80)	(117 90)	(4 90)	(87 90)		(34 90)			(40 90)	Estimates of costs & funding represent the total of the sub projects listed below
(P A-02)	Navigational Aids Beira Port	(1 40)	(1 40)		(1 40)	SWE				(1 10)	Ongoing project. Included in Project MOZ 3 04
(P A 03)	Maintenance Dredging (Phase 1)	20 80	20 80		-		20 80	(EEC)			Tender procedure
(P CE-01)	Multipurpose and Container Handling Terminal	(0 60)	(0 60)		(0 60)						
(P CE-01)	D) Rehabilitation of Port Administration Facilities	0 60	0 60		0 60	FIN					Contract negotiation
(P-CE-02)	New Oil Terminal	28 50	26 70	1 80	1 80 26 70	MOZ NOR				26 40	Completed in 1994
(P CE 03)	Port Railways	22 20	20 00	2 20	16.20 2.20	ITA MOZ	3 80	(ITA)			Final negotiation of foreign financing.
(P CE 10)	Service Port Facilities	1 70	1 70		-		1 70	(DEN)			DANIDA financing under negotiation
(P CE 13)	Port Traffic Control and Communication Centre	8 90	8 60	0 30	0 30	MOZ	8 60	(DEN)			Financing in negotiation
(P CE 14)	Power Supply Network for Beira Port	10 70	10 10	0 60	0 60 10 10	MOZ SWE				3 20	Ongoing project
(P CE 15)	Fire Fighting System	0 70	0 70		0 70	NET				0 70	Completed 1993
(P ME 01)	D) Phase IV Other Equipment for new	2 80	2 80		1 40	FIN					Ongoing project

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		**Total**	**Foreign**	**Local**	**Amount**	**Source**	**Negotiation**		**Gap**	**31 12 92**	
US $ Million											
	Multipurpose and Container				1 40	SWE					
	Handling Terminal										
(P ME 04)	Deep-Sea Pilot Boat/Modification	2 10	2 10		2.10	DEN					Ongoing project
	of Tug Boats										
(P ST 01)	Telecommunications Network	0 50	0 50		0 50	SWE					Mobilization (Manufacturing).
	Port and Railways Beira										
(TA P 02)	A) Technical Assistance to Beira	10 30	10.30		10 30	NET				6 50	Ongoing project.
	Port (2nd contract)										
(TA P 02)	B) Technical Assistance to (New)	4 80	4 80		2.40	SWE				0 50	Ongoing project
	Container Terminal (MCT)				2 40	FIN					
(TA P 03)	Technical Assistance to Port Training	1 80	1 80		1 80	IDA/IBRD				0 30	Ongoing project
(TA P-04)	Technical Assistance to Tugboat	6 40	6 40		6 40	DEN				3 30	Ongoing project
	Operation										
CIVIL AVIATION											
MOZ 4 03	Civil Aviation Projects in the Beira	(23 30)	(22 10)	(1 20)	(11 20)				(12 10)		
	Port Transport System Development Plan										
(C CE 1)	Development of the Beira Airport	2 00	2 00		-				2 00		
	Terminal										
(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 2)	Communication and Navigation at Beira,	3 00	3 00		1 00	FRA			2 00		
	Chimoio and Tete										
(C ME 3)	Fire Fighting Equipment for	2 50	2 50		2.50	FRA					
	Beira, Chimoio and Tete										
(C ME 4)	Maintenance Equipment	0 50	0 50		-				0 50		
(C ME 5)	Airport Lighting, Chimoio	6 50	6 50		6 50	DEN					
(C TA.1)	Technical Assistance	2 80	2 80						2 80		
	Sub-total BEIRA PORT	**447 60**	**413 40**	**34 20**	**289 10**		**######**		**43 70**		
TABLE 2(E) NACALA PORT TRANSPORT SYSTEM PROJECTS											
ROADS											
MAL 1 01	Study on Upgrading of the Road Mangochi	0 20	0 20		-				0 20		An inhouse design for 42km has been
	Mandimba Mitande Malawi/Mozambique										completed up to Masuku. Mozambique
											section pending financing.
ZAM 1 06	Rehabilitation of the Road Lusaka	73 70	73 70		-		73 70				Denmark has pledged to finance design and
	Chipata, Zambia										ADB to finance rehabilitation works

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation		Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million											
RAILWAYS											
MAL 2 02	Rehabilitation & Acquisition of Locomotives Rolling Stock & Maintenance Equipment	30 70	30 70		-				30 70		Financing is being sought
MOZ 2 05	Rehabilitation of the Nacala Entre Lagos Railway Mozambique	(181 50)	(152 10)	(29 40)	(148 70)				(32 80)		
(01 B)	Track Rehabilitation (ii) 2nd Phase (Nampula Cuamba, 346 km)	143 60	121 40	22 20	45 20	FRA			2 10		Ongoing
					30 00	EEC					
					26 00	CAN					
					22.20	MOZ					
					12 60	POR					
					4 00	ITA					
					1 50	FIN					
(01 C)	Track Rehabilitation (iii) 3rd Phase (Cuamba Entre Lagos 77 km)	18 70	12 80	5 90	5 90	MOZ			12 80		
(02)	Rehabilitation of Locomotives	3 50	3 50						3 50		Acquisition of new locomotives is included in Project MOZ 2 12
(03)	Rehabilitation of 30 coaches	1 10	1 10						1 10		
(04)	Railway Telecommunications	6 90	6 80	0 10	0 10	MOZ			6 80		
(05)	Workshops Equipment and Material	7 70	6 50	1 20	1 20	MOZ			6 50		Rehabilitation of Wagons is included in Project MOZ 2.08
PORTS & WATER TRANSPORT											
MOZ 3 03	Rehabilitation of the Port of Nacala	42 00	35 60	6 40	35 60	FIN					Ongoing project, progressing on schedule
					6 40	MOZ					
	Sub-total NACALA PORT	**328 10**	**292.30**	**35 80**	**190 70**		**73 70**		**63 70**		
TABLE 2(	DAR ES SALAAM PORT TRANSPORT SYSTEM PROJECTS										
ROADS											
MAL 1 03	Road Link Balaka Salima Karonga Uyole Malawi Tanzania	47 60	47 60		23 30	EEC					Ongoing
					12 00	GER					
					8 00	NET					
					4 30	EIB					
MAL 1 04	Road Shuttle Service Malawi TAZARA	1 40	1 40		1 40	USA					Completed in 1991/92
TAN 1 03	Rehabilitation Strengthening of the TANZAM Highway Tanzania	120 20	83 60	36 60	13 20	IDA/IBRD			44 10		Ongoing Additional financing is being sought
					19 40	ADB					
					6 90	NOR					
					36 60	TAN					
ZAM 1 08	Rehabilitation of the TANZAM Highway Zambia	105 00	105 00				12 00	(DEN)	93 00		Funding is being sought for section Mkushi-Nakonde

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
RAILWAYS											
TAN 2 01	TAZARA 10 Year Development Plan	(361 30)	(342 30)	(19 00)	(189 70)		(33 20)		(138 40)		The 10-Year Plan has been
	and Malawi Dar es Salaam Projects										reviewed and revised.
(CE 01)	Rehabilitation of Quarries	23 90	22 20	1 70	17 50	SWE					
					4 70	EEC					
					1 70	TAZARA					
(CE 02)	Permanent Rectification of Landslides	38 00	32 90	5 10	5 10	TAZARA	32 30	(ADB)			
					0 60	AUS					
(CE 03A)	Mechanized Track Maintenance	22 00	21 90	0 10	2 40	SWI			10 80		Financing sought for two tampers
					4 80	EEC					1 ballast cleaner, ballast
					3 90	AUS					regulators, trolleys and small equipment
					0 10	TAZARA					
(CE 03B)	Spare and Wear Parts	2 50	2 50		2 50	AUS					
(CE 03C)	Manual Track Maintenance	18 00	15 00	3 00	3 00	TAZARA			15 00		
(CE 04)	Rail Welding	31 70	27 00	4 70	27 00	AUS					Cost related to Phase I. Section Dar es
					4 70	TAZARA					Salaam Makambako financed. EEC has
											shown interest to finance remaining
											part of the track, Phase II.
(CE 05)	Rail Burn Repairs	8 40	7 90	0 50	5 70	SWE					
					2 20	SWI					
					0 50	TAZARA					
(CE 07)	Railway Link TAZARA Mpulungu	0 40	0 40		-				0 40		Study being prepared by TAZARA
	Port (Study) Zambia										
(CE 08)	Emergency Bridges	0 90	0 90		-		0 90	(YUG)			Design of bridges in progress
(CE 09)	Malawi Cargo Centre Mbeya	6 40	6 40		6 40	USA					Malawi Dar es Salaam corridor project.
(CE 10)	Malawi Cargo Centre Dar es Salaam	8 60	8 60		8 60	USA					Malawi Dar-es-Salaam corridor project
(GM 01A)	Technical Assistance to Head Office	3 90	3 90		3 90	USA					
(GM 01B)	Job Evaluation	0 60	0 60		-				0 60		
(GM 02)	Manpower Development Plan & Training	6 90	6 40	0 50	3 00	NOR					
					0 50	TAZARA					
					2 20	GER					
					1 20	USA					
(GM 03)	Project Coordinating Unit	6 20	5 70	0 50	5 70	NORDICS					
					0 50	TAZARA					
(ME 01)	Locomotives	104 30	101 80	2 50	2 50	TAZARA			51 30		Includes USD 60 0 million for Phase II.
					40 70	USA					USA delivered 17 locomotives in 1990
					9 80	GER					
(ME 02B)	Goods Wagons Phase II	30 00	30 00		-				30 00		

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(ME 03)	Trolleys and Trailers	12 50	12 50		3 20	SWI			9 30		39 inspections trolleys delivered.
(ME 04)	Handling Equipment for Goods Depots	0 50	0 50						0 50		
(ME 05A)	Rescue Crane and Rerailing Equipment	6 80	6 60	0 20	6 60	FIN					Agreements on an extention have been
					0 20	TAZARA					concluded
(ME 05B)	Accident Prevention phase II	4 00	3 80	0 20	1 70	FIN			2 10		Includes studies and equipment
					0 20	TAZARA					
(ME 06B)	Underfloor Wheel Lathe	2 40	2 40		2 40	EEC					
(ME 07)	Mechanical Equipment for Workshops	10 40	10 40		2.00	EEC			8 40		For German and USA part see ME 01
(ME 08)	Coaches	10 00	10 00						10 00		
(ME 09)	Malawian Tank Wagons and Tank Container	1 30	1 30		1 30	USA					Malawi Dar es Salaam corridor project
(ST 04)	Feasibility Study of Future	0 70	0 70		0 70	DEN					Study report submitted in January 1991
	Telecommunications and Signalling System										
TAN 2 02	Conversion from UIC to AAR Airbrake	1 90	1 90						1 90		Financing is being sought
	standard for TAZARA and Malawi Railways										
PORTS AND WATER TRANSPORT											
TAN 3 01	Development of Navigation on Lake	(0 60)	(0 60)		(0 60)						Estimates of costs and fundings
	Niassa/Nyasa/Malawi										represent the total of
	Malawi Mozambique Tanzania										sub-project (01) below
(01)	Lake Navigation Study	0 60	0 60		0 60	DEN					Draft final report completed
											in 1992 evaluation by steering
											committee completed
TAN 3 02	Development of the Port of	(271 80)	(237 70)	(34 10)	(225 10)		(13 50)		(33 20)		Estimates of costs and fundings
	Dar es Salaam TANZANIA										represent the total of the
											sub projects listed below
(01 2)(a)	Kurasini Oil Terminal Strengthening	12 00	10 00	2 00	2 00	TAN	10 00	(NOR			Financing being sought discussions
	(Phase III) Port of Dar es Salaam										are held with Norway
(b)	Replacement of Sub sea oilpipeline	17 90	16 20	1 70	1 70	TAN			16 20		Project reconstituted following
	for SPM										Masterplan Study (94)
(02)	Improvement of Harbour Entrance Channel	25 30	22 00	3 30	9 00	BEL	13 00				Project revised after completion of
	Port of Dar es Salaam (Phase I)				3 30	TAN					Masterplan Study (1994)
(03 2)	Expansion of Container Terminal	24 30	17 90	6 40	17 50	IDA/IBRD					Tender documents under preparations
	Ubungo ICD and Kurasini Warehouse				0 40	FIN					Implementation planned to commence
	Phase II				6 40	TAN					1st quarter 1992
(03 3)	Repairs to piles and fenders	3 40	3 00	0 40	3 00	DEN					Studies completed Implementation
	Berths 9 10 and 11 Port of				0 40	TAN					planned to commence 1st quarter 1992
	Dar es Salaam										

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(06 1)	Belgian Wharf Reconstruction, Port of	4 40	1 90	2 50	2.50	TAN			1 90		Tender documents ready Financing
	Dar es Salaam										being sought
(06 2)	Modernization of Lighter Wharf,	4 60	3.50	1 10	1.10	TAN	3 50	(NET)			Tender documents ready Financing being
	Phase 2 Paving and Services Port										sought, discussions are held
	Dar es Salaam										with the Netherlands
(07)	Construction of Tug Berth, Port of	5 20	4 80	0 40	0 40	TAN			4 80		Tender documents ready
	Dar es Salaam										Financing is being sought
(08 1)	Purchase of Container Handling	42 40	42.40		18 90	FIN					Equipment started to arrive in June
	Equipment, Phase I, Port of				20 00	DEN					Commissioning of most of the Equipment
	Dar es Salaam				3 50	AUS					completed in January 1989
(08 11)	Purchase of Container Handling	18 90	18 90		10 20	FIN			8 70		Financing being sought.
	Equipment, Phase II, Port of										
	Dar es Salaam										
(08 12)	Stand by generators	2 90	2 60	0 30	2 60	FIN					
					0 30	TAN					
(08 3)	Purchase of General Cargo Handling	19 30	15 70	3 60	8 40	ITA					Tenders for Italian equipment evaluated.
	Equipment Phase I, Port of				2 50	UK					ODA financed equipment delivered in
	Dar es Salaam				0 90	SWE					1988 Swedish financed equipment
					1.30	CAN					delivered in 1987
					2 60	IDA/IBRD					
					3 60	TAN					
(08 31)	Purchase of General Cargo Handling	5 00	5 00		5 00	IDA/IBRD					Specifications under preparation.
	Equipment, Phase II, Port of										
	Dar es Salaam										
(08 32)	Purchase of Office Equipment THA	1 20	1 20		1 20	IDA/IBRD					Tender documents under preparation.
	Headquarters and Port of										
	Dar es Salaam										
(09)	Purchase of Floating Craft	17 50	17 50						17 50		Financing being sought
	Port of Dar es Salaam										
(10)	Technical Assistance to THA and	4 90	4 90		4 10	NOR					
	Improvement of Bandari College				0 80	IDA/IBRD					
	Dar es Salaam										
(11)	Rehabilitation of Berths 1 8	46 40	33 80	12 60	26 00	SWE					
	Port of Dar es Salaam				7 80	NOR					
					12 60	TAN					
(12) (a)	Study on New Oil Terminal	0 20	0 20		-				0 20		
	Port of Dar es Salaam										
(b)	Global Maritime Distress Safety	10 00	10 00						10 00		
	System										
(13)	Study on Increasing Port Capacity	(0 20)	(0 20)		(0 20)	CAN					Financing under project AAA 0 05
	for SADC Transit Goods										Draft final report submitted in
	Port of Dar es Salaam										August 1990

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(15)	Improvement of Central Workshop Port	3 80	3 40	0 40	2.40	IDA/IBRD					
	of Dar es Salaam				0 20	FIN					
					0 80	SWE					
					0 40	TAN					
(16)	Port Development Study	1 20	1 00	0 20	1 00	IDA/IBRD					
	Port of Dar es Salaam				0 20	TAN					
(17)	Project Coordination Unit	3 80	3 50	0 30	1 10	FIN					Work started in 1985 and the Unit
					0 40	NET					is to be kept on site until end 1993
					1 60	SWE					
					0 40	IDA/IBRD					
					0 30	TAN					
(18)	Management Technical	24 00	22 50	1 50	7 10	FIN					Work started in 1986 and will
	Assistance THA Headquarters				8 60	IDA/IBRD					be completed in 1993
	and Port of Dar es Salaam				2 00	NET					
					4 20	SWE					
					0 60	NOR					
					1 50	TAN					
	Sub-total DAR ES SALAAM PORT	**909 80**	**820 10**	**89 70**	**540 50**		**58 70**		**310 60**		
TABLE 2(G) LOBITO PORT TRANSPORT SYSTEM PROJECTS											
MULTIMODAL											
ANG 0 01	Multimodal Projects in the 10 Year Plan	(125 90)	(125 90)		(64 60)		(3 50)		(57 80)		
	for Lobito Port Transport System										
(G CE 1)	Development of the Town of Lobito	60 00	60 00		60 00						Co-financed by Sweden, Norway and the
											World Bank.
(G CE 2)	Rehabilitation of Cement Factory	3 00	3 00		0 10	EIB			2 90		Contract for feasibility study awarded
(G E 1)	Repair & Extension of Lumaum	42 00	42 00		-				42 00		Financing to be arranged by Angola.
	Hydroelectric Power Plant										
(G M 1)	Project Coordination Unit	2 90	2 90		2 90	EEC					Tender for technical assistance
											under preparation.
(G M 2)	Support to Workers and their Families	7 00	7 00				3 50	(POR)	3 50		
(G M 3)	Housing for Technical Assistant Staff in	9 40	9 40						9 40		
	Lobito and Huambo										
(G M 4)	Rehabilitation of Hotel Terminus	1 60	1 60		1 60	POR					Contract awarded.
ROADS											
ANG 1 03	Roads & Road Transport Projects in the	(24 40)	(24 40)						(24 40)		
	10 Year Development Plan for Lobito										
	Port Transport System										
(RD CE 1)	Benguela Lobito Road & Access Roads to	17 40	17 40						17 40		Portugal interested in design of Catum
	the Port and Railway in Lobito										bela Bridge BADEA interested in co
											financing works

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		ESTIMATED COST			FUNDING		STATUS			Dis	
Project Title		Total	Foreign	Local	Amount	Source	Under Negotiation		Financing Gap	bursed 31 12 92	COMMENTS / STATUS
US $ Million											
(RD TR 1)	Reinforcement of the Capacity of the Road Transport Company	7 00	7 00						7 00		
RAILWAYS											
ANG 2 01	Benguela Railway Projects in the 10 Year Development Plan for Lobito Port Transport System	(343 10)	(343 10)		(2 50)		(9 80)		(330 80)		
(R CE 1)	Track Repair and Upgrading	159 90	159 90				8 90		151 00		First phase of the project to be redifined upon completion of ongoing study World Bank and EEC are interested in co-financing works
(R CE 2)	Establishment of Quarries	3 50	3 50		-		0 90	(EIB)	2 60		Feasibility study completed financed by E I.B
(R CE 3)	Sleeper Production Plants	3 00	3 00						3 00		Feasibility study completed financed by E I.B (see P R CE 2)
(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 F 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		0 50	SPA			1 00		Evaluation ongoing
(R M 2)	Upgrading & Extension of Computer Facilities	0 90	0 90		0 30	UNDP			0 60		First phase (training of Angolan programmers) completed, financed by UNCTAD
(R M 3)	Railway Training Assistance	15 00	15 00		1 50	SPA			13 50		
(R M 4)	Technical Assistance for Operation of the Railway	12 50	12 50						12 50		UNCTAD interested
(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		France interested.
(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		Belgium interested
(R ME 6)	Review & Acquisition of Spare Parts and	10 30	10 30						10 30		

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
	Reorganisation of Main Stores										
(R ME 7)	Rescue Equipment & Accident Prevention Programme	1 10	1 10		-				1 10		
(R ME 8)	Installation of 21 Automatic Barriers	1 60	1 60		-				1 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 20	0 20		0 20	SPA					Evaluation ongoing
(R ST 1)	Train Control System and Telecommunications	14 50	14 50		-				14 50		
(R ST 2)	Telephone Exchanges CFB and Lobito Port	0 60	0 60						0 60		
PORTS AND WATER TRANSPORT											
ANG 3 01	Port & Water Tran Projects in the Ten Year Development Plan for the Lobito Port Transport System	(89 20)	(89 20)		(14 00)		(31 00)		(44 20)		
(P CE 1)	Inspection and Reinforcement of Quays	15 80	15 80		-				15 80		
(P-CE 2)	Grain Bulk Facilities Improvement	8 00	8 00		-		8 00	(ITA)			Action suspended.
(P-CE 3)	New Coastal Terminal and Service Port Facilities	6 50	6 50		-		6 50	(EEC)			Evaluation mission assigned to consultant
(P CE 4)	Rehabilitation of Port Railways	2 50	2 50		2.50	FRA					See Project ANG 2 01 (R-CE 1)
(P CE 5)	Study on Rehabilitation of Existing Ore Bulk Facilities	0 50	0 50		-		0 50	(EEC)			Evaluation mission assigned to consultant.
(P CE 6)	New Multi purpose Terminal (Study)	1 00	1 00		-				1 00		
(P CE 7)	New Container Terminal	1 00	1 00		-				1 00		
(P CE 8)	Coastal Protection Works	1 30	1 30						1 30		Financing to be arranged by Angola.
(P M 1)	Welfare and Office Facilities	3 50	3 50						3 50		
(P M 2)	Technical Assistance to the Port of Lobito	1 50	1 50		-		0 90	(EEC)	0 60		
(P M 3)	Port School at Lobito Angola	6 00	6 00		-		6 00				Funding under consideration by NORAD Portugal and UNDP
(P ME 1)	Rehabilitation of Power and Lighting System	3 50	3 50		2 50	SPA			1 00		Project being reviewed and reevaluated for immediate implementation.
(P ME 2)	Purchase of General Port Equipment	2 60	2 60				2 60	(EEC)			
(P ME 3)	Port Maintenance Workshop and	3 50	3 50				3 50	(EEC)			

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
	Store										
(P ME 4)	Mobile Cranes Rehabilitation	3 00	3 00		-		3 00	(EEC)			
	and Scrapping Programme										
(P ME 5)	Floating Equipment	5 00	5 00						5 00		
(P ME 6)	Shipyard Rehabilitation	15 00	15 00						15 00		
(P MS 1)	Maritime Security Programme Angola	1 00	1 00		1 00	ANG					Under implementation.
(P S 1)	Improvement of the Capacity of the	8 00	8 00		8 00	ANG					Under implementation
	Coastal Shipping Company Angola										
CIVIL AVIATION											
ANG 4 01	Civil Aviation Projects in the	(12 10)	(12 10)						(12 10)		
	Ten Year Development Plan for										
	the Lobito Port Transp System										
(CA CE 1)	Upgrading of Benguela Airport	12 00	12 00						12 00		Italy interested.
(CA CE 2)	Study on New Airport between	0 10	0 10						0 10		Portugal interested
	Lobito and Benguela										
	Sub-total LOBITO PORT	**594 70**	**594.70**		**81 10**		**44.30**		**469.30**		
TABLE 2(H) INTRA REGIONAL SURFACE TRANSPORT SYSTEM PROJECTS											
ROADS											
AAA.1 05	Improved Ferry Service at Kazungula	3 00	2 00	1 00	1 00	BOT			2 00		The project is awaiting implementation
	Botswana Zambia										decisions
AAA.1 06	Feasibility Study for a Bridge	0 30	0 30		0 30	CAN				0 30	Final Report presented 1992 Completed
	Across the Zambezi										1992
ANG 1 01	Study on the Road N Zeto										Replaced by project ANG 1 04
	Soyo										
ANG 1 02	Studies of Four Roads in Angola										Replaced by project ANG 1 04
ANG 1 04	Priority Roads in Angola	2 70	2 70						2 70		Replacing projects ANG 1 01 and
											ANG 1 02 Financing is being sought.
BOT 1 01	Partial Reconstruction of Nata	16 90	12 00	4 90	3 30	SWE			8 70		Works in progress now extended to
	Kazangula Road				4 90	BOT					include further 50 km of reconstruction
											within the project Additional financing
											is being sought
BOT 1 02	Construction of Jwaneng Mamuno	118 00	82 00	36 00	8 50	BADEA					The road has been divided into 3
	Road Link Botswana				36 00	BOT					sections
					9 70	KUW					
					36 30	ADB					
					24 90	JAP					
					2 60						

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		ESTIMATED COST			FUNDING		STATUS		Disbursed	COMMENTS / STATUS
							Under	Financing		
Project Title		Total	Foreign	Local	Amount	Source	Negotiation	Gap	31 12 92	
US $ Million										
BOT 1 04	Study on Maun Chanzi Road, Botswana	0 80	0 80					0 80		Pre appraisal carried out Financing for feasibility study is being sought.
BOT 1 05	Rehabilitation of the Lobatse Francistown Road, Botswana	60 00	45 00	15 00	1 50 15 00	BOT BOT		43 50		Additional financing is being sought
MAL 1 02	Upgrading of the Blantyre Milanje Mocuba Road Malawi Mozambique	(40 20)	(36 20)	(4 00)	(4 30)		(35 70)	(0 20)		
(01)	Study on the Upgrading of the Road Blantyre Milanje Mocuba (Feasibility Study)	0 20	0 20					0 20		
(02)	Study on the Upgrading of the Road Blantyre Milanje Mocuba (Design)	0 30	0 30		0 30	EEC				The joint venture design consultant has completed all the documents for the Malawi Section
(03)	Study on the Upgrading of the Road Blantyre Milanje Mocuba (Construction)	39 70	35 70	4 00	4 00	MAL	35 70 (EEC)			EEC has advised in early 1992 for the project to be postponed.
MAL 1 05	Study on the Upgrading of Karonga Chitipa Nakonde Mpulungu Road Malawi Zambia	0 60	0 60		0 60	ADB				Funding relates to Phase I
MOZ 1 02	Rehabilitation of the Zimbabwe Tete Malawi Road Mozambique	18 60	12 60	6 00	12 60 6 00	KUW MOZ				Expected to be completed by the end of 1993
MOZ 1 05	Study on Unity Bridge and Access Roads Mozambique Tanzania	0 90	0 90					0 90		The project is under review
NAM 1 01	Construction of the Gobabis to Buitepo Road Namibia	21 30	21 30		10 70	NAM		10 60	6 40	Ongoing
NAM 1 02	Improvement of the Trans Caprivi Highway Namibia	96 50	67 40	29 10	29 10 2 10 0 90	NAM ADB GER	26 0 (GER)	28 10	14 30	Feasibility study completed
NAM 1 04	Ex Ovambo Road Network Improvement Master Plan Namibia	0 70	0 40	0 0	0 40 0 30	SWE NAM				Completed in 1992
NAM 1 05	Construction of bitumen surfaced road between Koageb and Aus Namibia	23 20	18 70	4 50	4 50	NAM		18 70	4 90	Ongoing with financing from the Government of Namibia
NAM 1 06	Climbing Passing Lanes on Road between Windhoek and Windhoek International Airport Namibia	2 70		2 70	2 70	NAM			2 50	
NAM 1 07	Kavango Ovambo road link Namibia	0 10		0 10	0 10	NAM				Draft feasibility study report under consideration by the Government of Namibia.
TAN 1 01	Rehabilitation and Upgrading of the Mtwara Songea Mbamba Bay Road Tanzania	74 90	58 20	16 70	33 00 17 50 6 40 16 70	FIN EEC IDA/IBRD TAN		1 70		Ongoing
ZAM 1 01	Study on Angola Zambia Road Link Zambia	0 20	0 20				0 20 (EEC)			Further work adjourned for the time

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Project Title (US $ Million)		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
										being. Construction costs are estimated roughly at USD 129 5 million (1991 prices)
ZAM 1 0[illegible]	Rehabilitation of the Lusaka Kafue Livingstone Kazungula Katim Mulilo Road Zambia	1[illegible]7 20	137 20		22 80 9 00	USA NOR		105 40		Additional financing is being sought
ZAM 1 05	Rehabilitation of the Lusaka Kapiri Chingola Zaire Border Road Zambia	54 00	54 00		30 00	DEN		9 00		Financing is being sought for the section Kabwe Kapiri Mposhi
ZAM 1 07	Improvement of the Road Lusaka Mongu Zambia	6[illegible]0	6[illegible]30					6[illegible]0		Estimated costs relate to Kaoma Mongu Financing is being sought
ZIM 1 05	Rehabilitation of Harare Umpfundi Route [illegible]	10 00	6 00	4 00	4 00	ZIM		6 00		Financing is being sought
ZIM 1 07	Pandamatenga Victoria Falls Road Junction Route 74 (74 [illegible] km)	10 00	9 30	[illegible] 70	6 70	ZIM		9 30		Financing is being sought
RAILWAYS										
BOT 2 07	Establishment of Dry Ports ICDs in Botswana	5 70	5 20	0 50	5 20 0 50	DEN BOT				Denmark has financed study and will finance terminal in Gaborone
LES 2 01	Establishment of Dry Port ICD in Lesotho	1 40	1 00	0 40	0 40	LES		1 00		Design study completed financed by EEC Funding for implementation is being sought
MAL 2 03	Establishment of Dry Port ICD in Malawi	4 00	3 20	0 80	0 50 0 80	DEN MAL	70 (DEN)			Study financed by Denmark
MAL 2 04	Improvement of Communications Systems Malawi Railways	0 80	0 80					0 80		Financing is being sought for implementation
MOZ 2 08	Rehabilitation and Maintenance of Wagons CFM	0 10	27 00	10	2 80 3 10	ITA MOZ	4 20 (ITA)	20 00		Additional financing is being sought
MOZ 2 11	Improved Wagon Control System CFM	15 [illegible]0	13 20	2 10	6 40 2 10	KUW MOZ		6 80		Additional financing is being sought
MOZ 2 12	Rehabilitation and Acquisition of locomotives for CFM	65 70	61 40	4 [illegible]0	21 00 40 40 4 30	USA JAP MOZ				Ongoing
MOZ 2 1	Rehabilitation and upgrade of Railway Line between Maputo and Kessing Marcia	42 00	35 00	7 00	7 00	MOZ		42 00		New Project 1994
SWA 2 02	Establishment of Dry Port ICD in Swaziland	50	3 20	0 [illegible]0	0 30	SWA		20		Requirements for further improvements to be reviewed.
ZAM 2 01	Zambia Railways 10 Year Development Plan	(6 54 80)	(267 00)	(87 80)	(134 00)		(10 70)	(210 60)		
(CF 1)	Track Renewal Sinwani to Livingstone	[illegible] 60	12 30	21 70	10 80 21 30	ITA ZAM		1 50		

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	Project Title	ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
	US$ Million									
(CE 2)	Track Repair and Upgrading	75 00	30 00	45 00	45 00	ZAM		30 00		
(CE 3)	Establishment of Quarries	10 20	7 80	2 40	3 90 2 40	ITA ZAM		3 90		
(CE 4)	Replacement of Kafue Railway Bridge	17 80	14 00	3 80	3 80	ZAM		14 00		
(CE 5)	Track Maintenance Equipment	3 20	2 60	0 60	0 60	ZAM		2 60		
(CE 6)	Realignment in the Kafue Lusaka Section	3 20	2 60	0 60	0 60	ZAM		2 60		Study in phase I USD 0 2 million
(CE 7)	Replacement of the Itawa Bridge	1 00	0 80	0 20	0 20	ZAM		0 80		
(CE 8)	Upgrading of Mulobezi Line to Branch Line Standard	5 30	1 50	80	3 80 150 00	ZAM ZAM				
(CE 9)	Construction of Mhinji Chipata Rail Link and Feasibility Study for Rail Link connecting ZR and TZR w MLW	8 50	4 50	4 00	4 00	ZAM		4 50		
(GM 1)	Technical Assistant Staff	19 0	19 00	0 30	0 30	ZAM		19 00		
(GM 2)	Training Facilities and Fellowship	3 50	3 40	0 10	0 10	ZAM		3 40		
(GM 3)	Performance Related Remuneration Scheme	1 20	1 00	0 20	0 20	ZAM		1 00		
(GM 4)	Study on the future of Mulobezi Line	0 40	0 30	0 10	0 10	ZAM		0 0		
(MF 1)	Locomotives	92 40	91 70	0 70	30 70	ZAM		61 70		Study USD 0 5 million financed under PAAA 0 05 Draft Final Report prepared 15 locomotives being procured using own resources
(MF 2)	Goods Wagons	6 00	6 00					6 00		
(MF)	Passenger Coaches	32 10	31 80	0 30	0 30	ZAM		1 80		
(MF 4)	Air Brakes	11 30	9 70	1 60	1 60	ZAM		9 70		Study to be carried out in Phase I
(MF 5)	Inspection and Changing Trolley	1 70	1 60	0 10	0 10	ZAM		1 60		
(MF 6)	Breakdown Cranes and Recruiting Equipment	3 0	3 20	0 10	0 10	ZAM		3 20		
(MF 7)	Workshop Equipment	10 20	9 60	0 60	0 60	ZAM		9 60		
(MF 8)	Electric Arc Furnace and Steel Rolling Mill	2 00	1 80	0 20	0 20	ZAM		1 80		
(SI 1)	Replacement of Track Circuit Bond Wires	0 70	0 50	0 20	0 20	ZAM		0 50		
(SI 2)	Repair and Replacement of Line Side and Exchange Equipment	9 40	8 40	1 00	1 00	ZAM	8 40 (US)			
(SI 3)	Radio Control System for the Choma Masuku Branch Line	0 50	0 40	0 10	0 10	ZAM	0 40 (US)			

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		ESTIMATED COST			FUNDING		STATUS				
							Under		Financing	Disbursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(ST 4)	Radio Communications System on the Mulobezi Branch Line	0 50	0 40	0 10	0 10	ZAM	0 40	(AUS)			
(ST 5)	Police Mobile Radio System	0 60	0 50	0 10	0 10	ZAM	0 50	(AUS)			
(ST 6)	Train Reporting System	0 60	0 50	0 10	0 10	ZAM	0 50	(AUS)			
(ST 7)	Expansion of Digital Radios and Multiplex to Kitwe	1 00	0 80	0 20	0 20	ZAM			0 80		
(ST 8)	Replacement of Message Switching Unit	0 30	0 30						0 30		
ZIM 2 03	Telecommunications Signalling and Wagon Control NRZ	32 00	21 90	10 10	10 10 4 80 1 70	ZIM GER FIN			15 40		Additional financing is being sought
ZIM 2 04	Acquisition and Rehabilitation of Locomotives NRZ	46 90	44 80	2 10	44 80 2 10	USA ZIM					Completed in 1992
ZIM 2 05	Replacement and Acquisition of Locomotives and Rolling Stock NRZ	356 80	149 80	207 00	207 00	ZIM			149 80		Financing is being sought
ZIM 2 07	Replacement of 1961 General Purpose Wagons										Included in project ZIM 2 05
ZIM 2 08	Procurement of 39 Diesel Electric Locomotives										Included in project ZIM 2 05
ZIM 2 09	Replacement of CTC and Signalling System Harare Mutare										Included in project ZIM 2 03
PORTS AND WATER TRANSPORT											
ANG 3 02	Development of the Port of Luanda	(32 50)	(28 60)	(3 90)	(10 60)				(21 90)		Estimates of costs and funding represent totals for the sub projects listed below
(01)	Container and Ro Ro Terminal	10 70	9 10	1 60	1 60	ZIM			9 10		TOR of a study have been prepared
(02)	Construction of a Grain Terminal and Silos	12 70	10 80	1 90	1 90 3 70	ANG ANG			7 10		Financing being sought for civil works
(03)	Modernisation and Enlargement of Electrical Systems	5 50	5 50		3 00	ANG			2 50		Financing being sought for remainder
(04)	Earth Works Port of Luanda										Completed Financed by Angola
(05)	Construction of Canteen Facilities	3 60	3 20	0 40	0 40	ANG			3 20		
MOZ 3 04 (01)	Navigational Aids Mozambique	15 40	14 70	0 70	14 70 0 70	SWE MOZ					The Ports of Maputo and Beira are completed The Port of Nacala is in progress
(02)	Buoy Handling and Maintenance Vessel Mozambique	10 80	10 80		10 80	DEN					Completed in 1992
TAN 3 03	Coastal Navigational Aids Tanzania	0 20	0 20		0 20	NOR					Feasibility study completed in October 1989 Follow up projects are

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million										
										being prepared
ZAM 3 01	Study of the Navigability of the Zambezi and Shire Rivers	0 30	0 30		-			0 30		Steering Committee has been established.
ZAM 3 02	Improvement of Mpulungu Harbour	8 90	8 90					8 90		Funds being sorced, EU has shown interest
	Sub-total INTRA-REGIONAL	**1748 90**	**1293 10**	**455 80**	**908 70**		**79.30**	**760 90**		
TABLE 2(I)	**CIVIL AVIATION PROJECTS**									
ANG 4 03	Technical Assistance to ENANA	3 10	2 40	0 70	0 70	ANG		2 40		Financing is being sought.
ANG 4 04	Telecoms and Navaids for Luanda Airport	2 90	2 80	0 10	0 10	ANG		2 80		Financing is being sought
ANG 4 05	Technical Assistance to DNAC	2 80	2 80					2 80		Financing is being sought.
ANG 4 06	Navigation Aids for Luanda FIR	1 80	1 60	0 20	0 20	ANG		1 60		Financing is being sought
ANG 4 07	Luanda Airport Master Plan Study	0 70	0 70					0 70		Financing is being sought
LES 4 06	Rehabilitation of Telecommunications for Lesotho	0 40	0 30	0 10	0 10 0 30	LES				Completed in 1992
MAL 4 02	Technical Assistance to the DCA	0 70	0 70					0 70		Financing is being sought
MOZ 4 08	Improvement of ATC Equipment in Beira FIR MOZAMBIQUE	8 00	8 00					8 00		Financing is being sought.
MOZ 4 10	Telecoms and Navaids for Beira FIR	2 80	2 60	0 20	0 20	MOZ		2 60		Financing is being sought
MOZ 4 11	Technical Assistance to ADM	2 20	1 90	0 30	0 30	MOZ		1 90		Financing is being sought
MOZ 4 12	Maputo Airport Master Plan Study	0 70	0 70					0 70		Financing is being sought
MOZ 4 13	Technical Assistance to DNAC	2 10	2 10					2 10		Financing is being sought
NAM 4 06	Civil Aviation Safety Action Plan Namibia	(1 90)	(1 80)	(0 10)	(1 90)					Replaced partly by other projects only sub project NAM 1 is still under implementation
(NAM 1)	Instrument Landing System at Windhoek Airport	1 90	1 80	0 10	0 10 1 80	NAM BEL				Under implementation
NAM 4 07	Technical Assistance to DCA	1 40	1 40					1 40		Financing is being sought
NAM 4 08	En route Navigation Aids for Windhoek FIR	2 00	1 80	0 20	0 20	NAM		1 80		Financing is being sought.
SWA.4 05	Technical Assistance to the Civil Aviation Branch	1 20	1 10	0 10	1 10 0 10	ADB SWA				
SWA.4 06	Developmen of Matsapha Airport	15 00	12 00	3 00	3 00	SWA		12 00		Funding is sought for a staged implementation
TAN 4 02	Technical Assistance to the DCA	1 30	1 30					1 30		Financing is being sought.

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING STATUS Amount	Source	Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million										
TAN 4 03	Dar es Salaam Airport Facilities Repairs	0 50	0 50					0 50		Financing is being sought.
TAN 4 04	Telecoms and Navaids for Dar es Salaam FIR	4 40	4 20	0 20	0 20	TAN		4 20		Financing is being sought.
TAN 4 05	Study and Design of New Organisational Structure for Civil Aviation Sector	0 90	0 90					0 90		Financing is being sought
TAN 4 06	Upgrading of the Flight Calibration Unit	7 00	7 00					7 00		Financing is being sought
ZAM 4 07	Civil Aviation Safety Action Plan, Zambia									Replaced partly by other projects only sub project ZAM.2 is still under implementation
(ZAM 2)	Replacement of Lusaka Airport Airfield Lighting	2 60	2 50	0 10	2 50 0 10	BEL ZAM				Under implementation
ZAM 4 08	Technical Assistance to NACI	2 20	2 00	0 20	0 20	ZAM		2 00		Financing is being sought.
ZAM 4 09	Rehabilitation of Lusaka Airport Runway	5 50	3 30	2 20	2 20	ZAM		3 30		Financing is being sought
ZAM 4 10	Telecoms and Navaids for Lusaka Airport and FIR	4 00	3 50	0 50	0 50	ZAM		3 50		Discussions going on with ADB for funding a feasibility study of projects ZAM.4 10 and ZAM 4 11
ZAM 4 11	Technical Assistance to ZASTI	2 20	2 00	0 20	0 20	ZAM		2 00		See ZAM 4 10
ZIM 4 04	Improvement and Expansion of Radar Coverage Zimbabwe	24 00	24 00		24 00	UK				Completed
ZIM 4 05	Development of Harare Airport	100 00	30 00	70 00	70 00	ZIM		30 00		Under implementation.
	Sub total CIVIL AVIATION	**211 60**	**132 00**	**79 60**	**108 10**		**0 00**	**103 50**		
TABLE 2(J) TELECOMMUNICATIONS PROJECTS										
ANG 5 01	Telecommunication Projects in the 10 Year Development Plan for Lobito Port Transport System	(42 40)	(42 40)		(19 10)			(23 30)		
(LM 1)	Technical Assistance to LNATT	2 50	2 50		2 50	SWE				
(TMC 1)	Provision of HF Radio Maritime Communications to Lobito Harbour	0 80	0 80		0 80	NOR				
(LMC 2)	Expansion of Maritime Communication Facilities	10 40	10 40					10 40		Study by BTI (UK) completed Project rescoped
(LPT 1)	Microwave Link Benguela/Lobito Luau	11 40	11 40		4 40			7 00		
(LPT 2)	Spur Routes along the Benguela/Lobito Luau Corridor	5 90	5 90					5 90		
(LPT 3)	Extension Rehabilitation of Switching & Outside Plant along the Corridor	9 10	9 10		9 10					

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		ESTIMATED COST			FUNDING		STATUS			Dis	
							Under		Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation		Gap	31 12 92	
US $ Million											
(T PT 4)	Rehabilitation of Troposcatter Link Malange Saurimo Luena Zambia										Postponed due to security situation.
(T PT 5)	Microwave Link Luanda Benguela Lobito	2 30	2 30		2 30	ADB					Funded by ADB
ANG 5 02	Expansion of International Telecommu nication Services Angola	38 00	32 40	5 60	32 40 5 60	ADB ANG					Completed 1992
ANG 5 03	Microwave Link Luanda Cabinda	5 10	4 10	1 00	1 00	ANG			4 10		Financing is required for project implementation
ANG 5 08	Provision and Expansion of National Telex Exchanges Angola	2 40	2 00	0 40	2 00 0 40	ADB ANG					Completed 1992
ANG 5 09	Provision of Digital Exchanges for Angola Development Programme (1990 2000)	70 00	52 00	18 00	18 00	ANG			52 00		Financing is required for supply installation and commissioning of exchanges
ANG 5 10	Provision of Domestic Satellite Network ANGOSAT for Angola	70 00	65 00	5 00	5 00 16 00	ANG FRA			49 00		Additional financing is required for remaining part
BOT 5 03	Expansion of the Microwave Trunk Network Botswana (Phase 3)	34 40	28 40	6 00	15 50 6 00	NOR BOT			12 90		Ghanzi Jwaneng contract signed Ghanzi Mamuno is likely to be financed by Norway as well in conjunction with Project NAM 5 03
BOT 5 05	Rural Telecommunications Development for Botswana	9 30	0 20	9 10	9 10 0 20	BOT ADB					Study completed financed by ADB and accepted by Botswana Gov Botswana Telecomms is implementing the recommendations of the study
LES 5 02	Rural Communication System LESOTHO	10 00	9 50	0 50	0 50	LES	4 80	(SPA)	4 70		CIDA has provided USD 0 1 million for study under P AAA 0 05 Financing is required for project implementation
LES 5 03	Rural Automatic Telephone Exchanges Lesotho	5 50	5 00	0 50	0 50	LES	2 50	(SPA)	2 50		
LES 5 04	Fundamental Master Plan and Planning Unit, Lesotho	0 40	0 30	0 10	0 30 0 10	UNDP LES					Completed 1992
LES 5 05	Provision of New ITSC and Digitalisation of National Exchanges Lesotho	23 30	22 80	0 50	3 30 0 50	FRA LES			19 50		Additional financing is being sought.
MAL 5 03	Supply of Digital Equip for the Expansion of Tele Exchanges in Blantyre Lilongwe Zomba	28 00	26 00	2 00	26 00 2 00	ADB MAL					Financed by ADB
MOZ 5 01	National Regional Satellite Communication System of Mozambique	44 10	43 60	0 50	33 70 4 30 5 60	FRA KUW CAN					CIDA will provide funds for the installation of the stations between Pemba and Lichinga. France will finance the other Provincional Stations
MOZ 5 03	National Telecoms Development Proj with Connections to Neighbouring Countries (Regional Part)	347 70	307 90	39 80	55 20 15 90 13 80	ITA ADB SWE	24 00	(ITA)	158 70		Parts of the project related to BCA are presented under project MOZ 5 05

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		ESTIMATED COST			FUNDING		STATUS		Dis	
							Under	Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation	Gap	31 12 92	
US $ Million										
					8 10	BADEA				
					6 00	NOR				
					39 80	MOZ				
					26 20	GER				
MOZ 5 05	Telecommunication Projects in Beira	(20 20)	(18 30)	(1 90)	(2 90)			(17 30)		Additional financing is being sought for
	Port Transport System Development Plan									sub-projects as shown below
(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 Beira	0 90	0 90		0 90	ITA				Ongoing project.
	Chimoio Mutare Digital Microwave Link									
(T CE 3)	Digital Microwave Link Beira	8 70	7 80	0 90	0 90	MOZ		7 80		
	Caia Tete Mozambique									
(T CE 4)	Spur Routes along Beira Vila Nova da	6 30	5 70	0 60	0 60	MOZ		5 70		
	Fronteira, Malawi Corridor									
(T TA 1)	Technical Assistance to TDM, Mozambique	0 60	0 60		0 10	POR		0 50		
MOZ 5 06	Maritime Radio Communication Project,	9 50	9 00	0 50	0 50	MOZ	2 60	6 10		Existing equipment Survey completed by
	Mozambique				0 30	NOR				Norway Italy financed the feasibility
										study Financing is required for
										implementation
NAM 5 01	Extension of International	14 50	13 50	1 00	1 00	NAM		13 50		Financing is being sought for
	Telecommunications Services Namibia									implemetation
NAM 5 02	Telecommunications Master Plan	3 70	3 60	0 10	1 80	SWE		1 80		SIDA has financed the study on
	Study Namibia				0 10	NAM				establishment of P&T Corporation
										Additional financing is being sought
NAM 5 03	Extension of Backbone Trunk	32 00	30 00	2 00	3 70	BEL	11 00	(NOR 15 30		Norway is to finance the Namibia/Botswan
	Network Namibia				2 00	NAM				Microwave link Belgium will finance
										part of the project, 130 million BEF
SWA 5 05	Extension of Nat Switching Centre	12 00	10 00	2 00	10 00					Tenders for equipment incl financing
	and Associated Network				2 00	SWA				under evaluation
	Digitalization, Swaziland									
TAN 5 02	Extension of ITSC Capacity and	100 20	90 90	9 30	6 20	BEL		84 70		Belgium has financed the Provision of
	Associated Telephone Exchanges				9 30	TAN				the ITSC and other exchanges Financing
	Dar es Salaam Tanzania									required for remaining part of
										the project
TAN 5 04	New Transit Digital Telephone	2 80	2 50	0 30	0 30	TAN		2 50		Financing is required for implementation.
	and Telex Exchanges for Dodoma,									
	Tanzania									
TAN 5 05	Digital Microwave Link Dar	25 70	25 20	0 50	18 00	SPA				
	Dodoma Zanzibar and Exp of				7 20	OECD				
	Multiplex Equip at Dodoma				0 50	TAN				
TAN 5 07	Provision of Digital Microwave	30 00	30 00					30 00		Financing is being sought.
	Link Dar es Salaam Mtwara Songea									
	and Exchange at Songea									

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation		Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million											
TAN 5 08	Provision of Digital Exchanges	44 10	40 50	3 60	1 80	CAN	5 50		10 20		Additional funds required to
	Tanzania				12 00	JAP					complete the project.
					2 00	ADB					
					3 60	TAN					
					4 00	BEL					
					5 00	IDA/IBRD					
TAN 5 09	Rehabilitation of Trunk PENAFTEL	20 90	18 90	2 00	2.00	TAN			18 90		Financing is required for implementation.
	Links TANZANIA										
ZAM 5 01	Extension of the International Telephone	2 50	2 50				2 50	(SWE			
	Switching Centre (ITSC) in Lusaka, ZAMBIA										
ZAM 5 02	Expansion of the Earth Station	11 10	9 10	2 00	7 10	CAN			2 00		Canada has financed Phase I for
	at Mwembeshi Zambia				2.00	ZAM					Mwembeshi II Financing is required
											for provision of IDR/DCME equipment
											as per project AAA 5 04
ZAM 5 03	Microwave Terminal at Chingola to	0 20	0 20						0 20		An interim 120 channel link is in
	complete the Link Zambia Zaire										operation Financing is required for a
											large capacity system
ZAM 5 04	Microwave Link Zambezi Luene Zambia	4 00	3 80	0 20	0 20	ZAM	3 80	(NOR			Postponed because of the security
											situation in Angola.
ZAM 5 06	Microwave Link Kariba (Zimbabwe)	1 60	1 60				1 60	(ITA)			
	Siavonga (Zambia) Lusaka										
ZAM 5 09	Masterplan Study and Fundamental	0 40	0 40						0 40		Financing and technical assistance are
	Planning Unit for Zambia										being sought
ZAM 5 10	Upgrading Lusaka Livingstone and Southern	18 00	17 00	1 00	1 00	ZAM			17 00		Project to include extension to Namibia
	Ring Microwave Trunk Network, Zambia										via Livingstone Sesheke Katima Mulilo
ZIM 5 06	Provision of Packet Switching for Data	3 60	3 20	0 40	3 20	BEL					Completed 1992
	Network in Zimbabwe				0 40	ZIM					
ZIM 5 07	Supply of Digital Telephone	68 00	62 90	5 10	47 50	JAP			15 40		Financing of digital exchanges in
	Exchanges in Zimbabwe				5 10	ZIM					Matebeleland is being sought.
ZIM 5 08	Expansion of the Earth Station at	11 50	10 50	1 00	1 50	JAP			9 00		
	Mazowe Zimbabwe				1 00	ZIM					
ZIM 5 09	Provision of Telex Exchange	7 50	7 00	0 50	7 00	EIB					Completed 1992
	and Network, Zimbabwe				0 50	ZIM					
ZIM 5 10	Extension of ITSC GWERU Zimbabwe	4 20	4 00	0 20	0 20	ZIM	4 00	(SWE			SIDA is considering funding the
											implementation
ZIM 5 11	Digital Microwave Link Gweru	18 50	16 00	2 50	2 50	ZIM			16 00		Financing is being sought for
	(Zimbabwe) to Maputo (Mozambique)										implemetation
	Sub-total TELECOMMUNICATION	**1197 30**	**1072.20**	**125 10**	**544 30**		**66 00**		**587 00**		
TABLE 2(k) METEOROLOGY PROJECTS											
AAA.6 02	Regional Drought Monitoring Centre	1 00	1 00						1 00		The Centre is now operational.

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Project Title		ESTIMATED COST Total	Foreign	Local	FUNDING Amount	Source	STATUS Under Negotiation	Financing Gap	Disbursed 31 12 92	COMMENTS / STATUS
US $ Million										
	Harare									Additional financing is being sought for continued operation.
AAA.6 03	Regional Meteorological Telecoms Hub and Data Exchange Lusaka	1 00	1 00					1 00		Partly implemented. Financing is being sought
(TAN 1)	Provision of an Automatic Message Switching System (AMSS) for NMC Dar es Salaam	0 20	0 20		-			0 20		Financing is being sought.
AAA.6 04	Regional Maintenance Support of Meteorological Services	0 50	0 50					0 50		Additional financing is being sought
AAA.6 05	Data Processing in Meteorological Services	1 40	1 40					1 40		Installation of equipment finished Financing for training and upgrading of the system is being sought
(TAN 1)	Provision of Data Processing System	0 20	0 20					0 20		Financing is being sought
AAA.6 06	Meteorological Observational Networks	5 60	5 60					5 60		Financing is being sought
(SWA 1)	Strengthening of the Swaziland Meteo ological Service	1 00	0 80	0 20	0 20	SWA		0 80		Fancing is being sough
(TAN 1)	Strengthening of the Tanzania Meteorological Service	1 70	1 60	0 10	0 10	TAN		1 60		Financing is being sought
(TAN 2)	Provision of MDD DRS Equipment for Tanzania	0 20	0 20					0 20		Financing is being sought
AAA.6 07	Meteorological Telecommunications	2 50	2 50					2 50		Additional financing is being sought
(TAN 1)	Primary Data User System PDUS for Satellite Image Reception, NMC Dar es Salaam	0 70	0 60	0 10	0 10	TAN		0 60		Financing is being sought.
AAA.6 08	Data Rescue Project	0 50	0 50		0 50					Implementation is in progress
AAA.6 09	Meteorological Buoys	1 80	1 80					1 80		Financing is being sought
MOZ 6 02	Aeronautical Meteorological Equipment for Airports in Mozambique	0 70	0 70					0 70		Financing is being sought
	Sub total METEOROLOGY	**19 00**	**18 60**	**0 40**	**0 90**			**18 10**		
TABLE 2(L) POSTAL SERVICES PROJECTS										
AAA.7 05	Management Projects	(4 50)	(4 50)		(4 50)			(4 50)		Divided into subprojects
(GM 1)	General Policies for Management of Autonomous Postal Administrations	0 20	0 20					0 20		Financing is being sought
(GM 2)	Organisational Restructuring of Postal Administrations	1 70	1 70					1 70		Financing is being sought
(GM 3)	National Postal Master Plans	1 00	1 00					1 00		Financing is being sought

TRANSPORT AND COMMUNICATIONS

		ESTIMATED COST			FUNDING		STATUS		Dis	
							Under	Financing	bursed	COMMENTS / STATUS
Project Title		Total	Foreign	Local	Amount	Source	Negotiation	Gap	31 12 92	
US $ Million										
(GM-4)	Financial Information Systems	1 10	1 10					1 10		Financing is being sought
(GM 5)	Statistical Systems	0 50	0 50					0 50		Financing is being sought.
AAA.7 06	General Postal Projects	(3 20)	(3 20)		-			(3 20)		Divided into subprojects
(GP 1)	Marketing	0 40	0 40					0 40		Financing is being sought
(GP 2)	Mail Conveyance	0 60	0 60		-			0 60		Financing is being sought
(GP 3)	Counter Service	0 20	0 20					0 20		Financing is being sought.
(GP 4)	Postal Financial Services	2 00	2 00					2 00		Financing is being sought
AAA.7 07	Manpower Development	(0 90)	(0 90)		(0 90)	(0 90)		(0 90)		Divided into subprojects
(MP 1)	Human Resources Development Programme	0 50	0 50					0 50		Financing is being sought
(MP 2)	Urgent Training Projects	0 30	0 30		-			0 30		Financing is being sought
(MP 3)	Development of the Multi Country Training Centre in Malawi	0 10	0 10					0 10		Financing is being sought
AAA 7 08	Strengthening of Infrastructure	(2 10)	(2 10)		(2.10)	(2 10)		(2 10)		Divided into subprojects
(SI 1)	Postal Terminals	0 40	0 40					0 40		Financing is being sought
(SI 2)	Purchase of Equipment	1 30	1 30					1 30		Financing is being sought
(SI 3)	Transport Plans and Vehicles	0 40	0 40					0 40		Financing is being sought
	Sub-total POSTAL SERVICES	**10 70**	**10 70**					**10 70**		
	TOTAL	**6934 10**	**5949 50**	**984 60**	**3238 10**		**545 00**	**3151.00**		