

MEMORANDUM

TO: Ted Morse, Director
C. S. Vandervoort
FROM: Charles Vandervoort, PDIS
SUBJECT: UNCTAD Grant Application
DATE: March 22, 1991

1. Attached is an advance copy of the UNCTAD Grant which was faxed to us today. Two regular copies are being air expressed to us tomorrow, and will be picked up at the airport by Feraï.

2. The proposal has good sections on the UNCTAD experience in rolling Stock Information systems, and in Trade Facilitation, and on the justification for continuing that work. The section on the methodology is very weak. Especially disappointing is any mention of the task of reviewing the state-of-the-art of wagon and locomotive tracking, to assure that UNCTAD module is indeed the best and lowest cost alternative for southern Africa. This was one of the points I wrote down on the list I gave Claude. The other three points were not covered very well either.

3. The section on the Project Implementation Framework makes the statement that the project will be executed UNCTAD Headquarters in Geneva. In view of the very poor performance of that office with the earlier UNCTAD project, I have great doubts about the efficiency of that organization. I thought we had told Simuyemba specifically that we wanted to avoid the Geneva office, and have the project executed by the Blantyre field office.

4. The total estimated cost of US\$4.15 million over three years is surprisingly high.

cc: Ernie Rojas
Claude Reese
Patti Buckles

APPLICATION FOR GRANT FUNDING

Presented to;

The United States Agency for International Development

For

**Continued Support to the UNDP/UNCTAD
PROJECT RAF 86/046 (SATCC PROJECT
0.0.4) - Transit Traffic and Support to
the Transport Sector in Southern Africa**

Submitted By:

**The United Nations Conference on Trade
and Development**

20th March 1991



UNITED NATIONS
CONFERENCE ON TRADE AND DEVELOPMENT

UNDP/UNCTAD RAF 86/046
TRANSIT TRAFFIC AND SUPPORT TO THE TRANSPORT SECTOR
IN SOUTHERN AFRICA

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Our Ref.RAF/86/046.....

All correspondence should be addressed to The Chief Technical Adviser

20th March 1991

Mr. Ted D. Morse
Director
Southern Africa Regional Programs
United States Agency for International
Development (USAID)
Box 6988
HARARE
ZIMBABWE

Dear Mr. Morse,

APPLICATION FOR GRANT FUNDING

On behalf of UNCTAD, I take this opportunity to submit a request for grant funding in respect of two activities; Trade Facilitation and Railway Rolling Stock Tracking within the context of the existing UNDP/UNCTAD Project RAF/86/046 (SATCC Project O.O.4) - Transit Traffic and Support to the Transport Sector in Southern Africa.

This request has the support of member governments of the sub-region through the Director of the Southern Africa Transport and Communications Commission (SATCC) and we are hopeful that it will meet with your favourable consideration.

UNCTAD avails itself of the opportunity to discuss with you modalities for implementing this project once approved.

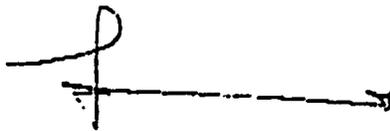
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Needless to state, UNCTAD is at your disposal should you require any additional information.

We look forward to your communication.

Yours sincerely,



S. Simuyemba
CHIEF TECHNICAL ADVISER

- cc: Mr. G. M. Mabila
Director
SATCC Technical Unit
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- cc: Mr. J. Burley
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I. PROJECT BACKGROUND AND JUSTIFICATION

The UNDP/UNCTAD Project RAF 86/046 - Transit Traffic and Support to the Transport Sector in ~~Southern Africa~~ covers nine countries, namely Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. Namibia, now the tenth member of the Southern Africa Development Co-ordination Conference (SADCC) is yet to be incorporated into the project.

Its basic objective is to provide advisory services to the Member States of the SADCC region in their efforts to develop and improve their transit transport system and it has been under implementation since 1981. The project's main beneficiaries are the land-locked countries who continue to face acute problems in the movement of their export and import cargoes along the transit corridors. Because of the under-developed transit transport infrastructure and operational bottlenecks along the transit corridors, the land-locked countries are burdened by heavy transit transport costs which adversely affect their international trade and overall economic performance. The project also provides assistance to maritime countries in order to enable them to provide more effective transit transport services to land-locked countries.

The project has gone through a number of phases since its inauguration. The first phase was focussed on identifying the transit transport physical and operational bottlenecks along the transit corridors in the sub-region. The three subsequent phases involved activities which were designed to implement the recommendations made and to strengthen the capabilities of the institutions in the sub-region to undertake the required improvements on their own. The project has achieved most of its objectives as outlined in the project document but the implementation of a range of activities has not been fully effective because of institutional and financial constraints so that there is an urgent need for follow-up action in various areas.

The proposed USAID funding is designed to provide resources for implementing such follow-up action. The areas of crucial importance which have been identified are those related to trade facilitation and railway rolling stock tracking. The present brief outlines the outputs that have already been realised in the above areas and highlights those outputs that are still outstanding. It also gives an indication of the inputs that will be required to implement the specific activities in the above areas. Furthermore it provides indication of the possible quantification of the impact of the outputs once they have been realized and beneficiaries of these outputs. The brief also describes the framework for implementation and management of the project activities.

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The current phase of the project is from January 1987 to December 1991, a five year period conforming to the UNDP funding cycle. The current phase is funded by UNDP and co-financed by the United States Agency for International Development (USAID) and is executed by UNCTAD. The project is part of the programme of projects within the Southern Africa Transport and Communications Commission (SATCC).

II. RATIONALE AND OBJECTIVES

The economy of the sub-region covered by the project is an export enclave one characterised by dominance of foreign trade and a high export concentration and therefore highly dependent on transport.

The trade of the sub-region is outward oriented with limited intra-sub-regional trade. During 1986/87, 62 per cent of exports were to overseas markets with 56 per cent of imports also being sourced from overseas. Another feature is the high degree of export concentration. Three countries Angola, Botswana and Zambia depend on one commodity, oil, diamonds and copper respectively for over 78 per cent of export earnings. In eight of the nine countries, with the exception of Zimbabwe, whose economy is more broad based, three main exports account for over 60 per cent of total export earnings. Under these circumstances therefore, even a marginal decline in export earnings has a significant overall adverse impact on the economies of these countries.

Six of the nine project countries are land-locked with long distances to maritime ports in some instances more than 2000 kilometres with limited options for routing of their international trade. The question of accessibility, reliability, cost and overall efficiency of transport services becomes a matter of economic necessity for these countries. Efficient transport is therefore a critical factor to the economic growth prospects of the sub-region.

Thus the performance of the international transport systems together with corresponding documentation and facilitation procedures have an impact on;

- i. final price, quality and competitiveness of exports as well as cost of imports
- ii. the foreign exchange earning capacity of these countries, balance of payments position and consequently their debt servicing capability

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1. SADC Regional Economic Survey 1988, SADC Secretariat, Gaborone, Botswana

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- iii. general economic competitiveness and economic growth prospects
- iv. overall pace of socio-economic development and standards of living

Development Objectives

The development objectives of the broader Project RAF 86/046 are to promote an efficient transit transport system in terms of safety, speed and reduced costs in order to ensure the expansion of international trade and the economic and social development in the sub-region based on overall mutually acceptable agreements between the transit and land-locked countries of the sub-region and the use of through-transport logistics management - along major cargo routes.

Immediate Objectives

The immediate objectives of the project are to assist countries of the sub-region to carry out specific activities designed to increase the capability and reliability of transit transport systems to handle transit traffic and national cargoes and to alleviate the managerial, operational, institutional and commercial/legal problems affecting the movement of cargoes and thus to reduce the current high transport costs.

Specific Objectives

The two activities, Trade Facilitation and Railway Rolling Stock Tracking would be executed within the framework of an already existing broader project. However, the specific objectives with respect to these two activities are elaborated below.

A) Trade Facilitation

The aim of this activity is to improve efficiency in the processing of trade transactions at the national level and to rationalise corresponding systems and procedures so as to reduce delays and costs. This would provide government regulatory bodies and the business community a system of simplified, standardized and harmonized national and regional customs and import/export documentation and streamlined procedures and also build the necessary institutional capacity to effectively administer such a system on a sustainable basis. It is also intended to introduce harmonized sub-regional transport documents that would facilitate through movement of traffic.

B) Railway Rolling Stock Tracking

The objective of this activity is to improve the efficiency of the railways of the SADCC sub-region by providing a modern tool for railway rolling stock management. It is intended to facilitate planning, monitoring and utilisation of rolling stock and thus has positive benefits directly to the railways themselves and to the shippers and indirectly to the economy generally. A related objective is to provide the railways with an information system that would facilitate quantitative and objective monitoring of performance and productivity. Such an information would be an off-shoot of the rolling stock tracking system and would also lead to improved overall railway management in the sub-region as well as to quicker turnaround time of rolling stock thus contributing to more optimal utilisation of existing transport facilities.

III OUTPUTS REALIZED

Tangible outputs have already been realised in the context of the existing project both in trade facilitation and railway rolling stock tracking. However, considerable work still needs to be undertaken in both activities.

A. Trade Facilitation

Work in this area has concentrated on introduction of simplified and harmonized trade documents aligned to the UN Lay Out Key, introduction of harmonized transport documents at the sub-regional level, institution building through establishment of National Trade Facilitation Committees (NTFC's) and human resource development through workshops/seminars and recruitment and placement of National Professionals (NPs).

i. National Trade Facilitation Committees

National Trade Facilitation Committees (NTFCs) are fora which bring together regularly, all parties involved either directly or indirectly, in international trade. The aim is to have a single co-ordinated forum where proposed changes to existing trade/transport documents are mutually discussed and agreed upon to ensure that the interests and concerns of all parties are taken into account and the benefits clearly understood. This way, any proposed changes/improvements can be implemented with the consent of all concerned. Members of NTFC normally include, Central Banks, Customs Authorities, Ministries of Trade/Commerce/Industry, Chambers of Commerce/Export/Trade Promotion Councils, road transport companies, railway authorities, port authorities, clearing and forwarding companies and the business community - both public and private. These institutions can also act as useful mechanisms for promoting change in the trade environment-given their broad based representation.

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Three countries, Malawi, Tanzania and Zambia have functional and active NTFCs. The Committees are based in the Malawi Export Promotion Council (MEPC), for Malawi, Board of External Trade (BET), (TANPRO) for Tanzania and Export Board of Zambia (EBZ) for Zambia. The Committees meet regularly and through workshops/seminars organised with project technical support.

Following consultative technical missions and submission of terms of reference, formal written consent has been received from Mozambican authorities to establish a NTFC in the Ministry of Commerce and Trade.

Project follow-up to renewed interest by Zimbabwe in establishing a NTFC in the Ministry of Trade was inhibited by re-organisation that took place with the merger of the Ministry of Trade and Ministry of Industry into one. This merger entailed re-organisation of departments and consequently no major work could be undertaken.

In the BLS Countries (Botswana, Lesotho, Swaziland) preliminary technical consultations have been held but limited work has been undertaken in actually setting up NTFC's. The position of the BLS countries is more complex given their membership to the South African Customs Union (SACU).

The designation of a focal institution to liaise with the project and renewed interest has led to tangible measures being taken to establish a NTFC in Angola. Terms of reference have been submitted for the Committee and an institution to host the committee designated.

Uncertainties by some governments in identifying lead agencies to host NTFCs have delayed their establishment. In all countries financial constraints have inhibited the proper functioning of existing NTFCs and have delayed the establishment of others. Although NTFC are not permanent institutionalized structures, their effective functioning depends on a well funded active Secretariat with the right personnel. It is evident that unless this can be achieved, the performance of existing committees and the establishment of new ones will be constrained. Although in the long term, it is desirable that the countries themselves operate these committees on a sustainable basis, in the short term direct project technical support is vital if these committees are to perform effectively.

ii. Sub-regional Transport Documents
RCTD

The Road Customs Transit Declaration Document (RCTD) prepared jointly by the project and the Preferential Trade Area for Eastern and Southern African States (PTA) came into compulsory use in 1988. The RCTD is a regionally harmonized document which replaces use of national documents at national border crossing points for international road traffic. The document has greatly facilitated movement of international traffic and greatly reduced the resultant delays and costs in the movement of traffic by road. The project provided technical support in the preparation and implementation of this document.

Railway Consignment Note

The Standard Railway combined Consignment, Invoice, Advice and Delivery Note was prepared by the project in collaboration with SATCC. The document is intended to foster through movement of traffic along the SADCC railway systems by replacing existing individual railway documents and evolving a standardized regime. The SATCC Working Group on Railway Administrations and the General Managers of the SADCC railway systems have approved the document for compulsory use on all SADCC railway systems.

The document is now in use in most SADCC railway administrations except National Railways of Zimbabwe (NRZ), Angolan Railways (CFB) and Mozambican railway systems (CFM) due to administrative delays within these railway systems themselves.

Coupon System

The Coupon System introduced by the project in the early years on the Malawi/Zimbabwe corridor (Tete Corridor) has worked well and both PTA and SATCC have requested for its introduction to other routes. This is a system of prepayment of transit charges in local currency in the country of origin and transit passage being effected using coupons. Apart from enhancing accountability, it also avoids problems associated with carrying cash and overcomes the immediate foreign exchange problems prevalent in the sub-region.

iii. National Documents

Introduction of aligned documents requires the consent of a multiplicity of institutions in each country some of them with their own rigid interests. It also requires amendments to existing procedures and in some instances revisions in legislations and this may take a lot of time. Notwithstanding these considerations, a lot has been achieved although a lot more still requires to be done as a logical follow up to measures already initiated.

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In the past, difficulties in communication with Angola and clearance of missions adversely affected the rate of implementation of this activity. The designation of a focal point for co-ordination of project activities in Angola (the Lobito Corridor Authority) and the current increased dialogue with the project has created an enabling environment which should go a long way towards improving the pace of implementation of this activity. This would also be in line with the economic liberalisation measures taken by the Government of Angola recently.

BLS Countries

Although a number of technical missions have been fielded to the BLS countries (Botswana, Lesotho and Swaziland), limited progress has been made in implementing aligned documents.

The BLS countries belong to the South African Customs Union (SACU) together with the Republic of South Africa (RSA). Documentation for trade, transport and financial transactions is largely harmonized within SACU. Any measures therefore to alter documentation have to be undertaken within the framework of SACU and have to be negotiated with RSA within the BLS context.

Malawi

Malawi has attained a reasonable level of achievement in documentation. Malawi, through its Trade Facilitation Committee, produced in June 1988 a manual on standard and aligned export documents. The manual gives detailed information on 12 national export documents and two sub-regional documents: the Railway Combined Consignment Note, Invoice and Delivery Note; and the PTA Road Customs Transit Declaration (RCTD). These documents were approved for compulsory use from November 1989. However, not all of them have been put into use due partly to lack of funds for producing the overlays and to inventories of previous documents in some institutions. Work on new documentation for imports has not yet started.

Mozambique

The standard and aligned customs export documents for Mozambique have been printed with project assistance (May 1990). Their use has been gazetted and they are expected to come into use soon. Although a lot of work has been done in Mozambique over the years in introducing standard and aligned documents, and streamlining operational procedures, this has been done with the respective

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individual institutions namely, ports, railways and customs. A number of workshops have been held, the latest being in March 1990, to orient users and potential users to the new documents. However, the absence of a functional NTFC limits the potential to develop within the country, the capacity to sustain trade facilitation activities and for Mozambique institutions themselves to take the lead.

Tanzania

Project work in Tanzania in the area of facilitation is in three fields; assistance in streamlining customs procedures and introduction of the Harmonized System (HS), training of customs staff and introduction of standard and aligned international trade and transport documents through the NTFC.

Progress has been made in introducing standardised and aligned documents. The documents which have been implemented include Export Licence, Movement Certificate, Currency Declaration (CD3 Form), Commercial Invoice, Phytosanitary Certificate, Standard Shipping Note and Export Entry. However, not much has been done on import documentation. A concerted effort has been made to streamline customs procedures and to this end preparations for the introduction of a Customs Harmonized Tariff are being finalized.

Zambia

A number of institutional/co-ordination and administrative factors had earlier inhibited progress in implementing aligned documents in Zambia. These have however, since been re-dressed with the reactivation of the NTFC. Twelve draft documents have been submitted to the Zambian authorities to replace 32 documents currently in use. A single Export Declaration Form (EXD Form) came into compulsory use effective 1st September 1990. This form combines and harmonizes data and information previously contained in documents issued by a number of institutions - namely Ministry of Commerce and Industry, Bank of Zambia and Customs. The EXD Form has simplified procedures and reduced time and cost in processing trade transactions for exporters and potential exporters. It has also enabled decentralised processing of export formalities instead of centrally through the Bank of Zambia.

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Limited work has been undertaken in Zimbabwe in trade facilitation. However, there is now renewed interest by the Zimbabwean authorities in this activity given progress made by other countries.

iv. Training

A major feature of the project is human resource development through training. In Trade Facilitation a number of workshops/demonstration seminars have been held in the course of introducing new aligned documents.

Between 1987 and 1989, workshops/seminars to facilitate introduction of new sub-regional documents were held in Malawi, Zambia, Mozambique, Tanzania and Zimbabwe involving 290 participants.

National workshops were held in Malawi, Tanzania and Mozambique between 1988 and 1990 in the process of introducing new documents involving 458 participants.

A regional workshop intended to evolve a common strategy and framework for implementation of aligned documents convened in Lusaka, Zambia in November 1988, attended by 26 participants from seven of the nine project countries.

v. National Professionals

Measures have been taken to recruit National Professionals (NP's) who have been placed in a number of countries as focal points for co-ordinating project activities in documentation and trade facilitation. So far, National Professionals have been placed in Mozambique, Tanzania and Zambia. These are nationals of the respective countries paid by the project. Apart from facilitating implementation of project activities, the concept of National Professionals is also intended to build national and consequently sub-regional expertise and capacity to sustain project activities in the long-term. NPs are also planned to be recruited for the railway rolling stock activity.

B. Railway Rolling Stock Tracking

Within UNCTAD the development of a Railway rolling Stock/Cargo Tracking System is being pursued within the broader framework of developing a comprehensive sub-regional information system known as the Advance Cargo Information System (ACIS).

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It is therefore considered desirable to provide some background to this system before indicating specific outputs achieved with the "Railtracker" as the module being developed by UNCTAD is commonly referred to.

i. Background

The ideas behind ACIS were formed by an UNCTAD team, fielded in Africa during the mid-1980's, which concluded from its own in situ experience that the solutions to the transport congestion then existing - and the answers to long-term better utilisation of the existing transport infrastructure in the future - depended on the introduction of a reliable and suitably developed transport information system.

Using up-to-date communication systems, including data communication and computer technology where necessary, ACIS will supply an information network to link logistics points located between and at the two ends of the various surface transport routes serving Africa.

ACIS will provide the following:

- improved information to monitor the operations of individual transport operators and help day-to-day operational programming;
- advance information on the movement of most individual consignment; this will create the opportunity to plan the optimum use of transport networks, equipment and handling facilities, which in turn will work towards achieving the best possible transit times for goods;
- a database facility available to registered users having an interest in a consignment and its transportation, providing them with latest reported location and status when available; this facility is vital to foster a more reliable and secure trading environment, and should go a long way to off-setting the disadvantage inherent in the longer and slower transport chains;
- a record of historic data, statistics and performance indicators; to help operational management and longer term planners of transport companies and to feed national/sub-regional transport data banks for sub-regional macro-economic planning.

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Good logistics information, apart from being beneficial to national economies and to the cost-effectiveness of transport resources, will also enable local and sub-regionally based operators to be more competitive in their fields of services.

The activities to design and implement ACIS were commenced end 1988. At the request of beneficiary governments priority was given to the development of three parts of the transport chain: the electronic system to transfer ship manifests from abroad to the principal SATCC port of entry (Dar es Salaam), the systems to monitor cargoes entering/exiting from the ports and the system to monitor cargo and rolling stock along any given railway. The project has developed the latter set of modules called RailTracker which is operational in different stages and being installed progressively on several African railways.

ii. Scope of Work

The initial target described in the project document (revised in 1988) was to install throughout the SATCC region an operational Advance Cargo Information System which would enable operators on all modes to have data on cargo movements prior to cargo arrival at each interface along any main transport route. However the project target for end 1991 cannot be achieved without further funding. The reasons for this shortfall are outlined below.

Technically speaking ACIS has proved to be more ambitious and comprehensive than initially anticipated. This evolution is explained in part by the fact that the level of efficiency and competence of the transport operators in the sub region turned out to be far lower than was imagined. This low operational level has required a greater input from the project, especially a greater coverage from computerized techniques and a far wider spread of hardware equipment along transport routes. The situation of management information systems and availability of information at the lowest operational level was far worse than expected and had not been addressed extensively by traditional funding agencies/donors on major railway infrastructure projects.

The other reason relates to the escalation of demand on the project's resources, both human and material.

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This situation became obvious mid 1989 when early results came in from the prototype of the cargo tracking system on railways (rail tracker). These early results of improving cargo data on railways generated an enhanced interest by senior railway management of the sub-region in ACIS - to enable railways to stop the decline of the use of their services inspite of massive recent infrastructure investments. Railway management see in ACIS a means to tackle some of the actual operational and commercial problems which reduce the quality of their services and entail modal shifts to more costly but more reliable road haulage. The problems are rendered even more acute by the weakness in the existing tracking system, (NRZ and Zambia Railways) and by the poor technical state of data transmission techniques; initially this component envisaged relying or building on what was thought to be working. This proved to be a wrong assumption since the existing systems were either too outmoded or unsuitable for modern tracking purposes. NRZ/ZR were not able to foresee, diagnose and handle the major traffic congestion that appeared at the end of 1989.

A third source of demand came from bodies that were also engaged in the field, and who after examining the UNCTAD prototypes felt they should be adopted. The world Bank, which had been investing in infrastructure improvements on railways, is currently ascertaining its interest in ACIS tracking systems (especially Port and rail)

As the potential of ACIS comes to the fore even half way through implementation, so the demands on its resources increase. Thus with time, several SATCC railway networks requested the project to assist them to improve their efficiency (rolling stock management, terminal/marshalling yard wagon control, rolling stock maintenance); assistance has also been requested in the area of comprehensive set of operational (traffic and commercial) statistics and performance indicators for railways, lakes and ports.

Another situation which was not clearly foreseen at the start of the project has been the geo-political evolution in Mozambique which was resulted in the hitherto unforeseen opening of CFM(N) Nacala corridor - an essential outlet for Malawi. And the Southern sector of the Zairean Railways (SNCZ) was temporarily technically associated to the project as a connecting portion between Zambia and CFB Railway (Angola) and as a major outlet for Zairean exports and imports (via South Africa). Namibia was not included in the past but since independence has now to be included as a SATCC railway.

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Furthermore the interface with SATS - South African Transport System - was requested by several South African Transport operators. The Steering committee agreed to this on certain conditions. Hence the project foresees the installation of railway interchange at Beit Bridge and access by South African operators to the system from SATCC countries. This was confirmed at several meetings with Southern African Railways including SATS. These additions require supplementary hardware/expertise provisions.

Furthermore the project strongly recommends reinforcing project supplied hardware to cope with poor environment (electricity current failures, dust/heat, poor/lack of technical support). This does NOT lead to any more sophisticated solutions but just to the need to double back-up facilities of major hardware (computer and telecommunications) components and to choose fault tolerant systems leading to the trebling of initial prices as would be foreseen for a developed country environment.

Also one of the major weaknesses which has come to light in respect to inland transport is the poor state of telecommunications i.e. the paucity of reliable services. The project now has to foresee a self-reliant system infrastructure to be able to satisfy operators (e.g. autonomous HF radio systems or cheaper alternatives where necessary).

Finally the depreciation of the US dollar has reduced the project budget considerably over 1989/90.

Despite these shortfalls the port and railway tracking systems have already achieved tangible results in several countries. In the context of these shortfalls it is relevant to note that on the railway tracking modules in particular minimum hardware can in fact make the rolling stock/cargo tracking system work and feed ACIS Central Logistics Unit data base with tracking information only (e.g. 1 micro computer for Malawi Railways). But when seeing the potential use of any such system producing management data the railways expressed keen interest to have the system expanded - software and hardware-wise. RailTracker then included these requests in the overall comprehensive set of modules, undertook to develop some (e.g. statistical and performance indicators, technical aspects of rolling stock management) and still has to develop others (terminal control, commercial entry system).

iii. Current Status of Railtracker

There are six modules to cover railway operations. These are outlined below with the current status. Specific outputs already realized are listed in more detail below. It should be noted that UNCTAD has worked in close relation/collaboration with railway managers and consultants. More than four African railways and two European railways have participated in the pilot development of RailTracker. Our experience and survey of the field/market has led us to develop these computer systems specifically for African railways. Keeping in mind standardisation, simple computer equipment (micros), simple (tele-) communications requirements, and modular down-sizing approach for quick results. Moreover, the economies of scale that are achieved in our approach justify by themselves the development of bespoke state-of-the-art (which is not a common characteristic of existing railway systems) software modules.

The modules are:

- RailTracker
- RailStats
- RailInterchange
- RailTerminal
- RailCommercial
- RailTraining

A brief resume of the outputs realized so far is the following

1. RailTracker: train/locomotive/wagon/consignment operations and tracking, basic technical operation monitoring (monthly record keeping), some terminal operation control and monitoring (including private sidings and rolling stock). Includes many specific reports (mainly exception reports). RailTracker is the central module around which all the others are developed and articulated. This module can be enhanced to take full advantage of information automatically recorded (such as kilometrage etc.) for other technical purposes (such as rolling stock maintenance schedules etc.).

Status:	Version 1.7. stabilized - mono-site operation - English and French operating
Documentation:	On-line HELP facilities: comprehensive, in two languages. Technical documentation. Overall presentation and user manual.
Evolution:	Version 2: multi-site version coming on stream: English, French and Portuguese operating.

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2. RailStats (or USRailSPI: Uniform System of Railway Statistics and Performance Indicators): a manual defining a standard sub-set of statistics and performance indicators and a software grafted to RailTracker to automatically produce traffic operational statistics (including cargo but excluding financial aspects).

Status: Manual available.
Supporting software now being developed: statistics data base design done, interface with RailTracker and automatic reporting being programmed, final report/table/graphics/zooming presentation under design.

Evolution: Version 1.0 released mid 1991.

3. Rail Interchange: add-on to RailTracker to monitor traffic (locomotives, wagons and cargo) when border crossing - including interchange documentation and financial accounting of rolling stock hire charges on foreign networks.

Status: Software module covering basic operations is being finalized, ready to be implemented.

Evolution: Awaiting multi-site version of RailTracker and EDIFACT environment for standard messaging between railways using EDIFACT format

4. RailTerminal: Terminal operation control, including station and marshalling yard management commercial operations (handling and storage of goods) and training planning.

Status: envisaged: funding required

5. RailCommercial: On-line computer entry of consignment notes (including use of standardized consignment note layout developed by RAF/B6/046 and automatic printing of consignment notes and charging system).

Status: envisaged: funding required

6. RailTraining: 4 components in this package:

- RailTutorial available on diskette (English/French) for computer-assisted self training. Each aforementioned module will be covered in this Tutorial: at present only RailTracker is covered.
- Authoring System: a generic tutorial development system to industrialize the production and updating of tutorials.
- Management game to be developed based on subregional operations experiences and RailTracker existing software including railway statistics and performance indicators.
- Seminar material: for mid management upgrade.

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The present status of implementation in Southern Africa of the above modules is listed below: per phase number 1/. (March 1991)2/
List of railway companies

BR	0	(Swaziland)
BR	0	(Botswana)
NRZ	23/	(Zimbabwe)
CFM (S)	1	(Mozambique)
CFM (C)	1	(Mozambique)
CFM (N)	1	(Mozambique)
MR	7	(Malawi)
ZR	4	(Zambia)
CFB	3	(Angola)
TAZARA	6	(Tanzania)
NAMIB	0	(Namibia)

1/ Chronological phases codes

- 0. Nothing
- 1. Political approach
- 2. Technical contacts
- 3. Analysis (beginning of Tracker implementation)
- 4. Customization
- 5. Installation mono-site
- 6. Operation with coaching
- 7. Normal operation (including system normal upgrading/maintenance)
- 8. Installation multi-site (if needed)
- 9. ...

2/ Corresponding status Eastern/Western Africa:

SNCZ	6	(Zaire)
TRC	1	(Tanzania)
KR	2	(Kenya)
RNCFC	6	(Cameroun)
OCEN	1	(Bénin)
GRC	4	(Ghana)
SICF	4	(Cote d'Ivoire)
SCFB	4	(Burkina Faso)
RCFM	4	(Mali)
SNCS	4	(Senegal)

3/ Existing wagon tracking system.

IV. OUTSTANDING/PLANNED OUTPUTS

Outstanding and planned outputs will build upon work already undertaken and will therefore draw a lot upon experiences and expertise available. The time framework for this work is 1st July 1991 to 31st December 1993. The grant sought from USAID is intended to complete these outputs in this period.

A. Trade Facilitation

1. Review and Preparation of Work Plan

The initial work is to carry out a comprehensive assessment of project work to date as a basis for defining a detailed implementation programme which would detail requirements per country. The Work Plan would specify targets, parameters for quantification of outputs, timing and outputs to be achieved. This would be done in close collaboration with all the project governments including Namibia.

2. Implementation of Aligned Documents

For those countries where aligned export documents are already designed but not yet implemented in full emphasis will be on ensuring actual implementing of agreed documents.

3. Design of New Documents

A lot of resources and time will be expended on this aspect which involves:

- an assessment of existing export/import documents in those countries where this has not already been done.
- review of existing procedures and systems
- defining a legal/institutional framework for implementation of agreed documents and procedures
- implementing new systems and ensuring their sustainability
- for some countries this will involve import documents alone while for some this will entail both import and export documents.

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4. Assessment of and Design of New Transport Documents

This will entail modalities for implementing already agreed documents; such as the Railway Consignment Note and extension of other documents such as the Coupon System to other transport corridors as well as design and implementation of new documents and systems as may be necessary.

5. Institution Building to Strengthen National Capacities

A major objective is to build the necessary institutional capacity within each country to effectively implement the new systems and procedures and to create a firm basis for sustaining these activities beyond project assistance. This will entail;

- assessment of the best institutional framework for effecting trade facilitation work
- strengthening of existing NTFC's
- establishing new NTFC's
- recruitment and placement of NP's in selected countries

6. Legal Framework

Evolving a legal framework at the national and sub-regional levels to facilitate implementation of new documentation and procedures in line with international conventions.

7. Training

Training is a vital element in the introduction of any new system. Training will be offered at three levels through workshops, seminars and group training

- national workshops to introduce new documents and procedures
- sub-regional seminars/workshops to evolve an integrated sub-regional framework for trade facilitation work
- in-house training within NTFC's and direct training of NP's to upgrade their skills and co-ordinating/management capabilities.

Specific outputs per country will be as follows;

COUNTRY

ACTIVITY

Angola

- Priority will be establishing functional NTFC as basis for undertaking work.
- Assessment and design of new import/export documents

Botswana
Lesotho
Swaziland
Namibia

- Assessing possibility of existing Liaison Committees undertaking role of NTFC's
- assessment of import/export documentation requirements
- design of new documents and negotiations within SACU

Malawi

- Assessment of import documents and design of new documents/procedures
- assistance in provision of overlays to ensure wide-spread use of aligned export documents
- extension of Coupon System in use on Tete Corridor to other corridors serving Malawi

Mozambique

- establishment of NTFC
- consolidation of work undertaken in port, railways, customs, export documents
- assessment of import documents design and implementation of new documents.

Tanzania

- strengthening of NTFC
- introduction of new import documents
- continuing with implementation of agreed export documents
- further rationalisation of port, road, rail transport documents

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- implementation of harmonized customs tariff and training of customs staff.
- Zambia
- implementation of agreed export documents
 - review of import documents and introduction of new documents and procedures
 - introduction of customs documents
 - further support to NTFC
- Zimbabwe
- establishment of NTFC
 - assessment of import/export documents
 - design of new import/export documents and implementation of new documents/procedures
- All Countries
- review of national legal framework to assess suitability to new documents/procedures
 - drafting of new legal regimes at national/sub-regional level to facilitate implementation of new systems
 - defining modalities for interface with related work in customs, trade promotion, and other regional organisations
 - training at national, sub-regional and individual institutional level
 - identification of training needs, design and delivery of courses and follow-up to assess impact of training.

B. Railway Rolling Stock Tracking

The following tables give a detailed description of the outstanding outputs to install the essential modules of RailTracker so as to attain the objectives of having a standard sub-regional railway tracking system on the major sub-regional railway routes of SATCC countries.

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The tables also contain a description of optional modules to be developed in order to fulfill a wider objective:

1. Produce a more comprehensive railway management information system (thereby extending the core tracking system to include marshalling yard terminal management and commercial aspects).
2. Integration on a sub-regional basis (linking national railway headquarters).

These optional modules will only be developed as a prototype module in one railway and pilot tested; further developments could be extended later as required.

These outputs tables also include the timing of system development and the phasing of the activities in order to produce the foreseen outputs.

It should be noted that these outputs are divided into two distinct phases:

- the continuation of the overall system development which is centralized and involves international expertise (this centralization is essential to ensure the standard approach and thereby to derive maximum economies of scale).
- the implementation of railway tracking modules on a regional and national basis:

sub-regional implementation involves using international and national expertise to install railway interchange at borders including with SATS, to undertake senior/mid-management training and to feed SATCC data base.

national implementation involves a small amount of international expertise with a large component of national professions; this entails making the rail tracking modules work on the SATCC railways.

Both above phases (pursuit of system development and sub-regional/ national implementation) require hardware equipment. This is also detailed in the following tables.

Tables are as follows:

Table 1: System development per module including completion dates, expertise required (international/national in m/m), type of equipment (computer and telecommunications) and including optional developments (listed separately).

Table 2: Implementation of basic modules per railway and site with completion dates, expertise required (international/national in m/m) type of equipment (computer and telecommunications)

Note: In general and especially for ZR and NRZ telecom input requirements depend on real situation to be technically assessed.

Table 3: Standard average estimates of unit costs for equipment (computers and telecommunications)

Table 4: Standard average estimates of expertise unit costs

Table 5: Breakdown of costs per country

1991-1992 (Implementation and start-up of activities)
1993 (full regime) [not included here; to be determined].

Note: Installation cost for equipment and site preparation (offices, air conditioning, power supply including generator where needed) have not been included included in these estimates
Cost sharing?

Table 6: Description of standard equipment units

Detailed information is given in Annex I.

V. BENEFITS AND IMPACT

A. Trade Facilitation

In the sub-region, expansion of trade both at the sub-regional and international levels is inhibited by cumbersome documentation requirements and procedures, complicated bureaucracy in obtaining import/export licences and approvals and generally a poorly defined environment for conducting trade in a cost-effective manner.

This works against governments' objectives of increasing exports and therefore foreign exchange receipts, creating employment and more recently the move towards promotion of non-traditional exports. The latter is an area where most emerging small-scale entrepreneurs are involved in and the current state of affairs therefore works against the growth of the small private businessman who neither has the resources nor the capacity to sustain prolonged delays and costs.

A system of simplified and streamlined documents and procedures would therefore be of benefit to government regulatory authorities, transport operators and the business community apart from befitting the economy generally. Specific beneficiaries would be;

Government Regulatory Authorities

Central Banks
 Customs Authorities
 Quality control Bodies
 Licencing Authorities
 Ministries of Trade/Commerce/
 Industry

Impact

- Streamlined procedures
- Enhanced Control and Monitoring
- Uniform Source of Data
- Enhanced Management of Foreign Trade Sector
- increased foreign exchange earnings
- support liberalisation policies in place in most countries

Transport Operators

Port Authorities
 Railway Administrations
 Road Transport Companies
 Clearing and Forwarding Agents

- Streamlined transport documentation and procedures
- Quicker Transit Times
- Reduced Costs and delays/
- Better quality of Service

Business Community

Exporters
 Importers
 Trade Promotion Councils
 Chambers of Commerce
 Emerging small private business-
 man

- Time and cost savings in effecting transactions
- Reduced bureaucracy and therefore enhanced
- growth of small businesses and non-traditional exports
- Participation in policy formulation through involvement in NTFC's
- Promotion of trade and foreign exchange earnings

B. Railway Rolling Stock Tracking

A recent World Bank Study on "SADCC Transport Corridors Financial Strategy" whose emphasis is on the railways of the SADCC region has indicated that one of the most critical deficiencies facing the railways of sub-region is the absence of a rolling stock tracking and shipper information system. The study recommends that such a tracking system be instituted in the SADCC railway systems as a matter of priority.

The SADCC Railway Administrations have accorded the implementation of a "Wagon tracking" system priority in their five year plan within the framework of SATCC. They have also accepted in principle the system being developed by UNCTAD as a basis for establishing such a system.

In modal split, railways of the sub-region move more than seventy-five percent of the total international traffic in the SADCC region. They also command the highest proportion of investment funds in the sub-regional investment programme, a significant proportion of which goes towards rolling stock procurement (locomotives/wagons). They also commit a significant amount of resources, in foreign exchange to payments for rolling stock hire charges.

Any system therefore designed to facilitate better management and utilisation of rolling stock would not only be of direct benefit to the railways but also to the economies generally from foreign exchange savings resulting from reduced levels of investment in new equipment and reduced hire charges due to improved management of available rolling stock. Equally significant, this would lead to quicker turnaround of rolling stock and therefore increased capacity on existing railway routes without additional investment in new equipment.

RailTracker is designed to improve the performance of railways. In this respect, by providing the information required on an "on-line" basis for daily programming and on an accumulated basis for regular statistics and performance indicators, the railway tracking modules provide the necessary information for management to intervene to correct deficiencies.

If through this system, for example, the average turn around time of wagons is reduced by 10% because that wagon is systematically tracked and its whereabouts are therefore known, then the overall wagon capacity of a railway network is increased by 10%. The same goes for locomotives. This is already an important feature when one compares with the cost of new rolling stock and the corresponding cost of immobilized rolling stock.

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Further advantages can be quoted from a recent letter from the Traffic Manager of Cameroun Railways:

- The possibility of managing the maintenance of rolling stock on a kilometre basis (i.e. real use) rather than on a fixed time basis;
- The permanent monitoring of wagon-time in station which enables management to reduce wagon turn-around by at least one day on average per wagon, giving for Cameroun an increased capacity of approximately 40,000 wagon/days.

- Possibility for Operational Managers/Controllers to know at any one moment the exact situation in any station enabling them to make the right decision for faster-moving traffic - i.e. avoiding bottlenecks before they occur.

Other advantages were quoted for the cargo tracking side: knowledge of the whereabouts of cargo on the railway network enables railway management to forewarn clients of the arrival of their goods in advance so that they can take immediate delivery thereby no longer using railway wagons as temporary storage. It also gives consignees much more security and facilitates finding out what happened in case of an incident on the railway - and this is why insurance companies are interested because it would cost them less to investigate due to the availability of records.

Beneficiary

Impact

1. Railways

- Improved rolling stock management
- savings in rolling stock hire charges
- improved data input for planning, monitoring, forecasting, assessing productivity
- reduced investment in new equipment
- better maintenance of rolling stock through improved maintenance schedules
- improved reporting due to accurate data
- better investment/corporate planning

- improved turn-around times and capacity utilisation
- improved interchange and therefore promotion of through railway operations throughout the sub-region
- 2. Business Community (customers)
 - better cargo information
 - enhanced efficiency and reliability
 - time and cost savings
 - better planning, procurement and inventory control
- 3. Governments
 - foreign exchange savings from reduced payments in rolling stock hire charges
 - improved efficiency and profitability of railways
 - enhanced monitoring
 - improved and accurate data for investment/planning decisions
- 4. Donor Agencies/ Sub-regional Institutions
 - enhanced integration of sub-regional transport system.

VI INPUTS

For both trade facilitation and rolling stock tracking, the main input would be expertise made up of international experts and National Professionals.

Other inputs are equipment, travel and overheads.

Annex I gives a detailed presentation of outstanding outputs and corresponding inputs including the phasing of implementation for the rolling stock tracking system.

Annex II gives the inputs for trade facilitation which are mainly expertise and computer equipment.

Annex III is a summary of the overall budget. The total budget is US\$4, 151,383 over a two and half year period effective 1st July 1991. The phasing of expenditure per component and per year is given in the table.

VII PROJECT IMPLEMENTATION FRAMEWORK

No

The main project is executed by UNCTAD Headquarters in Geneva with a Field Office in Blantyre, Malawi responsible for day-to-day management of the project in the field. A number of organs facilitate monitoring and control of the project.

Steering Committee

Project monitoring and control is exercised through a mechanism known as the Steering Committee (SC). The SC meets every six months and is made up of representatives from UNDP, USAID, SATCC, UNCTAD, and Project Management in the field. The SC reviews delivery of outputs, approves work plans and deals with matters that are intended to improve performance of the project. It is thus a tool for close monitoring of the project.

Tripartite Review

Tripartite Review (TPR) meetings are held once every year and constitute a consultative mechanism of the project. The TPR involves all parties who attend the SC meeting and in addition the beneficiary governments themselves. These are high level policy meetings attended at government level by Permanent/Principal Secretaries. TPR meetings are a consultative mechanism for all parties involved in the project. At these meetings, joint decisions and recommendations on the design and implementation of the project are taken to ensure that the project meets its objectives in a cost-effective manner and in line with the priorities of the beneficiaries.

Co-ordination with SATCC

SATCC has the overall mandate of co-ordinating transport and communications development in the sub-region. The project maintains close co-ordination with SATCC both at the operational and technical levels. Apart from SATCC participating in the SC and TPR meetings, the project attends regular meetings of SATCC namely the Co-ordinating Committee and Committee of Ministers meetings. The project also participates in the various technical working group meetings of SATCC in roads, railways, shipping and ports. This close level of co-ordination ensures that project activities are integrated into SATCC programmes and enables the project to provide direct technical support to SATCC. In addition, the Chief Technical Adviser (Project Manager) in the field maintains regular liaison with the project governments. Thus, there is a comprehensive framework for reporting, monitoring and co-ordination of the project.

Monitoring and Control

Under the proposed grant arrangement modalities for monitoring and control for the specific components to be supported by USAID funding will be mutually agreed upon between USAID and UNCTAD. It will be desirable however, to consider mechanisms for keeping OMLC and UNDP informed.

TABLE 1. SYSTEM DEVELOPMENT (starting date for new development 07/91)

	date completed	m/m Intern'l	m/m national	type of (*) equipment
BASIC RAILWAY TRACKING MODULES =====				
RailTracker				
Mono-site (V.1.7.)	11/90		4	
Multi-site (V.2.0. and further versions)	09/91		12	8
Enhanced (V.3.0. and further versions)	09/92		12	
(additional requirements to be specified)				
Railstats				
Pilot-Traffic	08/91		2	2
Stabilized-Traffic	12/91		4	8
Extended	08/92		4	8
RailInterchange				
Pilot	11/91		4	4
Stabilized	06/92		4	8
RailTraining				
RailTutorial - Pilot	03/90			
RailTutorial - other modules	02/92		6	12
Seminars			3	12
Telecommunications				
Intra-railway - Pilot (link between railway control rooms)	06/91			
Intra-Railway - Stabilized	12/91		8	8 0 + 0
			51	78
OPTIONAL RAILWAY MODULES (including pilot installation in 1 railway) =====				
RailTerminal				
Pilot	02/92		12	12 C
Stabilized prototype (1 railway)	12/92		12	12
RailCommercial				
Pilot	11/91			
Stabilized prototype (1 railway)	06/92		6	10
RailTraining				
RailTutorial - optional modules	06/92		6	10
Authoring System	12/91		10	
Management Game	12/91		3	8 B
Integration				
	12/92		12	24
Telecommunications				
Inter-railway (link between railway head-quarters)	12/93		12	16
			79	102

(*) Type of equipment : see table 3 below.

MALAWI RAILWAYS

Limbe Traffic Control Room	06/89	2	6	A + E
Limbe other Departments			2	B
Nayuchi MR/CFM(North) Interchange			2	A + E/2
Nsanje MR/CFM(Centre) Interchange	?		2	?
Chipoka Transshipment rail/lake			2	A

TANZANIA ZAMBIA RAILWAY (TAZARA)

Dar Es Salaam HQ Control Room	11/89	1	1	A + E + D
Dar Es Salaam other Departments				B
Dar Es Salaam Regional Control Room	05/90	1		A + D
Dar Es Salaam THA Rail Terminal		1	2	A + D
Mbeya Station		1	2	A (+ E ?)
Mpika Regional Control Room		1	2	A + E
New Kapiri Mposhi TAZARA/ZR Interchange			2	A (+ E ?)

ZAMBIA RAILWAYS (telecom assumed available)

Kabwe Traffic Control Room		2	6	B + E
Kabwe other Departments		1	4	C
Ndola/Sakenia ZR/SNCZ Interchange		1	2	A
Livingstone/Vic Falls -ZR/NRZ Interchange		1	2	A
Kapiri Mposhi ZR/TAZARA Interchange			2	A

NATIONAL RAILWAY OF ZIMBABWE (telecom ?)

Bulawayo HQ Traffic Control		4	6	B + E + D
Bulawayo other Departments		2	6	C + D + B + D
Regional Control Room / Main Stations #1 to #8		4	24	8*(B (+ E-?))
Vic Falls/Livingstone NRZ/ZR interchange		1	2	A (+ E ?)
Plumtree NRZ/BR interchange			2	A (+ E ?)
Beitbridge NRZ/SATS interchange		1	2	A (+ E ?)
Mutare NRZ/CFM(Centre) Interchange			2	A + E/2
Chicalacuala NRZ/CFM(South) Interchange ?				?

MOZAMBIQUE CFM (North)

Nampula HQ Control Room		1	3	A + E
Nampula other Departments		1	3	B
Nacala Port Rail Head		1	2	A + E
Nayuchi CFM(North)/MR Interchange			2	A + E/2

MOZAMBIQUE CFM (Centre)

Beira HQ Control Room		1	3	A + E + D
Beira other Departments		1	3	B
Beira Port Rail Head		1	2	A + D
Mutare CFM(Centre)/NRZ Interchange			2	A + E/2

ANGOLA CFB

Lobito HQ Control Room	?			?
Lobito other Departments	?			?
Luau/Diico CFB/SNCZ Interchange	?			?

30 100

(*). Type of equipment : see paragraph 3 below.

TABLE 1. SYSTEM DEVELOPMENT (starting date for new development 07/91)

	date completed	m/m Intern'l	m/m national	type of (*) equipment
BASIC RAILWAY TRACKING MODULES =====				
RailTracker				
Mono-site (V.1.7.)	11/90			
Multi-site (V.2.0. and further versions)	09/91	4	4	B
Enhanced (V.3.0. and further versions)	09/92	12	12	
(additional requirements to be specified)				
Railstats				
Pilot-Traffic	08/91	2	2	
Stabilized-Traffic	12/91	4	8	
Extended	08/92	4	8	
RailInterchange				
Pilot	11/91	4	4	
Stabilized	06/92	4	8	
RailTraining				
RailTutorial - Pilot	03/90			
RailTutorial - other modules	02/92	6	12	
Seminars		3	12	
Telecommunications				
Intra-railway - Pilot (link between railway control rooms)	06/91			
Intra-Railway - Stabilized	12/91	8	8	D + D
		51	78	
OPTIONAL RAILWAY MODULES (including pilot installation in 1 railway) =====				
RailTerminal				
Pilot	02/92	12	12	C
Stabilized prototype (1 railway)	12/92	12	12	
RailCommercial				
Pilot	12/91	6	10	B
Stabilized prototype (1 railway)	06/92	6	10	
RailTraining				
RailTutorial - optional modules	06/92	6	10	
Authoring System	12/91	10		
Management Game	12/91	3	8	B
Integration				
	12/92	12	24	
Telecommunications				
Inter-railway (link between railway head-quarters)	12/93	12	16	
		79	102	

(*) Type of equipment see table 3 below.

TABLE 3. Equipment Costs (Estimation 03/91)

'A'	Stand-alone computer antenna	US \$ 10000
'B'	Mid-size computer antenna (3 workstations)	US \$ 30000
'C'	Large-size computer antenna (7 workstations)	US \$ 55000
'D'	Telecom short distance	US \$ 10000
'E'	Telecom long distance	US \$ 26000

TABLE 4. Average Manpower Costs (Estimation 03/91)

Man/Month International expertise	US \$ 12000
Man/Month National expertise	US \$ 2500

TABLE 5.1: Quarterly breakdown of costs per country (for 1991 and 1992)

(in '000 US \$)

(optional modules not included)

(optional telecom equipment in brackets, not included in totals)

	3Q/91	4Q/91	1Q/92	2Q/92	3Q/92	4Q/92	Total	
System development							636	
Expertise Intern'l	180	180	144	84	48		195	
Expertise National	45	55	45	30	20		30	
Computer equipt.		30					20	
Telecom equipt.		20						
Maliawi Railways							24	
Expertise Intern'l			24				25	
Expertise National		5	15	5			60	
Computer equipt.	10	10	30	10			39	
Telecom equipt.		39						
Tanzania Zambia Railway							48	
Expertise Intern'l		12	12	12	12		25	
Expertise National		5	5	5	5	5	90	
Computer equipt.		10	10	10	50	10	62	(52)
Telecom equipt.			20	36	26			
Zambia Railway							72	
Expertise Intern'l		36	12	12	12		40	
Expertise National		15	10	7.5	7.5		115	
Computer equipt.		30	55	20	10		0	
Telecom equipt.								
National Railway of Zimbabwe							144	
Expertise Intern'l	24	24	24	24	24	24	110	
Expertise National	10	20	20	20	20	20	395	
Computer equipt.	30		90	125	80	70	69	(286)
Telecom equipt.			10	46	13			
Mozambique CFM (North)							36	
Expertise Intern'l		6	6	12	12		25	
Expertise National		2.5	7.5	7.5	5	2.5	60	
Computer equipt.			10	10	30	10	65	
Telecom equipt.				26	26	13		
Mozambique CFM (Centre)							36	
Expertise Intern'l		6	6	12	12		25	
Expertise National		2.5	7.5	7.5	5	2.5	60	
Computer equipt.			10	10	30	10	59	
Telecom equipt.				26	23	10		
Angola (CFB)							0	
Expertise Intern'l							0	
Expertise National							0	
Computer equipt.							0	
Telecom equipt.							0	
Total	299.0	508.0	573.0	557.5	470.5	177.0	2585.0	2585.0

Note : Estimation of minimum computer and telecom equipment to be defined after thorough assessment of existing facilities

and additional user requirements.
Installation costs not included (i.e. freight, offices, air conditioning,
suitable power supply and possibly power generators in remote locations, etc.)

TABLE 5.2. SUMMARY

	3Q/91	4Q/91	1Q/92	2Q/92	3Q/92	4Q/92	Total
Development	225	265	189	114	68	0	881
Malawi Railways	10	64	69	15	0	0	148
AZARA	0	27	47	63	93	15	245
Zambia Railway	0	81	77	39.5	29.5	0	227
National Railway of Zimbabwe	64	44	144	215	137	114	718
Mozambique CFM (North)	0	8.5	23.5	55.5	73	25.5	186
Mozambique CFM (Centre)	0	8.5	23.5	55.5	70	22.5	180
Angola (CFB)	0	0	0	0	0	0	0
Total	299.0	508.0	573.0	557.5	470.5	177.0	2585.

Note: TAZARA operates in Tanzania and Zambia.

TABLE 6. EQUIPMENT DETAILS.

EQUIPMENT FOR ACTIS ANTENNAE (PROVISIONAL LIST)

BD / 20/01/91
FILE ACTISMAT

A. Small size antenna (Small control room, railway station, ...)

- 1 stand alone work-station with modem
- 1 telecommunication equipment (see D or E below)
- 1 printer
- 1 UPS (1 KVA)
- 1 set of spare parts

B. Mid-size antenna (Traffic Control Room)

- 1 file server computer
- n work-stations ($2 \leq n \leq 7$) n depends on the workload
- 1 telecommunication work-station
(can also serve as a normal work-station)
- 1 telecommunication equipment (see D or E below)
- 1 printer
- 1 UPS (2 KVA)
- 1 set of spare parts

C. Large-size antenna (Main Traffic Control Room)

- 1 file server computer
- n work stations ($5 \leq n \leq 99$) n depends on the workload
- 1 telecommunication work-station
- 1 Telecommunication equipment (see D or E below)
- 1 printer
- 1 UPS (2 KVA)
- 1 set of spare parts

D. Telecommunication equipment : short distance (< 20 km)

- 2 HF radio sets plus computer interface

E. Telecommunication equipment : long distance (20 to 1400 km)

- 1 HF radio set plus computer interface
- 1 antenna
- 1 set of spare parts

DETAIL OF STANDARD CONFIGURATIONS

Stand-alone work-station

- 1 IBM PS/2-70 M61 or equivalent (*)
- with
- 2 Mb memory
- 1 diskette drive 3"1/2 1.44 Mb
- 120 to 200 Mb hard disk
- 0 co-processor
- 1 VGA color screen
- 1 keyboard
- 1 DOS 4 or later version
- 1 miscellaneous system software
- 1 modem 300/1200/2400 plus software
- 1 cassette tape streamer 120 Mb

Work-Station

- 1 IBM PS/2-70 or equivalent (80386) with
- 2 Mb memory
- 1 diskette drive 3"1/2 1.44 Mb
- 0 Mb hard disk
- 0 co-processor
- 1 VGA color screen
- 1 keyboard
- 1 DOS 4 or later version
- 0 modem
- 1 Ethernet card (Thin-cable).

Telecommunications work-station

- idem work-station (above)
- plus
- 1 modem 300/1200/2400 baud plus software
- 1 cassette tape streamer 120 Mb

File server computer

- 1 IBM PS/2-70 A121 or equivalent (80386)
- with
- 4 to 8 Mb memory
- 1 diskette drive 3"1/2 1.44 Mb
- 200 to 1000 Mb hard disk
- 0 co-processor
- 1 VGA color or monochrome screen
- 1 keyboard
- 0 modem
- 1 Ethernet card (Thin-cable) 16 bit.
- 1 NOVELL Netware software (ELS-I! or Advanced or SFT or 386)
- 1 miscellaneous system software
- 1 cabling between file server and work stations

(*) COMPAQ, HP, AST, ... 80386 computers

Printer

EPSON LQ-860 or equivalent with
1 A4 sheet feeder
1 cable Centronics DB25

Power Supply

1 Uninterruptible Power Supply
(UPS) 0.5 kva per computer and printer
(batteries for 15 minutes operation)
(Power Generator may be required for
remote locations)

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ANNEX IIINPUTS - TRADE FACILITATION

<u>EXPERTS</u>	<u>w/m</u>
i. Co-ordinator (CTA)	30
ii. Trade Facilitation Adviser	24
iii. Trade Facilitation Consultants	6
iv. National Professionals	100

EQUIPMENT

Computers to facilitate work of
NTECs and NPs

TRAVEL

Assessment, Review, Design and
Implementation of New Documents
and Procedures

44

BRIEF JOB DESCRIPTIONS

Chief Technical Adviser:

Under the guidance of UNCTAD he will be responsible for overall project co-ordination and supervision of experts. He will also provide the necessary policy/political guidance to ensure effective co-ordination with governments, sub-regional and international organisations. He will in addition also co-ordinate and monitor implementation of sub-regional and national activities of modules of railway rolling stock/cargo tracking system.

Trade Facilitation Adviser:

Will be responsible for the overall assessment design, implementation and technical monitoring of the trade facilitation programme in all its aspects including training.

Trade Facilitation Consultants:

These will assist the Trade Facilitation Adviser on an ad-hoc basis to undertake specific tasks.

National Professionals:

Will carry out actual implementation work in the field. They will be responsible for implementation of agreed measures and co-ordinating the work of NTFC's on the ground. They will also provide preparatory and backstopping work to international experts.

**PROPOSED BUDGET FOR USAID FUNDED PROJECT:
SUPPORT TO TRANSIT/TRANSPORT SECTOR - SOUTHERN AFRICA
(in U.S. Dollars)**

BUDGET LINES	1991		1992		1993		TOTALS	
	w/m	US\$	w/m	US\$	w/m	US\$	w/m	US\$
A) <u>TRADE FACILITATION</u>								
Chief Technical Adviser	6.0	60,000	12.0	150,000	12.0	150,000	30.0	360,000
Trade Facilitaion Expert	6.0	48,000	12.0	98,000	6.0	50,000	24.0	196,000
Consultants	3.0	30,000	3.0	30,000	-	-	6.0	60,000
National Professionals (5)	30.0	75,000	30.0	75,000	40.0	100,000	100.0	250,000
Sub-total	45.0	213,000	57.0	353,000	58.0	300,000	160.0	866,000
B) <u>ROLLING STOCK TRACKING SYSTEM</u>								
International Experts	39.0	468,000	44.0	528,000	-	-	83.0	996,000
National Professionals	64.0	160,000	114.0	285,000	-	-	178.0	445,000
Sub-total	103.0	628,000	158.0	813,000	-	-	261.0	1,441,000
C) <u>EQUIPMENT</u>								
Computers (A)		100,000		-		-		100,000
Computers (B)		120,000		690,000		-		810,000
Telecommunication (B)		59,000		275,000		-		334,000
D) <u>OFFICIAL TRAVEL</u>								
Activity (A)		50,000		100,000		60,000		210,000
Activity (B)		30,000		60,000		60,000		150,000
TOTALS		1,200,000		2,291,000		420,000		3,911,000
E) <u>AGENCY SUPPORT COSTS (13%)</u>		156,000		29,783		54,600		240,383
GRAND TOTAL	148.0	1,356,000	215.0	2,320,783	58.0	474,600	421.0	4,151,383