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Mid-term Review of the Tanzania Road Sector Programme

Final Report

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Summary:
The current Road Sector Programme in Tanzania as supported by NORAD focuses on institutional strengthening of the Ministry of Works and institutional co-operation between the Ministry and the Norwegian Public Roads Administration. The institutional reform process in the road sector in Tanzania is fairly advanced and a new semi-autonomous roads agency is scheduled for operation July 2000. The Mid-term review concludes that the programme is running well. Progress is mainly in accordance with plans and programme effectiveness and sustainability is acceptable at mid-term. The institutional co-operation has been useful in building up competence in Tanzania. It is recommended that the programme continue as planned with emphasis on implementation of preparations already made and on support to the new roads agency, now being implemented, in road sector management.

Tittel: Evaluering av NORADs veisektorprogram i Tanzania

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Sammendrag:
Det NORAD støttede veisektorprogram i Tanzania fokuserer på institusjonsbygging i Ministry of Works (MoW) og på institusjonelt samarbeid mellom MoW og Statens vegvesen i Norge. Den institusjonelle reformprosessen i veisektoren i Tanzania er kommet langt og en ny mer uavhengig veiadministrasjon (TanRoads) skal innføres i juli 2000. Konklusjonen på gjennomgangen er at programmet går bra. Fremdriften er stort sett på linje med planene og resultatene og bærekraftigheten er akseptable midtveis i programmet. Det institusjonelle samarbeidet har vært nyttig og bidratt til å bygge opp kompetanse i veisektoren. Det anbefales å forsette som planlagt med programmet med vekt på å gjennomføre de tiltak som allerede er forberedt. Videre bør det legges særlig vekt på å støtte den nye veiadministrasjonen, som nå er under etablering, med å bygge opp kompetanse innen management av sektoren.

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Preface

This Final Report has been prepared for NORAD – Norwegian Agency for Development Cooperation under an agreement for a Mid-term Review of TAN 045 Road Sector Programme. For the purpose of the Review, the Institute of Transport Economics has requested the assistance of K & Associates Professional Services Ltd. (KAPSEL), Dar es Salaam for the provision of a senior roads engineer to the Review Team.

NORAD assistance to the road sector in Tanzania started with construction and maintenance of gravel roads in 1972. With completion of the current Road Sector Programme 2001/2002, such assistance will have been ongoing for three decades. Since the Integrated Roads Programme (IRP) commenced around 1990, this programme has provided an important overall framework for road sector development in Tanzania.

The agreement between Tanzania and Norway on the current Road Sector Programme was signed in February 1998. The programme is part of IRP and a continuation of the previous Norwegian road sector support programme to Tanzania. The assistance is focused on institutional strengthening of the Ministry of Work (MoW), and institutional co-operation between the MoW and the Norwegian Public Roads Administration (NPRA) constitutes the main element of the programme.

This report is primarily based on information collected during a mission to Tanzania January/February 2000. It has been prepared by a Review Team of four comprising Mr. Terje Assum (Road Safety Expert), Mr. Henning Lauridsen (Team Leader, Civil Engineer), Mr. Immanuel N. Kimambo (Senior Roads Engineer, KAPSEL) and Ms. Sønneve Ølnes (Administrative/Financial Expert). Ms. Bjørg Mannsverk has assisted with the final editing of the report.

We wish to acknowledge the co-operation of the Ministry of Works in Tanzania and NORAD. Many people in the Ministry and in other parts of the public sector as well as in the private sector were met during the mission to Tanzania. We appreciate the time and effort taken and acknowledge their contribution to the review.

Oslo, March 2000
INSTITUTE OF TRANSPORT ECONOMICS

Knut Østmoe
Managing Director

Jon Inge Lian
Head of Department

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Abbreviations and Acronyms

ADT	Annual Daily Traffic
AIT	Agency Implementation Team, Ministry of Works
ATATAP	Appropriate Technology Advisory and Training Project
ATTI	Appropriate Technology Training Institute
ATU	Appropriate Technology Unit, Ministry of Works
BMST	Bridge Management System of Tanzania
CAG	Controller and Auditor General
CML	Central Materials Laboratory, Ministry of Works
CSRP	Civil Service Reform Programme
DANIDA	Danish International Development Agency
DFID	Department for International Co-operation, UK
EDF	European Development Fund
FINIDA	Finish International Development Agency
FY	Financial Year
GoT	The Government of the United Republic of Tanzania
IDA	International Development Association
ILO	International Labour Organisation
IRP I / II	Integrated Road Project, phase I / phase II
MAG	Management Action Group, Roads Department, Ministry of Works
MoHA	Ministry of Home Affairs
MoW	Ministry of Works
NIT	National Institute of Transport
NOK	Norwegian Kroner
NORAD	Norwegian Agency for Development Co-operation
NPRA	Norwegian Public Roads Administration
NRSC	National Road Safety Council
ODA	Overseas Development Agency, UK
PEHCOL	Plant and Equipment Hire Company Limited
PMS	Pavement Management System
PSV	Public servicr vehicles
REO	Regional Engineer's Office, Ministry of Works
RMI	Road Maintenance Initiative
RMMS	Road Maintenance Management System
RSP	TAN o45 Road Sector Programme
RSU	Road Safety Unit, Ministry of Works
SADC	Southern Africa Developing Community
SIDA	Swedish International Development Cooperation Agency

SDC	Swiss Development Agency
TSSH	Tanzanian Standard Specifications for Highways
TA	Technical Adviser
TRL	Transport Research Laboratory, UK
TSh	Tanzanian Shillings
TZS	Tanzanian Shillings
UDSM	University of Dar es Salaam
VTTP	Village Travel and Transport Project
WPU	Women Participation Unit, Ministry of Works

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Summary:

Mid-term Review of the Tanzania Road Sector Programme

The agreement on the Tanzania Road Sector Programme states that an independent programme review will be carried out half way through the programme. The review shall assess the achievements compared to the programme objectives, assess sustainability and provide recommendations for a possible continuation of the support.

NORAD entered into a contract with the Institute of Transport Economics – Norwegian Centre for Transport Research (TØI) for the purpose of the Mid-term Review. The main input to the review was collected during a mission to Tanzania January/February 2000. The results of the review are summarised below.

The Current Road Sector Programme

The agreement on the current TAN 045 - Road Sector Programme (RSP) was signed in February 1998. The programme is focused on institutional strengthening and co-operation and gives less emphasis to physical maintenance and rehabilitation than the previous road sector programme. The purpose of the current programme is to increase the competence and efficiency in road administration in Tanzania.

TAN 045 consists of 10 components: Management and Organisational Development, Financial Management System, Maintenance Management, Road Safety and Axle Load Control, Bridge Management, Central Material Laboratory, Equipment Management, Appropriate Technology Advisory and Training Project, Miscellaneous Support, and finally, Program Administration.

Programme Efficiency and Sustainability

As described in Chapter 5 of the report, the result or the effectiveness of the programme is acceptable, considering the fact that only half the programme period has expired. One of eight technical components has achieved full effectiveness, four components have started to take effect and three components have yet to show effect.

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Table 5.3 in Chapter 5 of the report shows the anticipated percentage used by end June 2000 of the budgeted NORAD funds. In Table 1 below, we have related this percentage to the results achieved so far by the various components.

Table 1 Anticipated Percentage used by end June 2000 (NORAD funds) relative to the Results achieved by Component.

Component	Per cent used	Result
1 Management and Organisational Development	75	None
2 Financial Management System	0	None
3 Maintenance Management	5	None
4 Road Safety and Axle Load Control	89	Some
5 Bridge Management	73	Some
6 Central Materials Laboratory	91	Some
7 Equipment Management	79	Full
8 Appropriate Technology Project	92	Some
9 Miscellaneous Support	0	-
10 Programme Administration	64	-
Total	67	

The accordance between the anticipated percentage of budget spent and the results of the components is quite good, except for Component 1. The high percentage of budget used for Component 1 is the cost of the technical adviser, whose efforts have not been assessed in this review. There is no standard to determine whether the amounts spent are reasonable for this kind of programme. It is, consequently, quite difficult to say whether the results of this programme are reasonable compared to the resources spent. However, by the mid-term of a programme, it is reasonable to find that at least 50 per cent of the resources are spent, whereas the full results for the programme can only be expected to appear at the completion of the programme period.

Sustainability cannot be considered achieved as yet for the overall programme, but several components are moving towards sustainability. This situation is acceptable at mid-term of the programme, if serious efforts to create sustainability are made in the remaining two years period.

Experience with Institutional Co-operation

The institutional co-operation between MoW and NPRA, which applies for most programme components, has been useful in building up the capacity of the ministry in road management, road safety and axle load control, bridge management, the Central Materials Laboratory, and equipment management. It has also greatly facilitated project supervision through the Technical Forum and annual meetings.

The relationship between the advisers and MoW staff has been amicable and beneficial to both parties. MoW staff have found it easier to deal with NPRA, than in dealing with a consultant, because they relate to only one institution and more of less the same individuals. This ensures better continuity for the project.

The success of a programme component has depended on how closely the adviser has followed up the project. For some components, e.g., Road Safety, a single annual visit by each adviser may not be sufficient to push for faster results.

The institutional co-operation between MoW and ILO is much more limited as it only concerns one component, the Appropriate Technology Advisory and Training Project. Generally, however, co-operation between the two parties appears to have been satisfactory.

In view of the above observations, it is recommended that the institutional co-operation between MoW and NPRA continue with minor modifications. Future institutional co-operation should be closely examined in relation to the establishment of the new road agency, TanRoads.

Reporting and Administrative Routines

The work plans and related budgets for the Road Sector Programme are very well described and are basically following the same set up for all the components. Component co-ordinators seem to have a good overview of the activity carried out on their component.

Registering of disbursements are thoroughly carried out and the reported figures seem correct and all the relevant documents are filed and accessible. The procedures for disbursements seem secure. The rate of disbursements has improved considerably for TAN 045 as compared to the previous programme.

The reporting also seems to have caught up and is now more or less in accordance with the requirements stated in the agreement. The reporting is extensive. All the information required is reported. The reports should be shortened and focus on the relevant information. This would hence make them much more accessible.

For the remaining period of TAN 045, we recommend to continue the existing financial management procedures with some minor changes for registering and reporting. As a consequence the budget on Component 2 for developing a financial management system, can be re-allocated to other purposes. A small amount should, however, be set aside to allow for limited support if required for streamlining the set up of the reports.

A New Basis for continued Institutional Support

The establishing of the new road agency TanRoads, now scheduled for July 2000, is a major step towards a more efficient organisation of road management in Tanzania. It is well in line with international and SADC recommendations for road sector reform, and fairly advanced compared to what is being implemented in other countries in the SADC-region. TanRoads will not only provide a much

better basis for development of the road sector, but also a much more solid platform for donor support in future. When TanRoads becomes operational in the second half of this year, it will be a good first step in the road sector reform process and all parties, including donors, should have an interest in its success. Activities related to improvements of road sector management, including both development and maintenance of roads as well as administrative routines, should consequently be supported as much as possible during the remaining period and beyond. These would e.g. be activities such as management training for TanRoads staff and development of a proper maintenance management system for TanRoads. Efforts should be made to have the Maintenance Management system fully implemented as outlined in the Programme Document of April 1997 within the TAN 045 programme period.

Against the above background, there are strong reasons for further support to the road sector as soon as possible. Others, in particular the European Union (EU) and Switzerland has already pledged to continue and increase their support to development of the sector. The EU will initially finance the services of a consultant who will work jointly with the TanRoads Core Team during the transition period up to June 2000. The consultant is expected to provide expertise that may be lacking in the Core and to design a programme of institutional support to the Road Fund Board, TanRoads, Local Government and the new Ministry of Works. This programme is expected to provide the basis for donor funding for continued institutional support and also to provide guidance for setting priorities for the final stages of the TAN 045 Road Sector Programme.

Completion of the Current Programme

A major part of the work carried out in the first two-year period of the current programme has been necessary preparations for improvement of basic conditions in the road sector, such as preparing technical manuals, setting up an accident recording system and introducing an axle load control programme. The second part of the Road Sector Programme should, therefore, emphasise institutional support to the implementation and the use of what has been prepared in the first period in order to see effects and impacts of the resources spent, see Chapter 8 of the report for details. Some of this implementation can be carried out within the remaining two years programme period. Other parts will, however, require longer time to be implemented and will thus have to be continued beyond the time perspective and possibly also the budget of the current programme, see below.

The current budget includes an unallocated amount of NOK 3.35 million. In addition to that, NOK 2.0 million allocated to Component 2 can be used for other purposes. Further, it seems that the amount budgeted to Miscellaneous Support can be reduced at this late stage of the programme, say from NOK 0.4 million to NOK 0.25 million. Against this background, about NOK 5.5 million will be available for allocation to other components. Such reallocation should be seen in the light of the priorities within the various components as outlined in Chapter 8 of the report and the need for institutional support to TanRoads as being identified during the transition period.

Continuation beyond the Current Programme

It appears that there will be a need for continued institutional support beyond the time perspective of the current programme. Identification of areas for possible continued support cannot be done in detail in a meaningful way at this stage. It will depend on a number of unknown factors, among them the priorities for completion of the current programme and the contents of the EU funded programme of institutional support to the sector. There are, however, some areas where it seems likely that there will be a need for continued institutional support. They are outlined in Chapter 8.

It is anticipated that beyond the current programme, there will also be continuous need for institutional support to the sector within management and organisational development and maintenance management. This could become a focal point for continued Norwegian support.

Main Conclusions

The institutional reform process in the road sector in Tanzania has come a long way. The TanRoads scheduled for operation by July 2000, will provide a strong new platform for the remaining programme activities and is likely to improve the chances of a successful termination of the current Road Sector Programme (RSP). All parties, including donors, would have an interest in its success, and there are good reasons for further institutional support to the road sector as soon as TanRoads becomes operational. Several functions included in the RSP, such as the road workshops, the Central Materials Laboratory (CML) and to some extent road safety, need to find their proper and partly new roles within the new organisational structure for road sector.

Programme running well – mostly preparatory Work so far

The programme is generally running well, and considerable achievements have been made in several programme components. As can be expected, a major share of the activities during the first half of the programme period has been of a preparatory character. Consequently, considerable effects of the programme remain to be seen. Extensive effects and impacts cannot be expected at the mid-term of the programme.

Progress and Achievements varies between Components

There is great variation between the eight technical components as to progress and achievements. Most successful in meeting the objectives so far, is Component 7 Equipment Management, which is considered having a clear impact on the management and financial sustainability of the regional workshops. Component 4 Road Safety and Axle Load Control, Component 5 Bridge Management, Component 6 Central Materials Laboratory Management and Component 8

Appropriate Technology Project have started to take effect. Component 1 Management and Organisational Development, Component 2 Financial Management System and Component 3 Maintenance have made only marginal or no progress so far.

Too wide Range of Activities

Several components such as Road Safety and Axle Load Control have started a wide range of activities. A clearer priority between activities and emphasis on activities likely to produce significant effects also in a shorter time perspective would have improved the results.

Relevance, Effectiveness and Sustainability

The overall objectives of the programme as well as the component objectives are considered relevant to the general road and road traffic situation in Tanzania.

Only one technical component can be considered having achieved full effectiveness while four have started to take effect. This result should be acceptable as only half the programme period has been completed.

For the overall programme, sustainability cannot be considered achieved as yet, but several components are moving towards sustainability. Such a situation, is considered acceptable at this stage if serious efforts to create sustainability are made in the remaining programme period.

Financial Progress

By December 1999 approximately 50 per cent of the NORAD funds were spent. By June 1999 approximately 30 per cent of the GoT funds were spent. Adding another half year to the GoT funds, to make it comparable to the NORAD funds, an estimated 40 per cent of the GoT funds would be spent by December 1999. This means that the financial progress of the GoT funds is somewhat slower than that of the NORAD funds.

The current NORAD budget allows for approximately NOK 5.5 million to be allocated or reallocated for other components than indicated in the initial budget.

Institutional Co-operation

The institutional co-operation between MoW and NPRA has been useful in building up the capacity of the ministry. MoW staff have found it easier to deal with NPRA, than in dealing with a consultant, because they relate to only one institution and more of less the same individuals. This ensures better continuity for the project. The relationship between the advisers and MoW staff has been amicable and beneficial to both parties.

Reporting and Administrative Routines

The reporting and the rate of disbursements have improved considerably for the current programme (TAN 045) as compared to the previous (TAN 080). Still, some 3 months pass from the time the invoice is issued until payment is received, and there is consequently room for further improvement. The reporting is now more or less in accordance with the requirements stated in the agreement. The reports should, however, be shortened and more focussed, and some routines need fine-tuning.

Further Needs for Institutional Support

A number of activities are considered needing further support, some in the current programme and some beyond the programme. Implementation of those activities prepared in the first part of the programme is needed in the remaining programme period. TanRoads is expected to provide shortly, through a technical advisory project funded by the EU, a framework for continued support to the sector at all levels.

Main Recommendations

Continue, emphasising Implementation and supporting TanRoads

The programme should be continued in order to obtain the expected effects of the various preparations made in the first part. Emphasis should be put on implementation of these activities and supporting TanRoads in road sector management. In the latter respect, management and organisational development including training of staff and improvements of maintenance management systems appear particularly relevant at this stage.

Concentrate efforts to fewer Activities within each Component

Within each component, priorities should be made for activities expected to have high effects. Efforts should be concentrated on these activities.

Maintenance Management must be emphasised

Efforts should be made to have the maintenance management system fully implemented within TanRoads during the second half programme period.

Amending the Road Traffic Act and Approval of Programme

The proposed amendments to the Road Traffic Act should be given high priority. Efforts should be made to secure that the Road Safety Programme and the Axle Load Control Programme are approved as soon as possible to stimulate effective road safety activities and axle load control.

Demonstrate Effects of Road Safety Measures

Effective road safety measures such as traffic engineering and enforcement combined with information campaigns should be implemented as pilot projects. The results of these projects should be communicated effectively to the public at large and to decision-makers.

Strategies for Road Workshops, CML and Road Safety

Realistic institutional and organisational options for the road workshops, the Central Materials Laboratory (CML) and to some extent road safety should be identified. Business strategies for the road workshops and the CML, which can be developed within the Management and Organisational Development Component, should be defined as soon as possible.

Implementation of TAN-BRIDGEMAN

Comprehensive training on the new bridge management system and computerisation of the remaining regions should be emphasised in the remaining programme period. Preparation of Bridge Management Codes of Practice should be made in the period.

Increase Use of Labour-based Technology

The future success of labour-based technology depends on its actual use in road maintenance and construction. Effort should be made, in the remaining programme period, to ensure that this technology is given more room in projects funded by the Road Fund in order to reach the targeted 30 per cent of annual budgets.

More frequent Visits and more Communication between Visits

To stimulate the implementation of programme activities more frequent visits by the NPRA technical advisers should be considered and frequent communication between visits should be carried out.

Simplify Reporting and Administrative Routines

The present reporting and administrative routines should be continued and some minor modifications and simplifications should be introduced for the remaining programme period. Invoices should be registered and follow-up routines should be introduced to simplify reporting and ensure that invoices are paid in time.

1 Introduction

Support to the transport field has been one of the key elements in the Norwegian development assistance to Tanzania. During the last decade, support to the road sector has become dominant in this field.

Previous Road Sector Support

NORAD assistance to the road sector in Tanzania started with construction and maintenance of gravel roads in 1972. With completion of the current TAN 045 Road Sector Support Programme on schedule 2001/2002, such assistance will have been ongoing for three decades. Previous NORAD support to the sector includes:

- TAN 010 Road Betterment Agreement, 1972-78 (NOK 40 million)
- TAN 036 Rural Roads Maintenance, 1979-90 (NOK 300 million)
- Support to rehabilitation of various roads within IRP (NOK 380 million)
- TAN 080 Road Sector Programme, 1991-97 (NOK 140 million)

Since the Integrated Roads Programme (IRP) commenced around 1990, this programme has provided an important overall frame for road sector development in Tanzania. The programme was initially co-ordinated by the World Bank and supported by a number of bilateral donors and other multi-lateral institutions like the ADB. The TAN 080 Road Sector Programme was designed as a part of the IRP and to a large extent focused on institutional strengthening through institutional co-operation. It was initially planned for four years but was extended due to slow progress. NORAD is currently considering other rehabilitation projects within the IRP context among them rehabilitation of the Songwe – Tunduma section of the Tanzam Highway next to the border with Zambia.

TAN 045 – The Current Road Sector Programme

The agreement on the current TAN 045 - Road Sector Programme (RSP) was signed in February 1998. The programme is also part of IRP and as such a continuation of TAN 080. The assistance is to an even larger extent focused on institutional strengthening and co-operation and gives less emphasis to physical maintenance and rehabilitation. The technical assistance and financial support to Tanga and Mbeya Regions, which commenced and constituted the main elements of TAN 036, was terminated as the two regions were deemed to be strong enough to be left alone.

TAN 045 consists of 10 components: Management and Organisational Development, Financial Management System, Maintenance Management, Road

Safety and Axle Load Control, Bridge Management, Central Material Laboratory, Equipment Management, Appropriate Technology Advisory and Training Project, Miscellaneous Support, and finally, Program Administration

The purpose of the programme is to increase the competence and efficiency in road administration in Tanzania.

The Mid-term Review

It is stated in the agreement that an independent programme review will be carried out half way through the programme. The review shall assess the achievements compared to the programme objectives, assess sustainability and provide recommendations for a possible continuation of the support.

NORAD has entered into a contract with the Institute of Transport Economics – Norwegian Centre for Transport Research (TØI) for the purpose of the Mid-term Review. The Institute has requested the assistance of K & Associates Professional Services Ltd., Dar es Salaam for the purpose of the mission to Tanzania January-February 2000.

Report Contents

Subsequent to this introduction, a presentation of the contents and objectives of the TAN 045 Road Sector Programme follows in Chapter 2. The current institutional reform process, which will provide a new point of departure for the programme, is outlined in Chapter 3. The 10 RSP components are described in detail in Chapter 4 with a view to objectives, progress, achievements and sustainability. Chapter 5 gives an overview of financial progress, effectiveness and sustainability of the programme. Chapter 6 describes the experience gained with institutional co-operation, while Chapter 7 reviews reporting and administrative and financial routines. Chapter 8 discusses the need for further institutional support to the sector and, finally, Chapter 9 presents conclusions and recommendations.

There are four annexes to the report. The Terms of Reference are attached as Annex 1. A list of people met during the Mid-term Review in Tanzania and Norway follows as Annex 2. A complete list of references to reports and documents collected and applied for the Review appears in Annex 3, whereas Annex 4 presents key financial tables.

2 The Road Sector Programme

This chapter describes the sector framework and the objectives and contents of the TAN 045 Road Sector Programme (RSP) as established through the agreement of 6 February 1998 between the Governments of Tanzania and Norway.

2.1 The Road Sector in Tanzania

Tanzania has about 85,000 km of roads of which approximately 10,000 km of trunk roads, 18,000 km of regional roads and 24,000 km of district roads. The remaining more than 30,000 km are feeder and unclassified roads. The trunk roads are the national and international routes linking the regions and providing access to important border posts. The regional roads link the trunk road network and the district centres and other important centres.

The Ministry of Works (MoW) is managing the trunk and regional road network, including 4,500 km of selected essential district roads. The remaining district roads and all feeder roads fall under the jurisdiction of the local authorities. The unclassified road network is owned and managed by village councils, national parks and parastatals.

The Regional Engineer's Offices (REOs) are responsible for execution of maintenance and to some extent also rehabilitation of trunk roads, regional roads and important feeder and district roads. The regional engineers report to the Permanent Secretary in the MoW.

The financial allocations to the road sector decreased significantly from the 1970s. In mid 1980s the allocations for maintenance of trunk and regional roads were about one fourth and one sixth respectively compared to the estimated requirements. The financial situation caused a severe deterioration of the road network throughout the whole country.

The Integrated Roads Project (IRP) was launched in 1990, initially with a time span of ten years, aiming at rehabilitating and maintaining priority trunk and rural roads and at achieving sustainable maintenance of the road network through institutional reforms. The IRP strategy comprises a comprehensive approach that entails implementation of key road investments and major policy and institutional reforms as follows:

- Rehabilitate and improve the priority trunk and rural roads that are essential for transport of agricultural products;
- Strengthen the administration and management of trunk and regional roads in order to maintain the rehabilitated networks in satisfactory condition;

- Enhance the road maintenance capacity through promotion and use of local contractors;
- Improve the availability of road maintenance equipment through encouraging establishment of commercially operated plant hire pools;
- Improve resource mobilisation and allocation in order to provide for adequate maintenance of the trunk and regional road networks; and
- Reorient the public expenditure to increase the overall size of the road budget, and to allocate adequate funds for road maintenance and rehabilitation.

The IRP has provided the platform for development in the road sector since its inception. The funding consists of loans through the World Bank and grants from various donors. Among the donors, the European Union is now a major contributor. Other important donors include Norway and Switzerland. The contribution of the Government of Tanzania (GoT) is 10 per cent of the total cost. GoT is also committed to achieve full routine, recurrent and periodic maintenance of trunk and regional roads with allocations from the Road Fund, which was established in 1991.

2.2 Programme Objectives

The overall objectives for the Road Sector Programme were defined as follows in the programme document of April 1997:

- Improve organisational structure and administrative/management procedures in the MoW;
- Improve managerial and technical skills for MoW staff;
- Improve skills of local consultants;
- Improve accountability of funds in the road sector;
- Improve the maintenance standard of roads and bridges;
- Reduce the number of accidents on the roads;
- Improve the durability of roadworks;
- Reduce the cost of roadworks;
- Increase employment possibilities in the road sector; and
- Reduce time and effort spent on transport in rural areas.

It was further stated in the programme document that each component under the RSP agreement and other on-going projects in MoW would contribute to one or more of these objectives. The objectives for individual programme components are described in Chapter 4.

The programme document also includes a section on programme output and indicates that it should be possible to observe the following output after implementation of the programme:

- Technical skills have been improved within those units which have been involved in the Road Sector Programme, as well as local consultants providing services to the programme;
- Organisational structure, management framework, administrative and management procedures and managerial skills have been improved within the Roads Department and some of the REOs;
- A new Financial Management System has been developed and implemented in the Roads Department and in the REOs;
- Improved management systems for maintenance of roads and bridges have been developed and taken into daily use;
- Manuals, handbooks and guidelines to secure the quality of road and bridge maintenance have been developed and taken into daily use;
- Several measures to reduce the number of traffic accidents have been developed and some of them have been implemented. The number of traffic accidents have started to decline;
- The percentage of overloaded trucks on trunk roads have been reduced to less than 10 per cent;
- The Central Materials Laboratory is increasingly playing a key role in testing of materials, design of roads and quality assurance of maintenance and rehabilitation works;
- The Road Workshops in Tanga, Mbeya and Morogoro are able to maintain and renew plant and equipment by revenue from hire charges only;
- The use of labour-based technology by force account units and contractors has increased significantly. All training at the Appropriate Technology Training Institute (ATTI) are being carried out without technical assistance and financial support from donors; and
- Time and effort spent on travel and transport have been reduced in the Village Travel and Transport Programme (VTTP) pilot districts. (The VTTP component was later taken out of the programme and transferred to the Ministry of Regional Administration and Local Government).

Finally, the programme document mentions that air pollution will most likely increase with the increased traffic created by improved road conditions due to rehabilitation and improved road maintenance. The increase will, however, be moderated by reduced fuel consumption due to improved road maintenance and inspection of vehicles.

2.3 Programme Contents

The Road Sector Programme was a continuation of some activities started under the previous road sector agreement (TAN 080). Crucial activities under TAN 080 were, however, not included in the RSP.

The Guiding Principles for Design of the Road Sector Programme

The process towards the Agreement on the Road Sector Programme was guided by the following principles:

- Possible NORAD support to road maintenance and rehabilitation will not be funded under the RSP, but as specific projects with funds from other NORAD programmes;
- NORAD support to Tanga and Mbeya regions as per the previous sector agreement (TAN 080) will not be extended into the new agreement;
- NORAD support to women participation will be confined to related activities under the various components when considered appropriate;
- The agreement should focus on institutional improvements within the road sector with priority to activities under the previous sector agreement (TAN 080);
- Activities will be carried out by MoW staff assisted primarily by local consultants and the Norwegian Public Roads Administration (NPRA);
- Institutional co-operation should develop further, i.e. encompassing new components; and
- Funding of recurrent expenditures, vehicles, computers, equipment and local workshops and seminars will be provided by NORAD with a minimum only.

Programme Components and Budget

The Road Sector Programme includes the following 10 components:

1. Management and Organisational Development;
2. Financial Management System;
3. Maintenance Management;
4. Road Safety and Axle Load Control Programme;
5. Bridge Management;
6. Central Materials Laboratory;
7. Equipment Management;
8. Appropriate Technology Advisory and Training Project;
9. Miscellaneous Support; and
10. Programme Administration

The majority of the above components were on-going components under the previous TAN 080 Agreement. Only Component 1 and 2 were completely new.

A Village Travel and Transport Programme (VTTP) was initially intended to be included in the Road Sector Programme and was described in the programme document. It was later taken out of the programme and transferred to the Ministry of Regional Administration and Local Government. Due to this, the overall RSP budget was subsequently reduced with NOK 5 million plus TSh 300 million.

The NORAD contribution to the programme is NOK 35 million, which equals TSh 3,500 million, during the agreement period. GoT was expected to allocate approximately TSh 7,000 million. The programme budget included unallocated funds amounting to TSh 325 million from NORAD and TSh 130 million from GoT. This amount has been used to adjust the budgets for the various components during implementation within the overall frame of the budget.

Table 2.1: Current and Initial Programme Budget. Million

Component	GoT Budget	Current NORAD Budget ①	Initial NORAD Budget ②
	TSh	NOK	NOK
1 Management and Organisational Development	20	3.500	2.000
2 Financial Management System	20	2.000	2.000
3 Maintenance Management	20	1.300	2.800
4 Road Safety and Axle Load Control Programme	1,000	5.000	5.000
5 Bridge Management	4,500	4.000	4.000
6 Central Materials Laboratory	100	9.000	9.000
7 Equipment Management	50	2.850	1.750
8 Appropriate Technology Advisory & Training Proj.	1,100	1.800	1.800
9 Miscellaneous Support	20	0.400	1.000
10 Programme Administration	40	1.800	2.400
Unallocated	130	3.350	3.250
Total	7,000	35.000	35.000

① Agreed Minutes from 3rd Annual Meeting, Table 3 Revised Budget, Column Total

② Programme Document of April 1997

3 The Institutional Reform Process

This Chapter outlines the ongoing institutional reform process in Tanzania and in particular the crucial changes now underway in the road sector.

3.1 Reforms in Tanzania

Institutional reform in Tanzania is not confined to the roads sector alone. Reforms are being instituted in practically every sector of the economy, so as to involve the private sector in the management of assets. Since 1980 the economy of the country has been deteriorating, and several economic measures to revive it were taken. These included, among others, the Structural Adjustment Programme and the Economic Recovery Programmes. Unfortunately these programmes were not successful because they did not address the core problem of institutional set-up and management. These are now being addressed.

The main thrust of the on-going reforms is to divorce the government from direct execution or provision of services, and to place such responsibility in the hands of the private sector. Public ownership of institutions is also being divested to the private sector. To this end, parastatal organisations are being privatised, while some government departments are being turned into semi-autonomous, commercially operated agencies, with strong private sector participation. The legal framework for such agencies has already been laid by the Civil Service Department in the Executive Agency Act (1997).

3.2 The Road Sector Background

Institutional Reform of the Road Sector in Tanzania is one of the activities initiated under the Integrated Roads Project (IRP) in 1991. The core problem has been road deterioration caused by lack of maintenance. Research had established that the root cause of the problem hinged more on inadequate institutional and financial arrangements, than on technical deficiencies. Inadequate funding of road maintenance, poor working environment in government and bureaucratic procurement procedures were some of the contributory factors to the non-performance. Institutional reform was therefore seen as the only remedy to the problem.

The reform process sought to address four basic issues of ownership, financing, responsibility and management. This, of necessity, meant making major changes in the way things have traditionally been done, and as to be expected, there was bound to be some resistance to such a move. Fortunately since 1991 much has

been done to build up consensus for this transformation, and now Tanzania is on the 'highway to reform'.

The following Section describes the progress that has been made in carrying out the reforms in the roads sector. This is presented here because, not only is reform closely linked to the institutional support provided under this programme, but also the direction of future collaboration between Tanzania and Norway will be highly dependent on this.

3.3 Progress on Reform in the Road Sector

As mentioned earlier, institutional reform in the road sector has been addressed in conjunction with the IRP. Initially it was spearheaded by the Road Maintenance Initiative (RMI), under the United Nations Economic Commission for Africa (UNESCO) Sub-Saharan Africa Transport Programme and the World Bank. Subsequently, SADC joined in the endeavour, and in 1996 most of its member states signed a protocol committing themselves to these reforms. The key elements of the reforms are:

- Adoption of *commercial management practices* to foster institutional, economic and technical efficiency, amongst others by introducing competition in undertaking any road-related activity and adopting a preference for the contracting-out of all types of road construction and maintenance activities.
- Establishing *accountable* and *autonomous roads authorities* with public and private sector participation in key decision-making and the ability to source expertise outside civil service restrictions.
- Implementing *cohesive* and *transparent road funding policies* aimed at progressive full cost recovery to ensure an adequate flow of funds to roads.
- *Dedicating revenues* derived from roads to the provision, operation and maintenance of roads.
- Identifying *sustainable funding sources* to ensure a regular flow of funds to road funds.

Tanzania adopted reform legislation in 1998, which created both a Road Agency and Road Fund. The road agency, by the name of TanRoads, has been set up under the Executive Agencies Act (1997), for managing the primary and secondary road networks. The tertiary roads will be managed by local authorities. All the three classes of roads are to be funded from the road fund. Tanzania's legislation has incorporated many of the SADC guidelines, especially in relation to the entitlement of road users, and operational planning issues.

Outlined below are further details of the status of the Road Fund and TanRoads.

Legislation

The Government enacted the Road Tolls (Amendment) (No.2) Act, 1998 which was passed by the Parliament in November 1998 legislating the Road Fund and the Road Fund Board. The President assented to the Act in December 1998.

In parallel to the establishment of the Road Fund and the Road Fund Board, the Road Tolls (Amendment) (No.2) Act, 1998 also mentions the establishment of TanRoads - under the Executive Agencies Act, 1997 - to manage the road network.

Agency Implementation Team

An Agency Implementation Team (AIT) composed of officers from the MoW was formed in December 1998 to work on a programme of action which would lead to the launching of TanRoads. The AIT is supported by experts from the Executive Agencies Project (EAP) in the Civil Service Department and two in house Technical Assistance personnel provided by Norway and the European Union. In addition, the Government has set up a Steering Committee consisting of Government and Donors representatives to guide and oversee the work of AIT. Regular consultative meetings with the road sector donors are also being held to exchange views and report progress on reform implementation.

The AIT has also been facilitating the establishment of the Road Fund Board, arranging for the Board meetings and dealing with matters arising from the Board's proceedings.

Establishment of the Road Fund Board

The establishment of the Road Fund Board has been finalised and the Board was launched in August 1999. The Board members comprise of the Chairperson who was appointed by the President, three Permanent Secretaries, a senior officer from the Ministry of Works and three private sector members who were appointed by the Minister for Works on recommendations of their organisations and after announcing in the Newspapers. The fourth private sector member nominee proposed earlier unfortunately died before formal appointment, and a replacement is in the process of being appointed. The name was published in the newspapers recently, inviting public comments or objections before it is confirmed in conformity with the Act.

The Board is charged with the responsibility of administering the collection and disbursements of road fund, and to advise the Government on the proper management of the road network. The Board has already conducted 5 Board meetings. The first meeting was held in August 1999 immediately after its inauguration, and the last meeting was held in February 2000.

Recruitment of the Road Fund Manager and the Road Fund Accountant

The Roads Tolls (Amendment) (No2) Act, 1998 requires the Board to appoint the Road Fund Manager and the Road Fund Accountant to manage the day to day activities of the Fund. The recruitment was done in a very transparent manner, with the positions being advertised in the local press and all the applicants undergoing rigorous interviews by a panel of experts. The final selection was done by the Road Fund Board, based on the recommendations of the panel. The selection process has been finalised and both officials are in post. These are Mr. Joseph, O. Haule and Mrs Rose Masenga who had been appointed as R.F. Manager and R.F. Accountant respectively.

The Road Fund Board has also approved the appointment of the following additional staff to the Secretariat:

- Planning/Monitoring Engineers (2)
- Assistant Accountant
- Office Management Secretaries (2)
- Driver
- Office Attendant

Progress achieved in the Establishment of TanRoads

a) Preparation of the Framework Document

The Framework document is an important legal document, which defines the framework within which TanRoads is to operate. Various versions have been prepared and reviewed and the latest version was forwarded to the Attorney General on 22 November 1999 to advice whether it was legally adequate. The Attorney General reviewed the document and proposed some amendments. The final draft is currently been worked on incorporating the comments of the A.G. Chambers.

It is expected that the final draft will be ready to be sent again to the A.G. Chambers before the end of February 2000, after getting the approval of the Minister of Works.

During the preparation of the draft framework document a proposal of having two Boards in order to separate the Road Fund Board's role as a provider and a purchaser of services was considered. It was noted that the proposal of two separate Boards was already considered by the Cabinet but rejected in favour of one Board during this first stage of TanRoads establishment. It was thus proposed in the framework document that the Road Fund Board also becomes the Board for TanRoads. However, this situation will be reviewed during the second stage and may be changed when a new Roads Act replaces the existing Highway Ordinance, CAP 169.

b) Recruitment of the Chief Executive

The process of recruiting the Chief Executive has been finalised. The post was advertised in the international press with a closing date of application as 5 June 1999. The advertisement was well responded to by 35 submissions. The screening of applicants was done by a consultant, after which they were interviewed in September 1999. Out of the three candidates who appeared for the interview, Mr. O Ellevset of Norway was approved by the Minister. Mr. Ellevset commenced work by mid-February 2000.

c) Recruitment of Other Staff

The Deputy Chief Executive (DCE): The position of DCE will be considered further in the course of the transition period.

Other Staff: The period from January 2000 to end June 2000 will be TanRoads transition period, during which it will be managed by a Core Team comprising of the Chief Executive, 4 Directors (i.e. Director of Technical Services, Director of Maintenance Operations, Director of Development and Director of Finance & Administration), Legal Officer, Personnel Officer, Chief Accountant, Project Manager, Maintenance Planner and Quality Assurance Manager.

Procedures are now underway to recruit the other staff. Job descriptions have been prepared and are being reviewed by the Department of Commerce and Management at the University of Dar es Salaam (UDSM) which has just been engaged as the consultant. Other recruitment procedures will follow after the job descriptions have been agreed upon.

Consultant to assist during the TanRoads transition period

The European Union (EU) has agreed to finance the services of a consultant who will work jointly with the Core Team (CT) during the transition period. The consultant, who will work under the guidance of the CE, is expected to provide some expertise, which may be lacking in the CT. In addition, the consultant will be required to design a programme of institutional support to the Road Fund Board, TanRoads, Local Government and the new Ministry of Works. The proposed consultant is WSP International of the U.K. who did the original Institutional Study of the Road Sector.

Development of Financial Management System

The Executive Agency Project has already developed a genetic Financial Management System and Accounting Manual for Executive Agencies, which can be tailored for the requirements of particular agency. A consultant, Unique Financial Services Ltd., Dar-es-Salaam, was recruited in December, 1999 by the Executive Agency Project (EAP) in the Civil Service Department (CSD) to tailor the system for the needs of TanRoads. The consultancy is been funded by the

Department for International Development (DFID), U.K. The consultant is currently working on the assignment.

Offices for TanRoads and the Road Fund Board

The Ministry of Works has rented the second floor of the TETEX House, along Pamba Road, Dar es Salaam to provide offices for the Road Fund Board and TanRoads. The total floor area is 527 square metres, and should provide ample space for these two institutions. Renovation works and furnishing have been done, and the offices look very pleasant.

Other activities

Other activities include preparation of strategic plans, preparation of inventory of assets, designing project monitoring systems, etc. These activities are in progress.

The new Role of the Ministry of Works

With the establishment of the Road Fund Board and TanRoads, the MoW will be relieved from the implementation functions currently undertaken by the roads departments. The workload of the ministry will be further reduced following the conversion of other departments such as the Buildings, Mechanical & Electrical and the Government Stores into Executive Agencies. Following these reforms, the Ministry's central functions will be:

- Policy formulation, strategic planning and donor co-ordination;
- Monitoring, regulatory functions and the setting of standards and specifications;
- Strategic management of executive agencies under the Ministry;
- Human resources development, administration and personnel management.

A Technical Task Group One (TTG1) was formed in November 1998 to review the current structure of Mow and propose changes to match the new roles and responsibilities of the MOW of policy formulation, strategic planning and regulation. The TTG1 has already submitted their report and it is being reviewed.

The Way Forward

The MoW's intention is to complete reform of the road sector, and to establish a fully autonomous road agency based on the model SADC Roads Act. A two-stage approach will be adopted.

Stage I: Establish basic structures based on the Executive Agencies Act model.

Stage II: Refine the structure of the Agency and the Road Fund Board along the SADC model with the objective of attaining high levels of efficiency and accountability. It is expected that during this stage, a new Roads Act that integrates Financing, Management and Highway Regulations will be instituted. The target date for achieving this model is July 2002. This may seem rather ambitious, but it shows the GoT's determination and commitment to the reforms.

4 Programme Components

This chapter describes in detail each of the 10 components of the Road Sector Programme (RSP). The description is standardised and includes seven items: Background and problems to be addressed, objectives, planned activities, budget and expenditures, achievements and impacts, sustainability and future needs. Pertinent reports and documents are reviewed under "achievements and impacts". The first three items are based directly on the description of the background for the RSP and problems to be addressed, objectives and planned activities in the Programme Document (Ministry of Works. April 1997)

4.1 Management and Organisational Development

4.1.1 Background and Problems to be addressed

Some units within the MoW had according to the Programme Document authority but no corresponding responsibility for their actions, and others did not have the authority to control the outcome of those issues they are responsible for. This lack of correspondence between responsibility and authority, together with low remuneration packages, did not encourage initiative and responsibility for management actions and was thus a major reason for poor performance.

NORAD decided not to support women participation as an individual component in the TAN 045 RSP Agreement. Such support would be provided for related activities under each component when considered appropriate.

The women participation activities are due to practical reasons described under this first component.

4.1.2 Objectives

The objectives pertaining to the Organisational and Management Development Component in the general description of the Programme Document (Ministry of Works. April 1997, pp. 12-13) are to

- Improve organisational structure and administrative/management procedures in MoW;
- Improve managerial and technical skills for MoW staff;
- Improve skills of local consultants;

As output of this programme component should be observed that:

- Technical skills have been improved within those units which have been involved in the new Road Sector Programme, as well as local consultants providing services to the programme;
- Organisational structure, management framework, administrative and management procedures and managerial skills have been improved within the Roads Department and some of the REOs;

It was considered necessary to

- Revise the management framework,
- Improve the administrative procedures within the Ministry,
- Provide training to improve managerial skills on all levels within the Roads Department and REOs,
- Include organisational development.

Women Participation

It was anticipated that women would benefit from the output of ordinary activities under the Appropriate Technology Advisory and Training Project Component and the Village Travel and Transport Project Component. It would also be aimed at recruiting women to the ordinary training courses to be conducted under these components. The courses would enable women to apply for supervisory positions in roadworks.

Women participation would also be an issue under the Management and Organisational Development Component. Women in current managerial positions and other women within the Ministry that were considered to be potential leaders in the road sector in the future, would be invited to participate in activities and training under this component. Some activities might be designed especially for women.

Activities and achievements related to women participation in line with the above mentioned objectives, should be addressed in the annual activity plans, budgets and reports to the Annual RSP Meeting (Ministry of Works, April 1997; pp. 11 - 12).

4.1.3 Planned Activities

Some studies relevant to these issues were already on going under the supervision of the Management Action Group (MAG). These studies aimed at establishing an autonomous or semi-autonomous Road Authority. Similar activities were also on going under the Civil Service Reform Programme (CSRP) aiming at reorganising MoW from mid 1997. This component should therefore be complementary to these activities in a co-ordinated and integrated manner.

The initial task was to hire a consultant to assess the current management framework, administrative procedures and management performance and to propose a project plan and budget for this component. This should be presented to the Annual Meeting in 1998 as a basis for deciding whether the programme should be initiated or not, and to decide a more exact amount of financial support from NORAD and GoT.

Staff from MoW Headquarters and the REOs should during a 2-3 year programme improve the management framework and administrative procedures, and involve themselves in management training through short term courses and on-the-job training.

MoW was of the opinion that the consultant should be recruited among local institutions or companies mentioning IDM Institute in Morogoro as one possibility. A joint venture with a foreign firm could be considered.

NPRA Advisory Support

MoW would most likely request the Norwegian Public Roads Administration (NPRA) to assist the Ministry and the consultant in carrying out some of the activities under this component. This was in line with proposals by NORAD and NPRA. Possible advisory support should be carried out by members of the NPRA Resource Group and/or other individuals in a high-level management position within NPRA.

The NPRA Resource Group consisting of three executives had been established by NPRA to provide advisory services to the management of NPRA on issues regarding support to developing countries and to assist road agencies in developing countries upon request.

Possible NPRA Advisory Support would most likely include the following activities:

- Comment on draft documents related to preparations for an autonomous or semi-autonomous Road Authority and activities currently on-going under CSRP. If necessary they should also be requested to participate in workshops related to discussions of documents in question;
- Give advice on the project document that will be prepared for this component; and
- Provide assistance during implementation of the component based upon the project document. This will involve workshops, short-term courses and monitoring of achievements in general.

4.1.4 Budget and Expenditures

The preliminary budget estimate was TSh 220 million.

NORAD was requested to contribute TSh 200 million in C- and D-funds. The NORAD budget was later increased to NOK 3.5 million or TSh 350 million (See Table 2.1, Chapter 2).

GoT was expected to allocate TSh 20 million.

Until December 1999 TSh 19.6 million or 49 per cent, was spent out of the TSh 40 million C-fund budget for this component. Of the D-fund budget of NOK 2.05 million, NOK 1,524 million, or 74 per cent was spent (Table 5.1, Chapter 5). By the end of June 2000 the remainder in C- and D-funds is anticipated to be NOK 0.867 million.

Out of the GOT budget for 1998/99 of TSh 15 million, TSh 4 million or 27 per cent was spent. This is equivalent to 20 per cent of the initial GOT budget.

4.1.5 Progress, Achievements and Impacts

The project document for this component was not finalised. The proposal focussed on the maintenance manual.

In 1997 a consultant's report was delayed, according to the Minutes of the Third Technical Forum Meeting (September 10, 1997). However, the MoW had recently received a report, which would be sent to the Government and the regions for discussion.

Assistance on a high level within the Directorate of Public Roads could be offered on Management and Organisation in addition to technical matters (3rd Technical Forum Meeting Minutes, September 10, 1997). At the 4th Technical Forum Meeting, the NPRA representative expressed that the NPRA could provide MoW with advisory support on this issue from high level within NPRA.

At the 5th Technical Forum Meeting a visit to Norway to study the organisation of the NPRA was recommended to be included in the budget proposal for FY 1999/2000 for the Chief Executive of the Road Agency and the Permanent Secretary.

A consultant should have been engaged to assess the current management framework, administrative procedures and management performance and to propose a project plan and budget for this component. The results should have been presented to the Second Annual Meeting in March 1998 as a basis for deciding whether the programme should be initiated or not, and to decide a more exact amount of financial support from NORAD and GoT. This activity was, however, not mentioned in the agreed minutes from the Second Annual Meeting.

Enhanced Management Capacity

The MoW had asked for technical assistance to enhance management capacity. Interaction between the different departments was to be given great attention. Important issues were budgeting, monitoring, planning and reporting. A technical adviser was provided accordingly. The technical adviser's efforts have been the main achievement in this component.

Women Participation

From FY 1995/96 NORAD decided to finance the activities of the Women Participation Unit (WPU) through other components. This affected the activities of the unit in all pilot regions and WPU-Headquarters.

A female NPRA County Roads Director paid a visit to the MoW in July 1998 to prepare for a self-confidence course for women. A workshop was conducted to sketch principles and contents of the seminar. The self-confidence seminar was carried out in October 1998.

At the 5th Technical Forum Meeting in November 1998 the self-confidence building seminar for professional women was reported to have been successful. Follow-up seminars as well as new seminar to involve people from all management levels were recommended. The WPU was reported to have lack of commitment to the seminar and did not participate properly in the planning, implementation and evaluation of the seminar.

Mrs. E. Kayanda, regional engineer, attended a seminar "Women showing the way" in Norway in August 1999.

At the 6th Technical Forum Meeting in November 1999 budget proposals for a follow-up seminar was said to be in preparation. The WPU was advised to review and present a more focused programme.

4.1.6 Sustainability

The major activity in this component has been that of the technical adviser. By definition such a function is not sustainable after the adviser has left.

The women participation activities have been rather limited. As the WPU within the MoW was reported to have shown lack of commitment to the one major activity, the self-confidence seminar, the women participation activities are not likely to be sustainable after the end of the assistance programme.

4.1.7 Future Needs

Future needs in this component are difficult to assess, but there appears to be an urgent need for management training for the TanRoads key staff.

4.2 Financial Management System

4.2.1 Background and Problems to be addressed

According to the Programme Document of 1997, the financial management system was manually operated and did not comply with the requirements to obtain efficient and accurate monitoring, control and audit of expenditures. The system neither availed information necessary to estimate unit costs for roadwork

activities, nor total expenditures for specific activities within administration and roadworks.

MoW had already identified development of an improved Financial Management System (FMS) to be carried out under supervision of MAG. The Ministry, therefore, proposed this project to be included as a component of the Road Sector Programme.

4.2.2 Objectives

The overall objectives pertaining to the financial management component in the general description of the Programme Document (Ministry of Works. April 1997, pp. 12-13) were to:

- Improve organisational structure and administrative/management procedures in MoW;
- Improve managerial and technical skills for MoW staff;
- Improve skills of local consultants;
- Improve accountability of funds in the road sector;

The main objective of this component was to develop and implement a computerised FMS to be used in the Roads Department and in the REOs.

The system should provide some of the following features:

- Cost accounting linked to codes for project, type of activity, source of fund, responsible unit, road section, etc.;
- Planning, budgeting, monitoring and easier audit of accounts;
- Generating unit costs for various activities;
- Analysis of how funds have been utilised within a unit, project, main activity, etc.;
- Compare utilisation of funds between projects, regions, etc.;
- Provide financial information for RMMS; and
- Provide an easier way to process accurate financial statements for utilisation of donor funds.

Generally, the above objectives are still valid despite the ongoing institutional reform and other events that to some extent have made the long-term plans be taken over by events.

4.2.3 Planned Activities

The Programme Document stated that it should be considered to develop and introduce elements of a full-scale computerised system in several phases over several years. The system should be developed on the basis of an existing system

in the market. The system should easily accommodate to meet also the future requirements by the autonomous or semi-autonomous road authority.

4.2.4 Budget and Expenditures

The preliminary budget estimate was TSh 220 million.

NORAD was requested to contribute TSh 200 million in C-funds, which would be used, according to guidelines presented in Chapter 4.10. The budget has not been changed later on (Table 2.1, chapter 2):

GoT was expected to allocate about TSh 20 million. By the end of FY 1998/99, nothing was spent of the GOT budget.

It was expected that the computers, which were in the process of being procured with credit provided by IDA, could be utilised also for FMS.

By the end of December 1999 nothing had been spent for this component. By the end of June 2000 NOK 2 million, i.e. the total C- and D-funds, are expected to remain.

4.2.5 Progress, Achievements and Impacts

A contract with Carl Bro International was signed for a pre-study on the financial management system. The pre-study was scheduled for completion in May 1998. The contract, at almost TSh 22 million, should carry out the following activities:

- Description of the current manually based financial management systems and paper flow.
- Description of the Government requirements concerning planning, budgeting, accounting, reporting, resource and contract management at central and regional level.
- Identification of the future managerial requirements for financial, resource and contract management information.
- Identification of information and reporting requirements related to relevant stakeholders.

The final output was to be Terms of Reference for design, development and implementation of a computerised Financial and Resource Management Information System. The study was to be carried out under the supervision of the Ministry of Works' Chief Accountant and the Management Action Group – MAG (4th Technical Forum Meeting Agenda Document, 16th April 1998)

During the 4th Technical Forum Meeting the NPRA pointed out that it is important for the MoW to spend time to identify properly what they need under the system. MoW would also need to decide whether the FMS is for the Ministry, the Road Agency or both.

References to these matters are not found in later Technical Forum Minutes.

The review team understands that the contract with Carl Bro International was cancelled due to the fact that another financial management system, Platinum, was being developed for introduction in all ministries. This system is now being introduced in a number of ministries, among them MoW.

4.2.6 Sustainability

As there has been no activity under this component, there is nothing to sustain.

4.2.7 Future Needs

Future needs would be to have the new financial management system Platinum introduced also in the MoW. TanRoads will need a sound project management and financial management system capable of addressing the objectives of this component. The mission has understood that a consulting firm has been engaged to work out a chart of accounts and financial routines and also study the suitability of the Platinum software for use by TanRoads.

4.3 Maintenance Management

4.3.1 Background

Initially the objective of this component was to build and strengthen the institutional capacity of the Rural Roads Section to manage regional road rehabilitation and maintenance programmes executed by REOs. This was to be achieved through reorganising the section and filling in positions in the new structure, acquiring more office space and facilities, training, and technical assistance for the project duration. The scope of the component was later widened to cover the entire Roads Department.

During implementation of RSP it had been possible to reorganise the Rural Roads Section and to improve the facilities of the section by providing additional office equipment such as computers, copy machines, etc. A Road Maintenance Management System (RMMS) was established and applied throughout the whole country based upon achievements in Mbeya and Tanga under the Regional Road Maintenance Program. The Ministry used the system in planning, budgeting and monitoring.

It was later decided to review and refine the RMMS, but progress was slow due to the delayed process of recruiting a Technical Adviser (TA). The adviser started his assignment in the Programming Section in November 1995. At the time of this project design, MoW staff and the adviser were carrying out a study on the available road maintenance management practices, including the use of RMMS. Since May 1996 the adviser was also assisting in preparations of the 6th Annual RSP Meeting Document, and revision of the Programme Document for the new RSP Agreement.

4.3.2 Objective

The objective of the component was to improve the maintenance standard of trunk and regional roads, through the establishment of improved road maintenance management systems and the provision of manuals, handbooks and guidelines.

4.3.3 Planned Activities

The component consists of the following sub-components:

- Technical Adviser; and
- RMMS, Manuals, Handbooks, Guidelines, etc.

Technical Adviser

The position as Technical Adviser was established in November 1995. The programme budget provided for a possible extension of his contract to mid 1999. The role of the Technical Adviser was mainly to give advisory support to all activities under this component, but consideration was being given to also use him on other components within the programme. In fact he did move to Component 1.

RMMS, Manuals, Handbooks, Guidelines, etc.

The project aimed at refining the RMMS for budgeting, planning and monitoring. The system was to be computerised and developed by expanding an already existing Road Mentor. The RMMS was to be harmonised with future systems on Pavement Management (PMS) and Financial Management (FMS). Development of PMS was to commence in 1997 with funding by EU and FMS was proposed for funding by NORAD.

MoW had some documents for quality assurance of maintenance, but many of them were not up to date, with important issues not covered. It was therefore considered necessary to initiate a long-term programme to implement the use of those documents, and to revise and develop additional manuals, handbooks, guidelines, etc. The initial activity was to be a study, aimed at establishing a long-term programme, to be presented at the Annual RSP Meeting in 1998.

NPRA Advisory Support

Activities under this component were to be carried out by MoW staff assisted by the Technical Adviser and consultants. The Ministry was expected to request additional assistance from NPRA for the development of manuals, handbooks and guidelines, and less on development of RMMS.

4.3.4 Budget and Expenditures

The preliminary budget estimate was TSh 300 million. NORAD was requested to contribute about TSh 280 million in C- and D-funds, which would be used according to given guidelines. The GoT was expected to allocate about TSh 20

million. The NORAD contribution was subsequently reduced to TSh 130 million, (NOK 1.3 million) when the TA was moved to Component 1.

Additional input from GoT not shown in the budget was be provision of office accommodation, personal computer and secretarial assistance for the Technical Adviser. Subsistence allowance for TA was also included in the budget as GoT funds.

The anticipated expenditure by the end of June 2000 is NOK 0.064 million, which is only 5 per cent of the current total budget. GoT contribution for the period 1997/99 was expected to be TSh. 6.0 million, but no expenditure was incurred.

4.3.5 Progress, Achievements and Impacts

Progress and Achievements

The following progress has been reported on this component:

(i) Technical Adviser

The TA originally designated for this component was moved to work on another component. Hence this activity has not taken off.

(ii) RMMS, Manuals, Handbooks, Guidelines, etc.

Activities planned under this component were held in abeyance pending completion of a Programme Document specifically for the component. The document was not completed until April 1999. The highlights of the activities proposed in the document are:

- Improvement of Road Mentor Software and Road Maintenance Management Manuals,
- Improvement of survey methodology, data collection and management reaction of a Data base
- Updating of a national road maintenance manual and improve on maintenance procedures and operations,
- Road Maintenance Management Systems Software Selection

The Review Ream was informed that DFID had supported development of a computerised RMMS system at an earlier stage. It is, however, not clear whether this activity has been brought to an end.

Impacts

As noted above, implementation of the component has not progressed much. During the Annual Meeting in 1999 the plan was to utilise 50 per cent of the annual budget in preparing the programme document, and then proceed with the outlined activities, after approval by NORAD. These activities were again delayed, awaiting formation of TanRoads, which will eventually be the organisation responsible for the system.

4.3.6 Sustainability

A proper maintenance system will be a key element in the performance of TanRoads. Hence, successful implementation of this component will be a milestone in the establishment of a sustainable road organisation.

4.3.7 Future Needs

The thrust for the future is to implement the entire component as outlined in the Programme Document of April 1997.

4.4 Road Safety and Axle Load Control Programme

4.4.1 Background and Problems to be addressed

Component 4: Road Safety and Axle Load Control Programme is described on pp.20-25 in the Programme Document (Ministry of Works, April 1997). The road accident situation is also briefly described.

1612 people were killed on roads in Tanzania in 1999, more than twice the figure of 1975. 12,845 people were injured (Steinset 2000) – also more than twice the figure of 1975. Passengers and pedestrians are the major part of the road traffic victims. (Ministry of Works, April 1997, p. 6). The risk of being killed in road traffic (computed as fatalities per motor vehicle) is 30-40 times higher than that of several European countries.

A study on Tanzam Highway in 1979 revealed that 80 per cent of all trucks carried overload. A similar study in 1995 revealed that the share of overloaded trucks was only 30 percent. A survey conducted in 1998/99 shows that 20-30 per cent of the axles of the buses and goods vehicles are loaded above the legal limit of 10 tons and about 3 per cent above 14 tons (Steinset 2000).

4.4.2 Objectives

The objectives pertaining to the road-safety and axle-load-control component in the general description of the Programme Document (Ministry of Works. April 1997, pp. 12-13) are to

- Reduce the number of accidents on the roads;
- Improve the durability of roadworks.

As output of this programme component should be observed:

- Several measures to reduce the number of traffic accidents have been developed and some of them have been implemented. The number of traffic accidents has started to decline..
- The percentage of overloaded trucks on trunk roads have been reduced to less than 10 per cent

Under the description of Component 4: Road Safety and Axle Load Control Programme (Ministry of Works, April 1997; pp. 20-25) the following objectives are listed:

- To establish a road safety organisation capable of managing a multi-sectoral integrated approach to the road safety problem with long and short term plans;
- To increase the quality of life in Tanzania by preventing accident occurrence and by minimising the consequences of road accidents;
- To prolong the life of the road network through effective vehicle and axle load control.

Relevance of the Goal and Purpose of the Programme

The objectives as stated above, seem highly relevant. Road accident fatalities and injuries have more than doubled in 25 years, and should be expected to increase as the number of motor vehicles increase, unless effective countermeasures are implemented. To establish a capable road safety organisation and to develop road safety measures and have some of them implemented are consequently necessary to achieve a decline in the number of road accidents.

Road conditions in Tanzania are generally rather poor and controlling axle loads is an important way to avoid further deterioration of roads. To reduce the percentage of overloaded trucks on trunk roads to less than 10 per cent is an ambitious, but not unrealistic goal.

4.4.3 Planned Activities

The Road Safety and Axle Load Control component consist of the following sub-components:

- Accident recording and analysing system
- vehicle licensing and inspection
- Axle load control
- Traffic engineering and road design
- driver training and licensing
- enforcement
- education
- information and
- miscellaneous

These sub-components can be found in most road safety programs all over the world. In the Programme Document (Ministry of Works, 1997; p 22) a note is made to the effect that "few sub-components can actually be fully implemented during the RSP Agreement Period with funding as indicated and that achievements might be less than indicated if MoW fails to increase the current staffing of the RSU." It is the opinion of the review team that when facing such a situation, a priority should have been made between the sub-components, to make

sure that the most effective ones were implemented first. As adequate legislation is the basis of most road safety work, and amending legislation is quite time-consuming, legislative amendments could have been set up as a separate sub-component, even if legislation will be part of several of the other sub-components.

4.4.4 Budget Proposal and Expenditures

The initial budget proposal was TSh 1,500 million, TSh 500 million by NORAD and TSh 1,000 million by the Government of Tanzania, including an IDA credit, for the program period (Ministry of Works. April 1997, p. 7). The current budget for this component is TSh 262 million in C-funds and NOK 2.56 million in D-funds (Table 5.1), i.e. the equivalent of the initial total NORAD budget. Of the TSh 500 million supplied by NORAD for the total programme period 2001 for the road-safety and axle-load component, it is anticipated that NOK 0.544 remains after end June 2000. Increasing this budget component has been discussed by the parties and found necessary by them.

Until June 1999, the GOT budget, excluding the IDA credit, was only TSh 188 million, i.e. only 19 per cent of the initial budget. TSh 233 million or 124 per cent of the current budget for this period was spent, equivalent to 23 per cent of the initial budget. The IDA contribution amounts to TSh 371 million, which leads to a total expenditure of TSh 604 in total or 60 per cent of the initial GoT budget.

If the original GoT budget proposal still is valid, TSh 396 million should be available for the period July 1999 through June 2001. Input from the NPRA for this component has been:

1998: 1.1 man-year
1999: 0.5 man-year

About one third of the support has been used for the Axle Load Control sub-component.

4.4.5 Progress, Achievements and Impacts

A National Road Safety Programme was completed in July 1996 (Ministry of Works. 1996). This programme comprises all road safety elements, and is of high quality. A cabinet paper on this programme was to be submitted to the Government during 1997. Government had not approved the road safety programme by November 1999, because the MoW and the Ministry of Home Affairs (MoHA) were still working on issues that were not agreed upon (RSP TAN 045. 6th Technical Forum Meeting. November 1999). Nevertheless, the National Road Safety Programme has formed the basis of the road safety activities in the institutional co-operation between the NPRA and the MoW in the road sector Programme for FY 1997/98 – FY 2000/01.

Accident Recording and Analysing System

Computers for accident recording and analysis have been supplied to the Road Safety Unit, the Traffic Police Headquarters and to 8 regions. Training in computer knowledge and the use of the Microcomputer Accident recording and Analysis Package (MAAP5) has been carried out. A total of some 200 officials from the Traffic Police, the MoW and other institutions have been trained. All road accidents in Dar es Salaam after January 1995 have been entered into the system, and accident recording is progressing in four other regions. For three more regions accident recording has just started.

The accident recording system seems to be working well, and extending the accident recording system to more regions should be possible within the remaining period of the program, if the budget allows for the procurement of computers and training of officers. Priority should be given to regions according to their numbers of road accidents.

Vehicle Licensing and Inspection

The following documents have been prepared:

- Draft report for Consultancy Services for Development of Motor Vehicle Inspection System for Tanzania.
- Motor Vehicle Inspection Act. Draft Version 1
- Motor Vehicle Regulations No 1 of 2001. Draft Version 1
- Vehicle Test Station
- Vehicle Inspector's Handbook. Draft Version 1

(Bureau for Industrial Co-operation (BICO). Faculty of Engineering. University of Dar es Salaam. October 1999).

The above 5 documents give a thorough documentation for a possible vehicle inspection system for Public Service Vehicles and private vehicles in Tanzania. The necessity of the inspection of private vehicles annually from the vehicle is new, should have been discussed. Priority should be given to the inspection of commercial vehicles and then to other vehicles of more than 4 years.

In addition, a draft of Vehicle Inspectors Training Manual was prepared through NIT consultancy.

Traffic Police officers and staff of the National Institute of Transport (NIT) have been trained for vehicle inspection in Zimbabwe. The NIT has also arranged some short courses in vehicle inspection for the Traffic Police.

Terms of Reference for the establishment of a computerised central motor vehicle database has been prepared. The MoW has teamed up with the Tanzania Revenue Authority (TRA) who has received financial assistance from SIDA to develop the system together with other stakeholders.

Further development in this sub-component depends on agreement between the MoW and the MoHA on which ministry should be responsible for vehicle inspection. It is difficult to say how long it will take to solve this question, but experience indicates that it might be too optimistic to have a vehicle inspection system working by the end of the programme period.

Axle Load Control

Standard specifications for mobile and fixed weighbridges have been worked out. Nine mobile weighbridges have been procured and distributed to regional engineers. All weighbridges have been visited, and training on how to carry out the controls has been conducted.

A draft manual for weighbridge operators has been produced and translated into Swahili. This manual is to provide explanation of the rules and regulations regarding road haulage on public roads (Ministry of Works. March 1999). The manual contains relevant explanation of rules of axle load control and weight limits. The publication is in English, with rules and limits also in Swahili. Generally, the draft manual appears to be well written and easy to understand. It appears, however, that the overload fee calculation can be explained more clearly to the benefit of the users.

Under the present Road Traffic Act overload is a criminal offence, and each case of overload has to be taken to court. To avoid this time consuming process, the axle load control is carried out under the Highway Ordinance Act. This act does not include the fees to be paid for overload. The regional engineer estimates the value of the damage to the roads caused by the overload, normally using the fees recommended by SADC. We have understood that the SADC fees are also described in the Road Traffic Act. The courts may question this practice, even though the truck operators do not usually take these overload cases to court.

However, to facilitate more efficient regulation of vehicle overloading, the legislation concerned needs amendment. Draft amendments to the Road Traffic Act and Regulations regarding vehicle axle load control were submitted to the Minister for Home Affairs in April 1998 for further action and approval by appropriate authority. The manual for weighbridge operators will be finalised when these amendments have been approved.

The proposed amendments to the Road Traffic Act will include the fee schedule recommended by SADC, and will allow the road authorities to collect the fees.

A brochure in Swahili and English on axle load control and the limits has been produced and distributed to the transporters and the enforcing officials (Ministry of Works, September 1998). The brochure describes the problem of overloading, the reason for loading limits, the legislation and weight limits, the enforcement procedure, the abnormal permit and how to secure the cargo in simple, understandable terms.

A draft axle-load control programme including the following components, has been made:

- Review legislation and give statutory power to the staff
- Give professional training to the staff
- Fighting corruption practices, applying SADC recommendations
- Establishing a national data base on overload control
- Improvement of the weighbridge utility (capital investment)
- Review of weighbridge locations for increased utilisation and efficiency
- Transfer of responsibility after the establishing of a national roads agency
- Study of parastatal or private sector operation.

The programme is relevant to the overload situation, containing all important aspects of overload control (Ministry of Works, July 1999).

A special meeting on the axle load control programme was carried out in March 1999. Two volumes of meeting reports were published (Ministry of Works 1999). The objective of the meeting was to review the status of axle load control and draw up enhanced enforcement strategies and to present and discuss the new axle load control programme. 12 papers were presented on the subject. The meeting, as documented in the reports, was a thorough presentation and discussion of the Axle Load Control Programme. The Ministry is still looking for assistance from various donors to implement the programme.

Nine mobile weighbridges distributed to regional engineers should imply a considerable potential increase in axle load control. The mobile weighbridges are mainly used to cheque the operation of the fixed weighbridges, but some are also used as replacement for fixed weighbridges that have gone out of use. The weighbridge stations report monthly the number of vehicles weighed, the number of overloaded vehicles, and vehicles escaped. From July 1998 to June 1999 a total of 231,392 vehicles were weighed, whereas the number for the previous year was 140,679, i.e. an increase of 64 per cent. Although the reports from the weighbridge stations give figures for overload, these figures may be questioned. Therefore, the Central Materials Laboratory in collaboration with the RSU carried out a comprehensive axle load survey in 1998/99 and has planned to carry the same survey in February 2000. It is important that such surveys are carried out regularly in the future, to ensure reliable figures on the practice of overload.

Further reduction of axle overload will require increased control and enforcement of the axle load limits. Even though the use of the Highway Ordinance Act seems to be working well in controlling overloads, the amendments to the Road Traffic Act should be enacted and the axle load control programme should be implemented. The project concerning fighting the practice of corruption should be emphasised.

When the axle load control programme activities have been carried out, more fixed weighbridges should be procured. How long it will take to have the

amendments enacted and the axle load control programme implemented is difficult to say. However, the axle load control is likely to be transferred to the new agency TanRoads, which, supposedly, will try to speed up these processes.

Traffic Engineering and Road Design

Proposals on a road safety audit system have been prepared and auditing has been carried out for some selected roads and projects. For 1999/2000 planning has been made for a local consultant to prepare a more comprehensive road safety audit system. Terms of Reference for this consultancy has been made.

The Design Section of the MoW is working on a geometric design manual, based on SADC recommendations. Road safety measures should be included in this manual.

Analysing the road accidents to find black spots has started, and a proposal has been made for the improvement of black spots in Dar es Salaam at the Jangwani Bridge, Manzeze and Victoria site, emphasising pedestrian safety (Søndenaa, S.H. 1998). So far, these measures are not implemented. Some of the roads concerned are the responsibility of the City Commission, and road safety measures seem to have lower priority than resurfacing of the city roads and streets.

Otherwise, planned activities such as planning and implementation of countermeasures, a Traffic Management and Engineering Manual, a Road Design Manual and guidelines for traffic management/road safety teams in city, municipal and town councils, training in traffic planning, engineering and management with emphasis on road safety have not been carried out, as efforts have been concentrated on the road safety audit manual.

Most of the traffic engineering activities belong within the MoW. Even if they are the responsibility of the Design Section rather than the Road Safety Unit, they should, as a MoW responsibility, be easy to implement. Some of the activities, like traffic engineering countermeasures on urban streets, depend on co-operation with city authorities and financing from these authorities.

We propose that traffic engineering be emphasised in the remaining programme period. These countermeasures are known to be effective in reducing road accidents in other parts of the world, and it is important to demonstrate their effects in Tanzania. Preferably, the countermeasures proposed on the basis of the black spot analyses mentioned above should be implemented as a pilot project. If the proposed black spots cannot be improved because these streets are the responsibility of the City Commission, blackspots on roads under the responsibility of the MoW should be identified and improved. Such a project is likely to have a major accident reducing effect, and would supposedly contribute to an increased commitment to road safety and thus to the implementation of traffic engineering measures on a large scale.

Driver Training and Licensing

The Road Safety Unit has through the National Institute of Transport (NIT) produced a draft Learner Driver Manual (Ministry of Works, 1999), which is very much a first draft and needs thorough revision both in contents and in layout. The NIT has also produced a draft Highway Code, based on the SADC standards (The United Republic of Tanzania. Undated). This booklet explains the rules of the road in a popular and easily understandable way. The road signs are shown and explained. Some illustrations in the part explaining the rules for bicyclists would have been improved if bicycles were shown rather than motor vehicles only. A few misprints will supposedly be corrected before the final version is printed.

Preparations have also been carried out for a Drivers Instructor Manual, development of standards for driving schools and standards for driver testing/examinations and licensing.

According to the amendments to the Road Traffic Act, made in 1996, attending a driving school is mandatory in order to obtain a driving license. Consequently, there is a need to have a consistent programme for all driving schools. As suggested in the National Road Safety Programme, the responsibility for driver training and testing should be transferred from the MoHA to the MoW.

Enforcement

The Traffic Police is dealing with all enforcement issues. Financial support from the road safety program for development of a Traffic Police Handbook has been indicated. In general the RSU and the Traffic Police co-operate closely.

The legal blood alcohol concentration (BAC) limit is 0.08 per cent. The traffic police have breathalysers and speed radars. Both are approved as legal evidence. More vehicles are needed for enforcement on highways.

The enforcement of speed limits, BAC limit and overloading of public service vehicles (PSVs) is crucial to reducing road accidents. Experience from Victoria, Australia and KwaZulu-Natal, South Africa, shows that the combination of enforcement and information campaigns is most effective in making drivers comply with speed and BAC limits and consequently in reducing road accidents. Learning more about the KwaZulu-Natal experience may be an inspiration for the Traffic Police in Tanzania. Therefore, we propose a study trip to KwaZulu-Natal for the Traffic Police and the Road Safety Unit on the condition that a plan for increased enforcement should be made and implemented according to the KwaZulu-Natal experience. To enhance the co-operation in road safety matters between the MoW and the MoHA, high-ranking official from both Ministries should also join the study trip.

Procurement of motor vehicles and communication equipment may also contribute to increasing enforcement. The traffic police is willing to assist in enforcing a possible traffic engineering pilot project. In 1999 the RSU through IDA credit procured 13 speed radars, 14 breath analysers and 10 evidential breath analysers for law enforcement use by the traffic police.

The question of possible corruption within the Traffic Police has not been addressed in documents available to the review team. If corruption is a problem within the traffic police force, it should be taken seriously and a corruption fighting project, like that proposed in the axle load programme, should be made and implemented.

Education

In 1999, the RSU through the Tanzanian Institute of Education has produced a road safety education syllabus for primary schools in English and Swahili (Ministry of Education and Culture. 1999). This publication presents relevant explanation of basic road safety concepts, with objectives of the instruction, teaching/learning strategies and resources to be used. The five pages of general introduction to education in Tanzania could be shortened considerably. Road safety education syllabus for secondary schools in English and Swahili, for diploma in education course and modules for primary and secondary schools has been produced (Ministry of Education and Culture. 1999). This publication presents relevant and simple explanation of what pupils should learn about road safety and how teachers should instruct. Misprints should be corrected in next edition.

The above documents have formed the basis for a pilot project on road safety education in primary and secondary schools in the Eastern zone comprising the Dar es Salaam, Coast and Morogoro regions. We have understood that this project has started in some schools in these regions.

Further development of this sub-component would be to implement road safety education in primary and secondary schools in the rest of Tanzania.

Information

The National Road Safety Week organised by the National Road Safety Council (NRSC) has been arranged for many years. In 1998 the NRSC arranged the first National Road Safety Seminar where papers on road safety were presented.

A weekly radio program on road safety has been aired for some years. The RSU is planning and making the programmes, which are broadcast by Radio Tanzania staff. Parts of the programmes are also published as newspaper articles. A TV programme is planned to start in February 2000.

Further development in this sub-component could be radio and TV programmes focussing on the fact that road accidents are likely to increase unless action is taken, but effective countermeasures exist and should be implemented.

Information efforts should be combined with enforcement, as stated above, to enhance the effect of both countermeasures.

Miscellaneous

A road safety library is being established in the Ministry. Preparations for purchase of books are in process. Further, a number of engineers have been attending road safety seminars in the regions.

Experience and Achievements of the Institutional Co-operation

The institutional co-operation seems to have been working well in this component. Four experts from the NPRA have paid visits once a year. The RSU personnel express high satisfaction with road safety experts. But its seems that two visits a year per expert would have been better than one to make faster progress. Especially the legislative component could have needed closer follow-up. The enforcement sub-component is likely to have gained from some activity within the programme.

Impact of the Programme

A major part of the activities under the road-safety and axle-load component has been to prepare documents such as manuals and programmes, setting up a computerised accident recording system, training of staff, drafting of amendments to the Road Traffic Act etc. These are necessary conditions for effective road safety work, but they are not sufficient to change road user behaviour or reduce road accidents. Consequently, the road safety activities carried out so far, cannot be expected to have a significant impact on the road accidents as yet. The implementation of the manuals and other documents prepared in the first part of the programme should be emphasised in the second part to ensure an accident reducing effect.

Nevertheless, the number of fatalities reached a peak of 1,809 in 1996, and has stayed on a lower level for the period 1997-99 in spite of an increase in the estimated number of motor vehicles. Consequently, the number of fatalities per 10,000 vehicles and per 100,000 inhabitants has decreased during the past three years. Whether this stabilisation is a consequence of the RSP activities, is in principle impossible to say. Anyhow, it is encouraging to further road safety efforts.

Whether overloading has been reduced as a consequence of the programme, remains to be seen. It seems likely, however, that the distribution and use of mobile weighbridges as well as the training of operators have contributed to the increased number of controls and thus to reduced overloading. It is of utmost importance that the axle overload surveys are continued, in order to monitor the impact of the axle load control programme.

Co-operation between the MoW and the MoHA in traffic safety and axle load control seems to be a problem, except for the implementation of the accident recording system.

4.4.6 Sustainability

Road safety and axle load control should be regarded as two separate fields of activity. Axle load control is a road maintenance activity and should be transferred to TanRoads where it is likely to be sustained, because it is crucial to road maintenance and because overload fees should be part of the income of the Roads Fund.

Road safety depends on a number of road accident countermeasures that usually belong under different ministries and authorities. The basic legislation, the Road Traffic Act, may belong under the Ministry of Works, whereas the enforcement of the road Traffic Act is the responsibility of the Traffic Police, which is part of the Ministry of Home Affairs. The design and construction of major roads is the responsibility of the Ministry of Works, whereas the design of minor roads usually is the responsibility of local authorities. Basic training in schools is the responsibility of the Ministry of Education, etc. Easy co-operation between ministries and other authorities involved is consequently an important condition to efficient road safety work. If this co-operation is not running smoothly, pressure from the relevant politicians will be required. Top politicians are, however, often committed to a number of causes, and achieving their attention and concern for road safety may be a problem.

Although most road safety measures are inexpensive relative to road construction and maintenance, they still cost money. The two most effective groups of road safety measures, enforcement of traffic rules, especially speed and drinking-and-driving, and traffic engineering measures like road signs and signals, safe design of intersections etc., will often compete for resources with other matters like other police work or some extra km of resurfacing of roads or streets. A condition to sustainable road safety work is that resources for enforcement of rules and for traffic engineering are made available. This can either be done by a Road Safety Fund as proposed in the Road Safety Programme or by setting aside a certain share of the Roads Fund for road safety purposes. Demonstrating the accident reducing effects of road safety activities may contribute to making resources more easily available.

4.4.7 Future Needs

Most on-going activities are in a study phase or pilot stage. It is therefore important to complete such activities as soon as possible and proceed with implementation. First priority in this respect should be given to the two activities below.

Implementation of Road Accident Countermeasures

Extensive efforts have been made in preparatory road safety work. The next step should be implementation actual road accident countermeasures, such as traffic engineering measures and increased enforcement combined with information campaigns. This should be carried out as pilot or demonstration projects and the

effects of these projects should be communicated effectively to the public at large as well as to the politicians and decision-makers concerned.

Programmes and Legislative Amendments
Adequate legislation is the basis for road safety work and axle load control. Comprehensive programmes are also important for systematic efforts in these fields. A high-quality road safety programme was presented in 1996, but the Government has so far not approved it. An axle load programme was finalised in 1999, and is pending for approval. Several amendments to the Road Traffic Act and Regulations have been proposed, but not enacted. Efforts are needed to stimulate the relevant political processes to secure implementation.

4.5 Bridge Management

4.5.1 Background

The Programme Document states that the condition of many bridges in the country was very poor. Inadequate funding for bridge works programmes had exacerbated this. The result was a reactive management of bridges in the country. Development of a Bridge Management System for Tanzania (BMST) had therefore been initiated with financial support from NORAD. Its objective was to redress the current reactive management to a proactive management of bridges. This system would enable the Ministry in their effort to utilise allocated funds in the best manner. It was expected that allocated funds for bridges would increase gradually over the next years.

The Bridge Section in MoW is responsible for developing and implementing the system. MoW staff assisted by advisers provided by NPRA is carrying out the work. Consultants have been commissioned to complement the NPRA Advisers in cases where they lack specialised knowledge or capacity. A project team was established in 1994 consisting of bridge engineers from MoW and NPRA. The project took off after approval of the project document in the fourth Annual RSP Meeting in August 1994.

Before the current RSP started, development of the system had progressed very satisfactorily and the bridge staff in the Ministry had received extensive on the job training through playing an active role in the project. A feasibility study and documents for conceptual design and guidelines for bridge maintenance were completed in FY 1994/95. A handbook and database for inventory were finalised in FY 1995/96. Another handbook and database for inspection was also to be finalised shortly, while preparation of a handbook and database for maintenance had started. Computers for the five pilot regions had been procured with funds from NORAD and the database for inventory had been installed. Training of bridge staff in the pilot regions had also started, and a proposal for organisational changes to improve bridge management had been worked out and discussed as part of preparations for the reorganisation of the Ministry.

Development of BMST had not yet been completed under the previous programme. Continuation of advisory support from NPRA, assisted by consultants when necessary, was considered to be vital for completion and sustainability of the project component. Any termination of financial support from NORAD would likely result in failure to complete and operate the system, in the event GoT not being able to secure other sources for funding. The MoW therefore requested NORAD for continued financial support to this component.

4.5.2 Objective

The objective was to enable an effective management of bridges through developing and implementing a BMST consisting of guidelines, handbooks and manuals, and a computerised system for storing inventory, inspection and maintenance data, planning, budgeting and reporting. Further, to develop skills of bridge staff at central and regional level in planning, budgeting, supervision and execution of bridge maintenance.

4.5.3 Planned Activities

The component consists of the following sub-components:

- Bridge Management System for Tanzania;
- Bridge Maintenance Training;
- Bridge Maintenance; and
- Miscellaneous.

MoW staff would carry out the activities with advisory support from NPRA assisted by one Norwegian consultant.

Bridge Management System for Tanzania

This sub-component included the following activities:

- Finalise handbooks for bridge inspection and maintenance;
- Finalise programming of software;
- Installation and testing of software;
- Training of bridge staff in the regions;
- Establish inventory data and carry out inspection;
- Procurement of computers and inspection equipment for the remaining 15 regions;
- Follow-up (monitoring/evaluation, training, amendments, etc.); and
- Upgrading and updating (programming).

BMST was planned to be implemented and be in operation in the five pilot regions with support of computers by the middle of 1997. The remaining 15 regions were to run the system manually until one year later, a period of time after

which positive results were expected from the system. The system would then be reviewed, and accordingly be fully implemented in the remaining regions.

It should be noted that the use of BMST was dependent upon GoT's ability to increase funding of bridge maintenance through the Road Fund.

Bridge Maintenance Training

To improve the bridge condition human resources was considered more important than accommodated tools. The objective for this sub-component was therefore to make appropriate programmes for training of bridge engineers and bridge inspectors both in-house, in domestic institutes together with institutions from overseas. The activities included the following:

- In-house bridge seminars, workshops etc., as post-experience courses;
- Support to domestic post-qualifying education; and
- Training outside Tanzania.

Bridge Maintenance

The budget for this sub-component included only the cost of bridge maintenance, i.e. it did not include major repair, rehabilitation and replacement of existing bridges. The budget estimates were only preliminary and did not necessarily represent adequate funding of bridge maintenance. Better estimates were to be provided when BMST was fully operational.

Miscellaneous

This sub-component included project planning, budgeting, co-ordination and participation at two or three international seminars/conferences during the agreement period.

4.5.4 Budget and Expenditures

The preliminary budget estimate was TSh 4,900 million. NORAD was requested to contribute TSh 400 million (NOK 4.0 million) in C- and D-funds, which would be used according to given guidelines. The GoT was expected to allocate about TSh 4,500 million.

The anticipated actual expenditure by the end of June 2000 is NOK 2.922 million in C- and D-Funds, which is 73 per cent of the total budget. GoT funds budgeted for 1997/99 period were TSh 3,350 million, but actual expenditure was TSh 1,441 million equivalent to 46 per cent of the budget for the 2 years, or 32 per cent of total GoT contribution.

4.5.5 Progress, Achievements and Impacts

Progress and Achievements

Detailed discussions were held with the Chief Engineer Bridges on the implementation status of this component, and the following picture emerged:

(i) Bridge Management System for Tanzania (BMST)

The development of the BMST was done in-house by forming a team of MoW Engineers and NPRA staff, whereby the latter played the role of trainers and advisers, particularly in computer programming of the system. This had the advantage of the operatives owning the system and reducing the learning and training curve. The computer part BMST has been christened TAN-BRIDGEMAN.

The development strategy of the BMST was to ensure that the system was suitable, acceptable and user friendly to end-users. To achieve this, the end users had to be fully involved in its development process through seminars and training workshops at different stages of the process.

The BMST has been designed to be simple yet comprehensive enough to deliver the required deliverables. The system has the following Modules, which are all computerised.

1. Bridge Inventory
2. Bridge Inspection
3. Bridge Maintenance and Costing

The BMST Development Team commenced their assignment in the FY 1994/95 under TAN 080. It was envisaged that the system would be fully operational by January 1997, but the completion date was later extended to June 1998. The computerised part of the system was envisaged to begin in the five pilot regions of Tanga, Morogoro, Kilimanjaro, Iringa and Mbeya, and to extend to the other 15 regions after the β test in about a year's time from the completion date.

To date, the following achievements have been recorded:

- The Bridge Inventory System and its handbooks have been completed. The current edition of the Handbook for Bridge Inventory was finalised in 1997. The training on the inventory system to bridge engineers was conducted in October 1996 and the system is now in use in all regions. All regions had by June 1999, collected all bridge Inventory Data papers using the system manually. Entering of data collected into the computer is in process at the MoW Headquarters and in the five pilot regions.
- The Bridge Inspection System is also complete and it is in use in the regions. The training of the same was conducted in April 1997 and the Handbook for Bridge Inspection was finalised in 1998. The regions have used the system in

collecting the current bridge inspection data, copies of which are compiled at MoW Headquarters.

- Computerisation of the BMS was correctly complete by December 1999 when the Bridge Maintenance System was finalised.
- Training on the computer part of TAN-BRIDGEMAN is scheduled for end of March 2000 with assistance from NPRA.

(ii) Bridge Maintenance Training

The draft Handbook for Bridge Maintenance was discussed in a workshop held in Iringa in June 1998 and the Handbook was finalised later the same year. The first practical training in maintenance based on the guidelines of the handbook was undertaken in November 1999. Further training is expected in FY 2000/2001.

(iii) Bridge Maintenance

The collected bridge inventory and inspection data has simplified the earmarking of bridges for maintenance in FY 1999/2000. Apart from a few bridges to be repaired in some regions, all regions have started carrying out preventive maintenance of their bridges in the current financial year. The regions do the actual maintenance of bridges, and the project component is intended for giving guidance in prioritisation, facilitating supervision and providing any required technical assistance

(iv) Miscellaneous

Project planning, budgeting and co-ordination has been carried out as planned.

Impacts

The BMST has already made a significant impact in the country since each region now has its bridge inventory and inspection data. In addition, the engineers dealing with bridges in the region have attained the capacity to confidently use the system. Currently the system has been computerised in only five pilot regions, while the remaining 15 regions are operating the system manually. In those regions where computerisation has been done, the process of data retrieval and updating of information has been greatly simplified.

The three volumes of BMST handbooks are invaluable assets for bridge engineers and technicians, and if properly utilised they should have a big impact on bridge management in the country. They contain concise technical information and guidelines. The documents have been printed on good quality paper, and they are amply illustrated with colour photographs. They are therefore easy to follow and understand. Outlined below is a summary of the contents of these documents:

Handbook for Bridge Inventory (1997):

This gives a description of types of bridges and bridge parts (including culverts and sub-structure protection facilities), and then goes on to outline inventory data

to be collected and how this should be done. Personnel and equipment requirements are also specified. The document is 99 pages.

Handbook for Bridge Inspection (1998):

This 200-pages document gives a description of bridge elements and materials, including concrete, steel, masonry and timber. It then outlines investigation procedures, and gives elaborate damage evaluation guides for all elements of the bridge. Recommendations for inspection records, reports and codes are also presented.

Handbook for Bridge Maintenance (1998):

This handbook is 110 pages long. It begins with an exposition of materials used in bridges, and then goes on to give detailed guidelines for maintenance of different elements of the bridge structure. Reporting forms are also recommended.

4.5.6 Sustainability

The BMST handbooks have been an invaluable contribution to the knowledge available to practising bridge engineers and technicians, and will contribute towards sustainability of the project.

The Regional Engineers' bridge personnel have been involved in the development of the project and have also undergone training. Hence they have a sense of ownership of the project, which is vital for its sustainability.

The institutional co-operation with the NPRA has worked very well, with both parties feeling that it has made significant contribution to bridge management in Tanzania. The MOW staff has found it easier to deal with the NPRA advisers than dealing with a consulting firm, since the advisers are brought in only when they are needed. On the other hand, these short-term visits require careful planning and close communication between the parties, which has not always been the case.

4.5.7 Future Needs

In order for the project to achieve its defined objective, a number of activities are planned. Some of these are within the scope of TAN 045, but others will go beyond the project. The proposed activities are:

- Comprehensive training on TAN-BRIDGEMAN,
- Computerisation of the remaining 15 regions,
- Preparation of Bridge Design Codes of Practice for Tanzania,
- Preparation of Substructures Design Manuals for small structures.
- Installation of CAD to facilitate checking of work done by consultants,

The Review Team considers the first three items most urgent at this stage.

4.6 Central Materials Laboratory

4.6.1. Background

In the Third Annual RSP Meeting 1993, it was agreed to establish a programme for building capacity and capability at Central Materials Laboratory (CML) through institutional co-operation between CML and the Road Research Laboratory at NPRA. NORAD approved a programme document in FY 1993/94 and a revised document, N007A-Report 2, was completed in September 1995. The programme was split into three areas with a total of fourteen projects. The same projects were proposed in the current RSP Agreement.

Implementation of many projects had been delayed due to NORAD holding back funds in FY 1995/96. As per March 1997 the following projects had started:

- Same-Himo Trial Sections (including Same-Himo Investigation);
- Pavement Monitoring of Newly Constructed Trunk Roads;
- Equipment and Manuals for Field and Laboratory Testing;
- Pavement/Materials Design Manual and Standard Specifications for Highways;
- Institutional Co-operation and External Contacts; and
- Communication and Library Services.

Follow up sections were established on Same-Himo Road. Data was being collected and laboratory testing carried out in Norway with participation of engineers from CML. Monitoring sections were also established along the Tandem Highway, Chalinze-Segera, Segera-Tanga, Segera-Himo-Arusha-Minjingu and Ibanda-Uyole Road. Two computers and two printers were procured and installed. Computer training of CML engineers and secretarial staff had also been on going since 1995.

A reporting system had been established at CML. The system contained four categories of reports. Also layout of front-page identification had been completed. Assessment of library needs and some improvements were carried out. The CML librarian participated at a three months course in Dar es Salaam.

In March 1995 it was decided to carry out a detailed investigation on the Same-Himo Pilot Project in order to identify the causes of prevailing cracks on the bitumen stabilised pavement. Two engineers from CML participated in laboratory testing carried out in Norway. The draft final report was delivered by NPRA to the Ministry in June 1996. Discussions on findings and recommendations were finalised in September 1996.

A study tour to Kenya had also been carried out to study the use of the Otta Seal concept and a report with recommendations had been submitted.

IDA was funding renovation of building facilities and some equipment for the CML and the regional laboratories under the REOs.

Assessment of equipment needs and corresponding training had been carried out.

Terms of reference for the assessment of pavement/materials design manuals in other countries had been prepared and the study was about to start up.

Preparations for establishing a steering committee and working groups were under way.

4.6.2. Objective

The objective is to develop sustainable systems; improve technical and managerial skills; and to improve facilities and equipment to enable the Central Materials Laboratory to give comprehensive support to all sections of the Roads Department, other GoT organisations, and private consultants and contractors. It is envisaged that the CML will increasingly play a key role in testing of materials, design of roads, and provision of quality assurance of maintenance and rehabilitation works.

4.6.3. Planned Activities

The component consists of the following sub-components:

1. Equipment and Manuals for Field and Laboratory Testing;
2. In-house Courses and Dissemination of Research Findings;
3. Pavement/Materials Design Manual and Standard Specifications for Highways;
4. Communication and Library Services;
5. Same-Himo Trial Sections;
6. Pavement Monitoring of Newly Constructed Trunk Roads;
7. Bituminous Maintenance Seal - Otta Seal;
8. Participation at International Conferences; and
9. Institutional Co-operation and External Contacts.

The activities under each sub-component include training also. The projects were to be carried out by CML staff with advisory support from NPRA assisted by other Norwegian partners.

Only two sub-components were to be fully implemented by the end of the agreement period:

- Same-Himo Trial Sections; and
- Communication and Library Services.

The sub-components as outlined initially were inter-linked and formed together a strategic plan towards a situation where CML will be responsible not only for field investigation and testing, but also for evaluation, recommendation and approval of construction materials, design and construction methods. This will not be achieved during the agreement period, because some sub-components have been removed from the programme and the budget for those remaining has been reduced significantly due to the reduced budget for the current RSP Agreement.

Strong emphasis on good co-ordination between CML and other units within MoW will be maintained all the time. In doing so the following side benefits can be achieved:

- Knowledge of CML's activities to key staff within MoW and in the private industry, which will make them aware of the CML's competence and which services it can provide; and
- Strengthening of managerial capacity and capability within CML.

Equipment and Manuals for Field and Laboratory Testing

It was planned to select and purchase appropriate equipment and to produce manuals for field investigation and laboratory testing. The project included installation and test running of the equipment to ensure a state ready to use. Purchase of equipment included among several items a new drilling rig and vehicles for transport of rig, equipment and personnel.

Equipment was to be purchased with IDA credits or support from other donors, but the Ministry hoped that NORAD would fund a new drilling rig and some minor equipment that were not costly but important for a well functioning laboratory.

In-house Courses and Dissemination of Research Findings

The project was aiming to enable CML to perform courses for the updating of knowledge and transfer of the latest research findings for the regional laboratory staff on a yearly basis.

Pavement/Materials Design Manual and Standard Specifications for Highways

The existing Tanzanian Standard Specifications for Highways (TSSH) dates back to 1974, and thus it was necessary to revise the specifications with emphasis on prevailing conditions, experiences and practices in Tanzania and neighbouring countries. It was considered necessary to also include preparations of a Pavement/Materials Design Manual, as this manual would influence the TSSH. The design manual was to be prepared prior to revision of the TSSH, but the budget did not allow for revision of the TSSH itself under the current RSP. The work required extensive use of consultants rigidly supervised by CML and NPRA staff.

Communication and Library Services

The project aimed at improving communication facilities and library services. It was planned to establish a system for easier access to the information contained in the library, identify and procure books and to identify and subscribe professional magazines relevant for CML and the regional laboratories.

Same-Himo Trial Sections

Recycling and bitumen stabilisation technique was used for rehabilitation of the Same-Himo road. A short-term assessment was carried out prior to full construction of the road. The project is aiming to monitor and assess the long-term

durability of bitumen stabilised layers of the Same-Himo Road. The project was to provide recommendations for suitability of the specifications used and propose modifications if required.

Pavement Monitoring of Newly Constructed Trunk Roads

The project was aiming to determine calibration factors for correct prediction of pavement deterioration in any future by examining different types of pavement under different traffic load, construction specifications and climate. The project would provide deterioration models, data and information for improved design and maintenance of pavements, which would be incorporated in the Pavement Management System and the new Road Design Manual, which was to be developed. Presentation of the project findings would be given each year.

Bituminous Maintenance Seal - Otta Seal

The project was aiming to investigate the possibility of providing a cost effective bituminous maintenance seal using the Otta Seal concept on gravel roads that are performing unsatisfactorily under prevailing conditions. The use of Otta Seal has been used successfully for many years in Botswana and Kenya, Bangladesh and Zimbabwe. The concept consists of spraying a prepared unprimed pavement surface with a uniform bituminous coat of appropriate binder at a planned rate of application and covering this with a layer of graded aggregate. Laterite and coral stone aggregates have been used successfully.

After a study tour to Kenya in 1995, it was concluded that the Otta Seal concept could possibly be successfully adopted in Tanzania, in particular in areas where available surfacing aggregates are scarce and its utilisation becomes very expensive. The concept could, if successfully adopted, make a break through in maintenance of gravel roads.

Instead of building trial sections as planned previously, MoW decided to test this concept in full scale as part of a rehabilitation project and to request NORAD for funding under other programmes than the new RSP. MoW intended to co-finance the physical works with about TSh 200 million. Three candidate roads had been identified, namely: Arusha - Usa River; Iringa - Ruaha National Park; and Mbeya-Chunya. The project management would be within the concept of roadworks carried out by contractors and supervised by a consultant. However, assistance from CML and NPRA staff would be required when formulating specifications for the design and physical works and during the actual rehabilitation of the road.

The cost of design, tender documents, supervision and physical works was estimated to be in the range of TSh 2,000 -3,000 million depending on which candidate road that was chosen.

Participation in International Conferences

Beyond participation, the objective was to ensure that experiences and knowledge presented at selected international conferences would be transferred to MoW staff.

This would also give the possibility to highlight on-going projects at CML through reports and personal contacts at the conferences.

Institutional Co-operation and External Contacts

The objective was to implement systems to ensure that project achievements were presented efficiently; relevant information was presented to interested parties during the programme period; and to ensure an efficient running of all projects within the institutional co-operation. This called for visits to similar organisations for exchange of ideas and experiences for the benefit of projects within this programme. Guidelines for production of reports and publications, format for layout and content and a system for identification and references was to be developed further.

This sub-component also included project planning, budgeting and co-ordination.

4.6.4. Budget and Expenditures

The preliminary budget estimate was TSh 1,000 million, and NORAD was requested to contribute TSh 900 million (NOK 9.0 million) in C- and D-funds. The GoT contribution was expected to be about TSh 100 million.

The expenditure by the end of June 2000 is expected to be NOK 8.146 million in C- and D-Funds, which is 91 per cent of the budget. GoT funds allocated for the two years (1997/99) amounted to TSh 86.0 million, of which TSh 63.7 million was spent, which is 63 per cent of the total local budget.

4.6.5 Progress, Achievements and Impacts

Progress and Achievements

The review team held detailed discussions with the Chief Materials Engineer and his staff, on the status of this component item by item, and also reviewed the documents produced under the project. The overall progress for the component was found to be satisfactory, and is reported as follows:

(i) Equipment and Manuals for Field and Laboratory Testing

The actual equipment was acquired under an IDA credit in 1996 and was installed under this programme. This work has been completed, and the laboratory is now fully functional.

Manuals for laboratory and field-testing are still being drafted, and are expected to be completed in March 2000 and October 2000 respectively.

A drilling rig that was proposed in the Project Document was not funded, and hence has not been procured. The original estimates for the rig was TSh 200 million, but it is now considered possible to get a rig for TSh 50 million. The

CML consider this piece of equipment very important for its survival, because geotechnical investigation is the most highly paying work item.

(ii) In-house Courses and Dissemination of Research Findings

Nothing has been done on this item.

(iii) Pavement/Materials Design Manual and Standard Specifications for Highways

Pavement and Materials Design Manual was completed and launched in June 1999. It has been distributed to various users. Preparation of the Standard Specifications for Highways is currently under way and a draft is expected in March/April 2000.

(iv) Communication and Library Services

The library has been improved with addition of technical publications, including journals and proceedings. It now has some 800 publications. A librarian has been trained, and registration of the library items has been done. But in spite of being fully functional, it still needs more and newer books. The main clients of the library are the CML employees, students and occasionally, researchers.

(v) Same – Himo Road Trial Sections

A first report was produced in 1996 prior to this project. Since the project is intended to assess the long-term durability of bitumen stabilised layers of the road, it was not deemed necessary to have frequent progress reports. Another status report is therefore expected in May/June 2000. Meanwhile it has been reported that the pavement on this road has shown extensive cracking.

(vi) Pavement Monitoring of Newly Constructed Trunk Roads

This work started in 1993, and involves most of the newly reconstructed bitumen roads. These include the Arusha – Minjingu, Arusha – Himo – Same, Himo – Marangu, Same – Mombo, Segera – Tanga, Tanzam, Musoma – Sirari and Kobero – Nyakasanza roads. . There are a total of 34 sections each 1km long, and the monitoring teams inspect each section once per year and take physical measurements of the road condition. To date no report has been issued on the progress of this item, although the plan was to report yearly. A status report is expected to be ready by July 2000.

(vii) Bituminous Maintenance Seal – Otta Seal

This item has not yet started. It is intended to try this on the Dar-es-Salaam – Kibiti – Lindi road. Funds for the physical work are to be provided by MOW, and NORAD will only fund the Technical Assistance.

(viii) Participation in International Conferences

Five engineers and one technician participated in various international conferences and short courses in UK, Norway, Botswana, Zambia and Zimbabwe.

(ix) Institutional Co-operation and External Contacts

Under this item a standardised project reporting system was designed. However CML feels that apart from setting up systems, the staff also need to be trained on report writing in order to be able to produce good reports.

Impact

Implementation of this project component is still going on, and as such, its full impact has yet to be felt. However, the following can be said on the current achievements:

- Services offered by CML to clients have improved as a result of the installed equipment. Among customers who use these services are contractors, consultants, the departments dealing with roads, and the new Airports Authority.
- The Pavement and Materials Design Manual has been greatly appreciated by practising engineers. The standard and quality of the document is very high, and has been a valuable contribution to the available road technology in Tanzania.
- The CML can boast of having a good reference library, which is also consulted by researchers from the University of Dar-es-Salaam and other learning institutions. It has a simple and easy manual system of management, which is adequate for the current level of stock. However, more books and reports are needed to keep CML updated in its field of work.
- CML staff has widened their knowledge and horizon by participating in international seminars and courses.
- The association between CML and NPRA has enabled the production of good quality reports, notably the Pavement and Materials Design Manual (1999), Axle load surveys (October 1999), Desk Study of Standard Specifications (June 1999) and State-of-the-art report for work in connection with establishing the CML library. CML staff participated in the production of these documents, which are briefly presented below:-

Reports and Documentation prepared

(i) Pavement and Materials Design Manual (1999)

The manual contains 10 chapters of technical information on design aspects of roads. Issues covered range from environment, traffic, soils and pavement materials, and the different road components. Design approaches for new roads as well as rehabilitation of existing roads are also dealt with in detail. The manual is amply illustrated with drawings, charts and photographs. There are 9 Appendices, including maps and worked examples.

Accompanying the manual is a Project Report titled Documentation of the Pavement and Materials Design Manual – 1999. This thick report gives a detailed presentation of the work carried out in preparing the manual, including minutes of meetings of the Steering Committee. The experience gained by the participating staff members of CML is considered very enriching.

(ii) Axle load surveys (October 1999)

Three reports were produced in October 1999, dealing separately with axle load survey data report for Mikumi, axle load survey for Himo Junction, and a Summary report for all axle load surveys conducted in 1998.

(iii) Desk Study of Standard Specifications (June 1999)

This is a short report examining available specifications in Tanzania and other countries of the region, in order to guide in the preparation of new Standard Specifications.

(iv) State-of-the-art report for work in connection with establishing the CML library

This report, prepared by the NPRA Librarian, gives an outline of the work that was done to improve the CML library. The report also mentions remaining jobs to be done. The document has an appendix listing all books and reports bought for the library. Also appended is the Working Document for the sub-component.

4.6.6 Sustainability

The project has made some contribution towards building up the capacity of the CML as an institution for scientific research and materials testing. The local staff has fully participated in the different tasks, and hence, it can be said that the project has taken CML a few more steps towards sustainability. However, much more needs to be done before the goal is scored. It is particularly significant at this point in time since the role of CML in TanRoads may not be the same as it has been in MoW.

4.6.7 Future Needs

Much as the programme has achieved what was budgeted, it is generally felt that there is need to extend it beyond 2001, in order to consolidate the gains made so far. Areas of future co-operation should include:

- Training of Engineers in report writing and in specialised courses (M. Sc. level).
- Acquisition of drilling rig and other sundry equipment.
- Continuation of the pavement monitoring until meaningful results are obtained.
- Further development of the library, including updated reports, manuals and books.

The CML needs to establish its proper role within the new organisation structure of the road sector in Tanzania. There is an urgent need for identifying realistic institutional and organisational set-up options in the light of TanRoads. Against this background a clearer business strategy should be developed.

4.7 Equipment Management

4.7.1. Background and Problems to be addressed

This component was a continuation of on-going activities under General Support in the previous RSP. The GoT policy on equipment management within the context of IRP has been to achieve an efficient provision of equipment for road maintenance. Under IRP a parastatal organisation, the Plant and Equipment Hire Company Limited (PEHCOL), was established to own, manage, and rent out heavy equipment to MoW, REOs and private contractors on commercial basis. In addition private companies were encouraged to establish plant-leasing operations so as to create a competitive market for equipment, aiming to reduce the cost of roadworks. Furthermore, GoT was committed to operate its own road workshops under the REOs on commercial bases with all users paying full hire rates. The GoT through MoW currently operates three road workshops in Mbeya, Morogoro and Tanga Regions. Efforts are being made to establish additional workshops including looking for assistance from donors. DANIDA is in the process to assist formation of a road workshop in the Coastal Region.

The road workshops in Tanga and Mbeya have operated on commercial basis since FY 1993/94. They are independent sections under the Regional Engineer operating through income from hire charges only. The workshops are responsible for maintaining and to make available plant and equipment for road maintenance. The two workshops have the respective Regional Engineer as the main client, but they also hire out plant and equipment to the private sector and REOs in other regions..A similar road workshop has been established in Morogoro, but this one was still depending on financial support from SDC.

NORAD has provided financial support to the road sector since 1972 including availing plant and equipment and training of mechanics until the road workshops started to operate on their own revenue alone. NORAD has supported development of a management system for the road workshops in Tanga and Mbeya and business management training.

According to "A Study to Review the Management of Road Maintenance Equipment at Regional Level" carried out by MoW prior to the current RSP agreement, there was a critical shortage of plant and equipment in the country for roadworks. The study recommended the establishment of at least three additional zonal, commercially operated road workshops for heavy plant and equipment. It was also recommended to procure additional plant and equipment funded by credits from the World Bank.

The objective of those recommendations was to enable the Regional Engineers to execute emergency works and routine maintenance for paved and unpaved roads. Remote regions were to be supplied with plant and equipment for periodic maintenance of unpaved roads. The recommendations were based upon the assessment that PEHCOL and private contractors alone would not be able to satisfy the demand for plant and equipment in the near future.

The road workshop income from the private sector and neighbouring REOs was then still very low, but increasing. Thus the economy of the road workshops in Tanga and Mbeya depended mainly on the level of road maintenance and rehabilitation carried out by force account. On the other hand insufficient and delayed releases of funds had caused problems for the road workshop in Tanga in particular. Furthermore, the policy of reducing force account in favour of expanded use of private contractors made it even more urgent to deal with these problems. It was therefore important to implement measures to achieve a steady flow of funds to the regions, to reduce operational cost, and to increase the income from private sector and neighbouring REOs.

4.7.2 Objective

The objective of this project component is to achieve financial sustainability of the current road workshops that are operating as independent entities. The workshops are expected to be able to maintain and renew plant and equipment by revenue from hire charges only.

4.7.3 Planned Activities

Activities were to be carried out by MoW staff with assistance by NPRA Advisers. The component targeted mainly the road workshops in Mbeya and Tanga, but some of the activities were also to involve the road workshop in Morogoro if MoW succeeded in getting co-funding from SDC.

The component consisted of the following sub-components:

- Implementation of the Road Workshop Management System (RWMS);
- Computerisation of RWMS;

- Personnel and organisational development; and
- Miscellaneous.

Implementation of RWMS

The following activities were to be carried out:

- Two-week course in accounting at IDM, Morogoro: The course was to be conducted for road workshop engineers, accountants, transport officers and mechanical inspectors. The course would include double entry accounting in the business oriented organisation, balance sheet, profit and loss account, contribution method, depreciation, calculation of hire charges, rotation of stock, hourly rate and mark-up, etc.
- Two-week course in Road Workshop Management System and Production Management: The course would be conducted for accountants, transport officers, mechanical inspectors, purchasing officers and storekeepers. The course was to be conducted by MoW and NPRA staff.
- Follow-up during implementation of RWMS.

Computerisation of RWMS

Activities were to include procurement of software, testing, training, installation and follow-up when the road workshops had started to use the software.

Personnel and Organisational Development

Activities were to include training of key staff and supporting staff in the road workshops on organisational and administrative issues.

Miscellaneous

This sub-component included project planning, budgeting, co-ordination and participation at one or two international seminars/conferences during the agreement period.

4.7.4 Budget and Expenditures

The preliminary budget estimate was TSh 225 million, and NORAD was requested to contribute TSh 175 million (NOK 1.75 million) in C- and D-funds, which would be used according to given guidelines. The GoT was expected to allocate about TSh 50 million.

The NORAD component of NOK 1.75 million has since been revised to NOK 2.85 million. The anticipated expenditure by the end of June 2000 is NOK 2.259 million in C- and D-Funds, which is 79 per cent of the current budget. The GoT allocation during 1997/99 period was TSh 25 million of which only TSh 10.1 million was spent. This is only 20 per cent of the total local budget.

4.7.5 Progress, Achievements and Impacts

Progress and Achievements

Following detailed discussions with the Mechanical Engineer responsible for this component, the activities scheduled to be implemented under TAN 045 have progressed well. The current status was reported as follows:

(i) Implementation of the RWMS - training courses were carried out as planned.

(ii) Computerisation of RWMS - this activity is under implementation, and it is nearing completion.

(iii) Personnel and Organisational Development - some training has been done.

(iv) Miscellaneous- Project planning, budgeting and co-ordination has been carried out as planned.

It is pertinent to make some general observations on the financial performance of these workshops during the project tenure.

The profit and loss account for FY 1998/99 for the Mbeya workshop shows a positive result. The result has doubled since the FY 1997/98 and is at a very high 36 per cent of the turnover. The turnover has increased by 11.5 per cent, whereas the operating cost has been reduced by 9 per cent. The reduction in cost is due to less depreciation and can be explained by no investments this financial year. The depreciation rate for plant and equipment is 10 per cent, which seems reasonable. Buildings are, however, not depreciated. Debtors has increased by TSh 11.4 million which is more than the increase in income. The working capital situation is extremely good (some 10 times turnover). The working capital has increased, mainly due to increase in debtors and a reduction in creditors, which is not a positive development. For additional information, it is recommended to show income on different categories of clients, at least split into public and private sector. The same is recommended for debtors. One should also consider depreciating buildings. Late payment or non-payment appear to be a major problem for the Mbeya workshop, for which debtors after six years of operation now are three times the annual income We have understood that this problem mainly relates to the Ministry of Works and not private sector users. For the Mbeya workshop, the FY 1998/99 income distribution was 33 per cent from the Mbeya REO, 3 per cent from other REOs and 64 per cent from the private sector.

The profit and loss account for FY 1998/99 for Tanga also shows a positive result. The result has turned to plus TSh 78.3 million from minus TSh 14.8 million in FY 1997/98. The result is high at 14 per cent of the turnover. The turnover has increased by 60 per cent whereas the operating cost has been reduced by 8 per cent. Labour cost is reduced by one third and depreciation is 15 per cent lower. The operating cost has increased by 25 per cent. During the year there were investments of TSh 217 million. It is not clear from the report if depreciation also is made of the new investments and of the buildings. Debtors has increased by

TSh 128 million whereas income has increased by TSh 211 million. The working capital situation is good (some 70 per cent of the turnover). The main reason for the increase in working capital is increase in debtors, which is not a positive development. The figure seems more realistic, though, than the previous year as the value of the stock has been reduced by 50 per cent. Debtors is some 60 per cent of the turnover. Also here it is recommended, for additional information, to show income on different categories of the clients, at least split into public and private users. The same is recommended for debtors. One should also indicate which components are depreciated and at which rate. Equity in per cent of total debt and equity is extremely high at 95 per cent. For the Tanga workshop, the major sources of income for the FY 1998/99 were: 63 per cent from the Tanga REO, 17 per cent from other REOs, 13 per cent from the private sector and 7 per cent from district engineers and others.

Both workshops are profitable. Mbeya has a limited profitability (operating result/equity) at 1.4 per cent and Tanga has a high profitability at 17 per cent. Late or non-payment from users appear to be a major problem for Tanga. This can easily become a critical problem for the workshop, as current assets held in cash or bank accounts only cover 6 per cent of the total operating costs less depreciation during a year, i.e. only three weeks of operation. Mbeya is in a much better position as current asset held in cash or bank accounts amount to nine times the total operating costs less depreciation.

The accounts for both Mbeya and the Tanga workshops appears to be acceptable and in accordance with the current Tanzanian standards.

A visit to one of the workshop was initially planned for the mission. The accounts as described above were, however, made available in the MoW Headquarters and one team member had recently visited the Mbeya workshop, which was in good condition. The visit was therefore not considered necessary and cancelled.

Impacts

This project component has been successful in meeting the set objectives, and has had tremendous impact on the management of the Regional Engineers' Workshops (REWs). In this regard, the following points are noted:

The REWs are meeting all the operational costs except for four key MOW staff whose salaries are still paid by the government. This is, however, a very small portion of the total cost. Hence it can be said that the REWs are sustainable.

The RWMS has been developed with full participation of local engineers; thus it can continue operation after the termination of the donor support.

The latest edition of the RWMS document (sixth edition) was issued in September 1999, and it is considered to be a most valuable document for guiding the operations of the REWs. The document was prepared through collaborative effort of NPRA advisers and staff of the two workshops. A series of meetings and seminars were held between October 1994 and September 1999, when this edition was produced.

Co-operation between the regional workshops and NPRA has been very good. The team leader from NPRA has maintained close contact by telephone and E-mail, and is able to give technical support timely. This has enabled the workshop staff to double their efforts.

4.7.6 Sustainability

The project has been successful in bringing the road workshops closer to sustainability. For, not only are they able to meet the operational costs, but the workshop at Mbeya has been able to replace worn out equipment and the workshop at Tanga has been able to replace some equipment. The average age of equipment has been increasing in both regions. Equipment, which has been acquired by the Workshops, includes graders, wheel loaders, bulldozers, compactors, water bowsers, dump trucks, motor cycles and supervision vehicles. The involvement of local engineers and technicians in the development of the RWMS is another important element in ensuring continuity of service after the project winds up.

A serious problem, which threatens the sustainability of the project, is that of non-payment of bills by clients, mainly MoW. It is important that a solution for this problem is found, and urgently so! Late release of funds to the regions is also a big problem for the for the road workshops.

4.7.7 Future Needs

There is a need for continued NORAD support on this component. Plans for the component are insufficient to ensure that the gains are consolidated. Problems should be sorted out and improvements made based on the practical use of the management system. Consideration should be given to some form of continued institutional co-operation including staff exchange programmes and seminars.

The regional road workshops need to establish their proper role within the new organisation structure of the road sector in Tanzania. Realistic institutional and organisational set-up options should be considered in the light of TanRoads. Against this background a new business strategy should be developed for the workshops.

4.8 Appropriate Technology Advisory and Training Project

The Appropriate Technology Advisory and Training Project (ATATAP) has been going on since TAN 080.

4.8.1. Background and Problems to Be Addressed

It is the policy of the Government to "encourage the development and use of labour-based methods in order to create local employment and reduce the road

sector's foreign currency requirements" (extract from "Letter of Transport Sector Policy", March 1994).

The Programme Document of 1997 stated that labour-based methods (LBM) had been introduced in many regions and districts over the last 15-20 years. MoW had established the Appropriate Technology Advisory and Training Project (ATATAP) to raise awareness of labour-based methods within the road sector, and to conduct training in supervision of labour-based roadworks carried out by force account and contractors.

In order to increase the skills of the local contractors in executing labour-based roadworks, training was started under IRP I and was scheduled to continue under IRP II.

Two training institutes (ATTIs) had been established in Mbeya and Tanga regions respectively in 1993. The institutes provided a comprehensive training programme in labour-based methods for road inspectors and foremen working for MoW at regional level and for staff from the district councils. The training programme was relevant for MoW staff supervising roadworks carried out by force account as well as by contractors. Courses offered consist of four weeks theoretical classroom training and twelve weeks practical field training by executing routine maintenance and rehabilitation work.

Training courses started in 1994, and a total of 7 courses had been completed for some 110 inspectors and foremen from the REOs. Also one course for district council staff was conducted, which was attended by 17 persons from district councils in Mbeya Region. According to the estimated capacity of 30 trainees per institute per financial year, the number of trainees should have been around 150 by the end of 1996.

The Appropriate Technology Unit (ATU) had been established in 1993 under the Rural Roads Section in the Roads Department. The responsibilities of the ATU were to co-ordinate and supervise the ATTIs, develop manuals, standards, specifications, etc. and to promote the use of appropriate technology in the road sector.

ILO had provided one Training Adviser to each training institute as well as one Chief Technical Adviser to ATU. The Training Advisers to ATTI Tanga and ATTI Mbeya completed their assignments in April 1996 and December 1996 respectively after three years of service. The Chief Technical Adviser to ATU completed the assignment in April 1995 after one year of service.

By 1996 a draft National Labour-based Road Sector Programme had been finalised. The programme contained targets for the amount of routine maintenance, periodic maintenance and rehabilitation work to be carried out with labour-based technology in each region in FY 1996/97. The targets were based upon the budgets for FY 1996/97 and the availability of REO staff and contractors trained in labour-based methods. The programme was to be revised annually. The document also dealt with practical criteria for the choice of appropriate roadwork technology, depending on the type of road and work to be carried out.

A comprehensive Technical Manual for Labour-based Roadworks (volume I-IV) was under preparation and was to be completed in FY 1997/98. Training Guides would be prepared based upon the Technical Manual.

Appropriate technology had been adopted for maintenance of roads in most regions and has proved competitive with equipment intensive methods. However, for various reasons its use was still quite limited both within MoW and among contractors. It was therefore considered necessary, with further support from NORAD, to improve MoW's technical and training capacity in labour-based roadworks and to revise and implement the National Labour-based Road Sector Programme.

The REOs and also contractors were in short of light equipment and hand tools to apply appropriate roadworks technology. This was one of several reasons for the limited use of this technology. Hence, it was necessary to consider how to improve the availability of light equipment and hand tools.

The designs of tender documents tended to favour contractors based on equipment intensive methods, in particular with regard to rehabilitation work. It was therefore deemed necessary to address measures that would increase the possibilities for labour-based contractors to be awarded rehabilitation contracts.

Other issues to be addressed were the capacity of the two ATTIs, which had not been fully utilised, with both institutes running with high overhead costs. MoW was therefore in the process of merging the two institutes into one from mid-1997.

Several units within the Ministry had responsibility for training and in addition to the ATTIs there was a MoW training institute in Morogoro. It was thought useful to consider a better co-ordination of resources, planning and implementation of training through organisational changes. It seemed appropriate to do this as a part of the preparations for the new road authority, which was expected within few years.

With regard to funding of ATTIs operation, it was envisaged that all expenditures related to the practical training could be covered by the Road Fund, with allocations being made directly to the training institutes. The other expenditures could be covered by allocations from GoT. The ATTIs were short of required equipment for training purposes. Consideration was to be made to secure funds for hire of the equipment from the REOs Workshops in Tanga, Mbeya and Morogoro, instead of allocating funds to ATATAP for procurement. However, not all the required equipment would be available for hire.

4.8.2. Objective

The overall objective was to develop skills in road rehabilitation and maintenance works by using labour-based methods and to promote a more rational use of locally available resources through developing appropriate systems, standards, specifications and training of supervisors and foremen. The ultimate goal is to have labour based technology (LBT) used widely by force account units and contractors, thereby increasing employment possibilities in the road sector.

It was also expected that the ATTI would be developed to a level where it would be able to carry out training without technical assistance and financial support from donors.

4.8.3. Planned Activities

MoW requested NORAD to provide financial support that would enable MoW to renew the contract with ILO. This contract would provide the Ministry with ILO Advisory Services and consultancy services by national and international consultants.

The component consisted of the following sub-components:

- Appropriate Technology Unit; and
- Appropriate Technology Training Institute.

Appropriate Technology Unit

ATU would be responsible for the following activities:

- Planning, budgeting, co-ordination and reporting of activities under ATU and ATTI;
- Follow-up and annual revision of the National Labour-based Road Sector Programme;
- Follow-up on the use of and users' feedback on the Technical Manual and Training Guides;
- Development of appropriate tender and contract documents and procedures;
- Improvement of the availability of light construction equipment and hand tools; and
- Liaison with higher learning institutions in Tanzania on training and research on labour-based roadworks.

Appropriate Technology Training Institute

The two ATTIs in Mbeya and Tanga regions were to be merged into one institute located to Mbeya from mid-1997.

ATTI would be responsible for the following activities:

- Conduct two training courses annually for a total of about 30 trainees; and
- Conduct courses for VTTP staff from district councils (funds will be budgeted under VTTP).

4.8.4. Budget and Expenditures

The preliminary budget estimate was TSh 1,280 million, and NORAD was requested to contribute TSh 180 million (NOK 1.8 million) which would be used for ILO Advisory Support; consultancy services by national and international

consultants provided by ILO; and training of about three MoW staff annually at Kisii, Kenya. The GoT was expected to allocate about TSh 1,100 million.

The anticipated expenditure by the end of June 2000 is NOK 1.658 million in C- and D-funds, which is 92 per cent of the budget. The GoT contribution in the budget was TSh 347 million for 1997/99 period, and actual expenditure by June 1999 was TSh164 million, which is about 47 per cent of the allocation for the 2 years, and only 15 per cent of the total local budget.

4.8.5 Progress, Achievements and Impacts

Progress and Achievements

This project component has progressed well, and the following has been reported by the Senior Engineer in-charge:

(i) Appropriate Technology Unit

The Unit was set up under TAN080 and is currently manned by two engineers and a driver. Efforts are being made to institutionalise it in the MOW structure. The activities planned under TAN045 have been implemented as follows:

- Planning budgeting & co-ordination has been done;
- Annual revision of National Labour Based Road Programme has been done. Follow up has also been done through visits and consultative seminars conducted in all Regional Engineers' Offices. A report (in three volumes) on these seminars has been produced, and forms good reference materials for LBT in Tanzania. Other activities carried out by the ATU team include a study on "Development of a sustainable Labour-based Roadworks Training Arrangement (August 1999), and preparation of a Business Plan for the ATTI (January 2000);
- Technical Manual and Training Guides – follow up is being made Five hundred (500) copies of the manual were made and disseminated to users, many of whom, have greatly appreciated the document;
- Development of appropriate tender and contract documents and procedures. ATU is in liaison with various projects that deal with LBT while developing some document. These projects include the Road sector programme in Morogoro and the UNCDF project in Mwanza, ATU efforts are geared towards developing national standard documents;
- Availability of light construction equipment and tools – terms of reference are being prepared;
- Liaison with higher learning institutions is on-going; and
- The ATU has been developed to a level where it is able to carry out its activities without technical assistance at the office. However, technical

advisory service from ILO is still required, especially on consultancy services that require international experiences

(ii) Appropriate Technology Training Institute (ATTI)

The two institutes in Mbeya and Tanga were merged in July 1997 as planned. The proposed activities have been implemented as follows:

- Training Courses: 3 courses were conducted each having 20 trainees. The trainees are mainly MOW supervisors, with few from local government;
- VTTP courses were conducted for 5 districts. A total of 17 trainees participated, of whom 5 were women; and
- The ATTI has been developed to a level where it is able to carry out training without technical assistance and financial support from donors. However, financial support of transforming it into a semi-autonomous training centre is required

Impact

The project has yet to make a major impact in the construction sector. For FY 1998/99, the MoW set a target of 20 per cent of the road maintenance to be carried out using LBT. An analysis by ATU based on information from the regions revealed that 11 per cent of road maintenance and hardly any rehabilitation were done by LBT. Pilot projects conducted on several road projects in Tanzania have proved, beyond doubt, that LBT is a technically and economically viable alternative to equipment based technology (EBT). In fact if the social dimension of employment creation is added, LBT could have an edge over EBT.

Among the factors, which are affecting the impact of the project in relation to road works implementation are the following:

(a) Slow progress towards having LBT advocacy formally forming part of the MoW organisational set-up. As such the advocacy is still project oriented;

(b) Project objectives and targeted outputs not being focused on advocacy or campaigning for the use of the technology by contractors and consultants;

(c) ATATAP did not aim at training the private sector, i.e. contractors and consultants. However, there has been some training for contractors by other projects (not directly linked with ATATAP) on the use LBT. No similar training has been done for consultants; and

(d) The ATTI programme has been wholly funded by the GoT through the Road Fund. During the past three years the Road Fund has not been operating smoothly, and this has had adverse effects on the ATTI performance. The institute targeted to train to train about 120 supervisors from REOs but only 47 have been trained

4.8.6 Sustainability

For sustainability the use of LBT requires further advocacy, because as mentioned earlier the technology has proved beyond doubt that it is viable. Moreover, LBT is needed for many activities such as road maintenance. The focus and target should now include securing political support, commitment of decision-makers and establishing a conducive working environment through stable funding level.

It is felt that for LBT has been accepted and has started to be institutionalised in the MoW set-up More training and advocacy for it among key players in the construction sector is still required within and outside the MoW.

The training offered by the ATTI is required and should be extended outside the MoW. This will be an incentive to the trainees and their sponsors. There is therefore need for the ATTI to be accredited so that the training courses are recognised by the National Technical Training Council and the Civil Service.

4.8.7 Future Needs

The future outlook of ATU, ATTI and LBT is as follows:

- Efforts will continue to ensure that LBT is given more room in projects funded by the Road Fund, up to 30 per cent of annual budgets.
- Training in LBT will include engineers as well as technicians.
- ATTI to be supplied with mobile training units to enable training to be conducted anywhere in the country.
- ATU to be institutionalised within the MoW (regardless of TanRoads).
- ATU to set up a documentation centre for LBT, in liaison with the Tanzania Technology Transfer Centre situated at the University of Dar-es-Salaam (UDSM).

4.9 Miscellaneous Support

4.9.1 Background

This component was to provide a possibility for introducing short-term projects and activities that are not a part of other components during the agreement period.

4.9.2 Objective

This programme component may contribute to any of the 10 overall objectives of the programme. No specific objective was described under this component in the Programme Document of 1997.

4.9.3 Planned Activities

Activities with NPRA Advisory Support

It should be possible to obtain short term advisory support from NPRA for various issues under this component. To provide some flexibility it should be sufficient that the Annual Meeting approve a lump sum without specified purpose.

Other Activities

The Ministry wanted to request NORAD to cover the annual cost for one MoW representative to participate in the Executive Committee under the World Road Association (WRA) based upon a previous invitation from the same. The annual cost requested to be covered by NORAD would be about TSh 3 million. The remaining cost of about TSh 5 million was to be covered by WRA.

The Ministry also wanted to request NORAD to co-fund the establishment and operation of a Technology Transfer Centre located to the University of Dar es Salaam. The major support was most likely to be provided by the Federal Highway Administration of the United States. The centre was to provide several services, including a node for World Interchange Network (WIN) under the auspices of the World Road Association (WRA) and a focal point of Sub-Saharan Africa Road Information Network (SSARIN).

NORAD support could also be requested for other activities than those mentioned above.

4.9.4 Budget and Expenditures

The preliminary budget estimate was TSh 120 million out of which NORAD was requested to contribute TSh 100 million and GoT was expected to allocate TSh 20 million. The current NORAD budget has been reduced to NOK 0.4 million, equivalent to TSh 40 million.

By the end of December 1999 nothing was spent of the NORAD C- and D-funds for this component, and by the end of June 2000 NOK 0.4 million, i.e. the total C- and D-funds, are expected to remain.

By the end of FY 1998/99 nothing was spent of the GoT budget.

4.9.5 Progress, Achievements and impacts

As no money is spent on this component and no reference is made to it in the Agreed Minutes of the Technical Forum Meetings, the Review Team assumes that there has been no activity under this component.

4.9.6 Sustainability

As there has been no activity under this component, there is nothing to sustain.

4.9.7 Future Needs

Future needs are difficult to assess, as no activity has been carried out under this component. Nevertheless, a minor amount for miscellaneous support should be left in the budget is case something unexpected comes up during the remaining programme period.

4.10 Programme Administration

4.10.1 Background

The Programme Document stated that the Director of the Roads Department would be responsible for implementation of the new Road Sector Programme and would secure information necessary to monitor the progress towards achieving the objective of the programme.

The responsibility for each component was allocated within the line organisation. A Programme Officer and one assistant would co-ordinate preparations for the Annual Meetings and other tasks that need co-ordination within MoW and towards NORAD's Programme Officer on behalf of the Director of Roads.

4.10.2 Objective

This programme component should contribute to all 10 overall objectives of the programme. No specific objective is described under this component in the Programme Document.

4.10.3 Planned Activities

Annual RSP Meeting

The Annual RSP Meeting was to be conducted in February/March. The meeting should discuss and approve activity plans and budgets for the following financial year. The Annual RSP Meeting Document was to be prepared by the Ministry and submitted to NORAD and NPRA not later than four weeks before the meeting.

The Annual RSP Meeting Document was to contain the following:

- Annual Report containing achievements, final accounts and audit for the previous fiscal year;
- Activity Plans and Budget Proposal for the following fiscal year; and
- Revised Programme Budget for the remaining programme period.

Revised activity plans and budgets according to the approval given by NORAD in the Annual Meeting and approved budgets for GoT funding should be submitted to NORAD four weeks after the Parliaments approval of the budget, but not later than September.

Accounting and Auditing

MoW was to establish separate accounts for RSP components. It should be considered to keep financial records that correspond to the breakdown of the approved budgets. These measures would make it easier to carry out audit of accounts.

MoW was to engage a private firm to carry out the audit in the event that the Controller and Auditor General (CAG) would not be in the position to carry out the audit within the time limit.

The Annual Audit Reports with findings and recommendations by CAG was to be submitted to NORAD as part of the Annual RSP Meeting Document. Findings and recommendations should be cleared not later than one year after the fiscal year in question.

Release of Funds from NORAD

NORAD should release c-funds to MoW as follows:

The first release should be done in the first week of July if possible findings and recommendations from previous audit of accounts have been cleared. The release should cover the projected expenditures for the first and second quarters based upon the Agreed Minutes from the Annual Meeting.

The second release should be done in December if audit of accounts has been carried out for the previous fiscal year. The release should provide the remaining contribution from NORAD based upon the revised activity plan and budget.

NORAD funds should be channelled to MoW through the Treasury.

NORAD should cover expenditures by ILO and D-funds, in advance for 12 months based upon recommendation from MoW. Expenditures by NPRA, D-funds, should be covered based upon invoices from NPRA every three month and after being endorsed by MoW.

Consultants should normally be procured and paid by MoW utilising C-funds and GoT funds. Consultants provided by ILO and consultants assisting NPRA should be procured and paid by ILO and NPRA respectively.

Technical Forum

During the Fifth Annual RSP Meeting held in September 1995, it was agreed to establish a Technical Forum. This was based upon the experience that the institutional co-operation between MoW and NPRA required a forum to assess performance of technical and administrative nature. Terms of Reference for the forum were agreed upon during its first meeting in November 1996. The second meeting was held in March 1997.

The Technical Forum should address the following issues:

- Assess achievements and performance of the institutional co-operation, as well as performance of NPRA advisers and MoW staff;
- Identify new areas of co-operation; and

- Delineate how the co-operation should be implemented.

The forum was to have two representatives from MoW and two from NPRA, but any relevant staff could be invited to attend the meetings. The forum was expected to meet two times annually.

The output from the meetings would be agreed minutes. Recommendations that require financial support from NORAD were be approved by NORAD.

Programme Evaluation

It was considered necessary to carry out an independent evaluation of the programme after about 1½ or 2 years of programme implementation. The evaluation should assess the possibility to achieve sustainability of projects under implementation. The evaluation should also contain an independent evaluation of strategies, activities and design of systems, handbooks, manuals, etc.

Before the end of the programme period, an independent evaluation should be carried out, aiming to assess achievements compared to the programme objectives, sustainability of achievements and to provide recommendations for a possible continuation of support from NORAD.

4.10.4 Budget and Expenditures

The preliminary budget estimate was TSh 280 million.

NORAD was requested to contribute TSh 240 million, which has later been change to NOK 1.8 million, equivalent to TSh 180 million. By December 1999 NOK 0.881 million, or 49 per cent was spent. By the end of June 2000 a remainder of NOK 0.653 million is anticipated.

GoT was expected to allocate about TSh 40 million. By the end of FY 1998/99 nothing was spent of the GoT budget.

4.10.5 Progress, Achievements and Impacts

The Annual RSP Meetings and the Technical Forum Meetings have been carried out according to the plan. The accounting, auditing and release of funds are described in Chapter 7. The mid-term review has been carried out in January and February 2000.

4.10.6 Sustainability

Programme administration will not be sustained after the programme has come to an end.

4.10.7 Future Needs

The programme administration will continue during the remaining programme period. As stated under Sub-section 4.10.3 above, an independent evaluation should be carried out before the end of the programme period.

5 Programme Effectiveness and Sustainability

This chapter reviews the relevance of the Road Sector Programme objectives and the programme effectiveness and impacts. Further, it analyses the financial progress and discusses programme efficiency. Finally, it reviews the sustainability of the programme.

5.1 Relevance of Goals and Objectives

The purpose of the current Road Sector Programme is to increase the competence and efficiency in road administration in Tanzania.

The overall goal and objectives are described in the Programme Document (Ministry of Works, April 1997), which specifies 10 overall objectives, see also Section 2.2 above. There is no doubt that these overall objectives are relevant to the actual situation as described in Chapter 2 of the Programme Document, e.g. "deterioration of the road network had become a serious constraint to expansion of production and integration of markets". A road network of adequate standard is a precondition for economic development in Tanzania. The core problem of road deterioration has been caused by inadequate institutional and financial arrangement, see Section 3.2. Hence, improvement of competence and efficiency in road administration is one of the key elements in the institutional reform process and a precondition for its successful implementation.

However, some of the overall objectives are rather general and long-term in their character, like reducing the time and effort spent on transport in rural areas or reducing the number of accidents on the roads. Others are more like means to achieve the long-term objectives, such as improving managerial and technical skills for MoW staff or improving organisational structure and administrative/management procedures in MoW.

Each of the overall objectives relates to one or more of the components. All 10 objectives are covered in at least one of the components and their objectives. Thus the component objectives are relevant to the overall objectives and vice versa.

Component objectives are described in the Programme Document under each of the programme components.

1 Organisational and Management Development

The objectives described under this component are "to revise the management framework and to improve the administrative procedures within the Ministry, as

well as to provide training to improve managerial skills on all levels within the Road Department and REOs. It is considered necessary to include organisational development." These objectives seem relevant as to the situation described in the introductory paragraph of Component 1.

Women participation is, for practical purposes, treated as part of this component in this review report. However, the Programme Document does not specify any clear objective for women participation other than "enable women to apply for supervisory positions in roadworks" and "women in current managerial positions and other women within the Ministry that are considered to be potential leaders in the road sector in the future, will be invited to participate in activities and training."

There is no description of the situation of women within the road sector in the Programme Document. It is, consequently, difficult to assess the relevance of the objectives for women participation. However, enabling "women to apply for supervisory positions" and inviting "women to participate in activities and training" can on a general basis be considered relevant for women participation.

2 Financial Management

The main objective of this component was to develop and implement a computerised financial management system to be used in the Roads Department and in the REOs.

There has been no progress within this component as a financial management system, Platinum, is being developed for introduction in all ministries. This system, which is funded by other sources, is now being introduced in a number of ministries, among them MoW.

Generally, the above objective is still valid despite the ongoing institutional reform. TanRoads will need a sound project management and financial management system capable of addressing the objectives of this component.

3 Maintenance Management

The objective of this component is to improve the maintenance standard of trunk and regional roads, through the establishment of improved road maintenance management systems and the provision of manuals, handbooks and guidelines. Considering the poor maintenance standard of roads in Tanzania, this must be considered a highly relevant objective.

4 Road Safety and Axle Load Control Programme

Under the description of Component 4, the following objectives are listed:

- To establish a road safety organisation capable of managing a multi-sectoral integrated approach to the road safety problem with long and short term plans;

- To increase the quality of life in Tanzania by preventing accident occurrence and by minimising the consequences of road accidents; and
- To prolong the life of the road network through effective vehicle and axle load control

The objectives as stated above, seem highly relevant. Road accident fatalities and injuries have more than doubled in 25 years, and should be expected to increase as the number of motor vehicles increase, unless effective countermeasures are implemented. To establish a capable road safety organisation and to develop road safety measures and have some of them implemented are consequently necessary to achieve a decline in the number of road accidents.

Road conditions in Tanzania are generally rather poor and controlling axle loads is crucial to avoid further deterioration of the road network. To reduce the percentage of overloaded trucks on trunk roads to less than 10 per cent is an ambitious, but not unrealistic goal.

5 Bridge Management

The objective is to enable an effective management of bridges through developing and implementing a bridge management system consisting of guidelines, handbooks and manuals, and a computerised system for storing inventory and inspection data, planning, budgeting and reporting; and to develop skills of bridge staff on central and regional level in planning, budgeting, supervision and execution of bridge maintenance.

Considering the poor condition of many bridges in Tanzania, the objective is highly relevant.

6 Central Materials Laboratory

The objective is to develop sustainable systems; improve technical and managerial skills; and to improve facilities and equipment to enable the Central Materials Laboratory to give comprehensive support to all sections of the Roads Department, other GoT organisations, and private consultants and contractors. It is envisaged that the laboratory will increasingly play a key role in testing of materials, design of roads, and provision of quality assurance of maintenance and rehabilitation works.

This component is a continuation of activities going on under the previous programme, and, consequently, the programme document does not describe the need for a laboratory or the need for improvements. Nevertheless, it seems reasonable that a country the size of Tanzania with long distances and high dependence on road transport, needs a Central Materials Laboratory having high technical and managerial skills as well as efficient facilities and equipment. The objective is consequently highly relevant.

7 Equipment Management

The objective of this component is to achieve financial sustainability of the current road workshops that are operating as independent entities. The regional workshops are expected to be able to maintain and renew plant and equipment by revenue from hire charges only.

Efficient provision of equipment for road maintenance is important in a country that needs extensive road maintenance in the years to come. Financial sustainable workshops able to maintain and renew plan and equipment are therefore a highly relevant objective. The workshops, however, need to establish their proper role and organisation within the reformed structure of the road sector. Against this background, the question of ownership may arise, and the objective may have to be amended.

8 Appropriate Technology Advisory and Training Project

The objective as defined in the Programme Document was to develop skills in road rehabilitation and maintenance works by using labour-based technology (LBT) and to promote a more rational use of locally available resources through developing appropriate systems, standards, specifications and training of supervisors and foremen.

The ultimate goal is to have LBT institutionalised and used in the road sector by all implementing or executing bodies including contractors as a viable alternative, which will also contribute towards increased employment. A target of 30 per cent use of LBM has recently been set for the roads sector.

Considering the policy expressed by the Government in the Programme Document (Ministry of Works. April 1997, p. 38), the objective of this component is relevant and it has now been operationalised by formulation of a specific target.

9 and 10 Miscellaneous Support and Programme Administration

These programme components may contribute to any of the overall objectives of the programme. No specific objective is described under either of these components

Having some money set aside for needs that may turn up during the programme provides for flexibility. Programme administration activities such as Technical Forum Meetings and Annual Meetings are of course necessary to secure the responsible use of the programme budget.

5.2 Programme Effectiveness and Impacts

5.2.1 Component and Overall Programme Effectiveness

1 Organisational and Management Development

As the technical adviser's efforts are the main achievement in this component, efforts that are not included in the review as they are considered a separate activity, the component can hardly be considered effective. The main additional achievement of the women participation activity is one self-confidence-building seminar that was reported to be successful and a proposal for a follow-up seminar. Whether the successful seminar has contributed to the above objectives is impossible to judge.

2 Financial Management

There is no progress and thus no direct effect of this programme component at this stage. Most objectives have, however, been met through development of the Platinum system as funded by other sources.

3 Maintenance Management

Since only preparatory work has been done on this component, there is no measurable effect so far.

4 Road Safety and Axle Load Control Programme

The Road Safety Unit in the MoW is working hard and well, but the objective of establishing a " road safety organisation capable of managing a multi-sectoral integrated approach to the road safety problem with long and short term plans" can hardly be considered fully achieved as yet. There are co-operation problems between the MoW and the Ministry of Home Affairs in road safety matters. Co-operation with other sectors is not extensive. Although a high-quality long-term multi-sectoral programme has been made, the Cabinet has not approved it.

The number of road fatalities and injuries has been stabilised, a fact which is encouraging for further road safety efforts. It is, however, impossible to say whether this reduction is due to the road safety activities under this programme. The second objective above may consequently be considered to have started to take effect.

The percentage of overloaded trucks is considerably lower in the late 1990's than in the 1970's according to surveys made, but more surveys will have to be made before a reduction of overload can be claimed as an effect of this component. However, the number of vehicles controlled has increased considerably lately, and this increase is likely to have contributed to reduced overloading. The third objective of this component may be considered having a possible effect.

5 Bridge Management

The handbooks, guidelines etc. of the bridge management system have already been produced. The system has started being implemented manually in the country but computerisation has only been introduced in the five pilot regions. The data retrieval and updating of information has been greatly simplified in these regions. Nevertheless, further implementation is needed before the system will have a significant effect.

6 Central Materials Laboratory

The CML has improved in several ways such as services offered to clients, contributions to road technology available in Tanzania, improved knowledge of the staff and production of good quality reports, as a consequence of the programme activities. Nevertheless, the implementation is still going on and full effectiveness of this component has not yet been achieved.

7 Equipment Management

This project component has been successful in meeting the set objectives and is considered able to continue operation after the termination of donor support. Full effectiveness can thus be considered achieved in this component.

8 Appropriate Technology Advisory and Training Project

Due to funding problems, acceptability within the road sector and slow institutionalisation process in the MoW, the labour-based technology has so far been only partially applied in road construction and maintenance. Effectiveness can be considered partly achieved in relation to the initial objective but the output in respect of use is rather far from the target set.

9 and 10 Miscellaneous Support and Programme Administration

So far there has been no activity under Miscellaneous Support. The Annual RSP Meeting, the Technical Forum Meetings and other administrative activities have been carried out according to plan. Effectiveness is consequently achieved under Programme Administration.

Overall Programme Effectiveness

Only one of the technical components, Equipment Management, can be considered having achieved full effectiveness at this stage. There are indications that components 4, 5, 6 and 8 have started to take effect, whereas no effect is found of components 1, 2 and 3 so far. This result should be acceptable, considering the fact that one at this stage is only halfway through the programme and that two years remain.

5.2.2 Impacts of the Programme

As mentioned above only Component 7 Equipment Management has been successful in meeting the set objectives so far. Four more components seem to have started to take effect, whereas no effect is found for the remaining three technical components. A major share of the activities carried out in the programme so far, have been preparations, which will not produce effects until implementation is completed. It is only reasonable that objectives have not been met by the mid-term of the programme, and consequently, considerable impacts cannot be expected yet.

5.3 Financial Progress

The RSP agreement does not define explicitly what is meant by expenditures. We have assumed, however, since expenditures should be related to the annually approved budgets, that expenditures can be interpreted as activity carried out in the reporting period.

Table 5.1 gives an overview of the annually approved budget and actual costs for the C- and D-Funds for the period January 1998 - December 1999. Actual costs are reported on main components whereas the budgets are presented in sub-components and even activities under the sub-components.

Table 5.1: Annually Approved Budget and Actual Cost for C- and D-Funds January 1998 - December 1999. Million

Components	Budget		Actual Cost		Actual/Budget per cent	
	C-Fund TSh	D-Fund NOK	C-Fund TSh	D-Fund NOK	C-Fund	D-Fund
1 Management and Organisational Dvlp.	40.0	2.050	19.6	1.524	49	74
2 Financial Management System	160.0	0.000	0.0	0.000	0	0
3 Maintenance Management	8.0	0.550	2.0	0.042	25	8
4 Road Safety and Axle Load Control	262.4	2.560	131.5	1.952	50	76
5 Bridge Management	0.0	2.820	0.0	2.582	0	92
6 Central Materials Laboratory	60.1	8.278	29.9	6.335	50	77
7 Equipment Management	31.0	2.500	18.1	1.767	58	71
8 Appropriate Technology Project	32.0	1.140	29.7	0.945	93	83
9 Miscellaneous Support	5.0	0.080	0.0	0.000	0	0
10 Programme Administration	0.5	1.096	0.0	0.881	0	80
Total	599.0	21.074	230.8	16.028	39	76

Note: See Annex 4, Table 3 for further details

Table 5.1 shows that in average for this period, 39 per cent of the annually approved budget is spent for the C-Fund and 76 per cent of the D-Fund. The activity by year as presented in Annex 4 indicates that for the C-Fund, 23 per cent

was spent the first financial year (the activity of TAN 045 Road Sector Programme only started the second half of this financial year). Further, 40 per cent was spent the second year and 53 per cent the first half of the current financial year (FY 1999/2000). The level of activity (measured as actual cost per half year) has increased gradually over these three periods. The activity level the second year was about twice of that of the first year, taking into consideration that the first FY only comprised six months. In the last period, July 1999 – December 1999, the level of activity was at about the same as the previous financial year.

Concerning D-Funds, the activity the first year was 84 per cent of the budget. The second year, the activity carried out was reduced to 80 per cent, and for the last half year reported, the activity only reached 48 per cent of the budget. The activity during the second year was slightly lower than the activity during the first year, taking into account that actual activity only started the second half of the first year. The level of activity the last half-year reported, was one third of the level of the second year.

Total actual cost by end 1999 was approximate NOK 18 million compared to the 23 million envisaged in the Country Agreement of 6 February 1998 (Annex 1). Compared to the revised budget as indicated in Table 5.1, actual cost by end 1999 amounted to two thirds of this budget (total C- and D-funds). Actual cost by end 1999 at NOK 18 million amounted to 51 per cent of the current total budget.

The activity relative to the budget differs quite a lot between the various components. For C-Funds, there has not been any actual activity on Components 2, 5, 9 or 10. A quarter of the budgeted activity is carried out on Component 4, 50-60 per cent on Components 1, 4, 6 and 7 and more than 90 per cent on Component 8. Concerning D-Funds there has so far not been planned or carried out any or only little activity on Components 2, 3 and 9. The activity compared to the budget has been discussed in more detail under each component in Chapter 4.

Table 5.2: Budget and Actual Cost for GoT Funds FY 1997/98 and FY 1998/99. TSh million

Components	FY 1997/98			FY 1998/99		
	Budget	Actual	A/B %	Budget	Actual	A/B %
1 Management and Organisational Dvlp.	1.0	0.0	0	15.0	4.0	27
2 Financial Management System	2.0	0.0	0	5.0	0.0	0
3 Maintenance Management	1.0	0.0	0	5.0	0.0	0
4 Road Safety and Axle Load Control	63.0	27.6	44	125.0	205.0	164
5 Bridge Management	836.0	386.1	46	2 514.0	1 155.3	46
6 Central Materials Laboratory	33.0	34.1	103	53.0	29.6	56
7 Equipment Management	11.0	7.0	64	14.0	3.1	22
8 Appropriate Technology Project	85.0	28.5	34	262.0	135.2	52
9 Miscellaneous Support	5.0	0.0	0	0.0	0.0	0
10 Programme Administration	0.0	0.0	0	10.0	0.0	0
Total	1 037.0	483.3	47	3 003.0	1 532.2	51

Note: See Annex 4, Table 1 for further details

Some 50 per cent of the budgeted amounts for GoT funded activities have been carried out both the first and the second year. GoT funded activity for the period July 1999 – December 2000 is not reported in documents related to TAN 045 Road Sector Programme. Neither is the budget broken down on half years. During the first financial year, the entire budget was spent for component 6, about half of the budget for Components 4, 5, 7 and one third for Component 8. No activity took place on Components1, 2, 3 and 9. For Component 10, no activity was budgeted. The second year budget was almost 3 times the budget of he first year, but only some 50 per cent of the overall budget were spent. About half the budget was used for Components 5,6 and 8. A quarter of the budget was used for Components 1 and 3. Also for GoT funds, further comments have been made under each component in Chapter 4. The total GoT funded activity for the above two financial years is equivalent to approximately NOK 20 million (TSh 2,000 million), i.e. less than 30 per cent of the total GoT budget. GoT funded activity of NOK 20 million is about NOK 1.7 million more than the activity financed by C- and D-Funds during the same period. This means that the actual use of GoT funds does not correspond with the initial programme budget where GoT funding was supposed to be twice as much as the C- and D-Funds. GoT funds derive primarily from the Road Fund. We have, however, no information on the actual contents and consistency of the activities financed by the GoT funds under the various components.

Table 5.3 presents the status concerning anticipated cost by the end of FY 1999/2000. It further shows percentage used and the remainder for rest of the programme.

Table 5.3 Anticipated Cost and estimated Remainder by End June 2000. NOK million

Components	Anticipated Cost C- and D-Funds	Programme Budget	Per cent used	Remainder
1 Management and Organisational Dvlp.	2.633	3.500	75	0.867
2 Financial Management System	0.000	2.000	0	2.000
3 Maintenance Management	0.064	1.300	5	1.236
4 Road Safety and Axle Load Control	4.456	5.000	89	0.544
5 Bridge Management	2.922	4.000	73	1.078
6 Central Materials Laboratory	8.146	9.000	91	0.854
7 Equipment Management	2.259	2.850	79	0.591
8 Appropriate Technology Project	1.658	1.800	92	0.142
9 Miscellaneous Support	0.000	0.400	0	0.400
10 Programme Administration	1.147	1.800	64	0.653
Unallocated	0.000	3.350	0	3.350
Total	23.284	35.000	67	11.716

Note: See Annex 4, Table 3 for further details

Table 5.3 shows that approximately 90 per cent of the budget will have been spent by end June 2000 for Components 4, 6 and 8. Similarly three quarters of the budget will have been spent for Components 1, 5 and 7. For Component 10 is the same as for the total, i.e. two thirds of the budget. So far no activity has been

carried out on Component 2. This is due to the new Platinum system now being introduced in six of the Ministries, among them Ministry of Works.

5.4 Programme Efficiency

As shown in Sub-section 5.2.1 above, the result or the effectiveness is acceptable, considering the fact that only half the programme period has expired. One of eight technical components has achieved full effectiveness, four components have started to take effect and three components have yet to show effect.

According to Table 5.1 in Section 5.3 above, the NORAD resources spent for the programme is TSh 230.8 million plus NOK 16.028 million, amounting to a total of about TSh 1830 million or NOK 18.3 million by end December 1999. In addition come approximately TSh 2 billion through the GoT funds (end June 1999).

The fee rates charged by NPRA are very low compared to those of consultants working on a commercial basis. There is no reason to believe that the NPRA advisers are less qualified than commercial consultants and we may therefore assume that the relation between results and resources is quite favourable in general.

Table 5.3 in Section 5.3 above shows the anticipated percentage used by end June 2000 of the budgeted NORAD funds. In Table 5.4 below, we have related this percentage to the results achieved so far by the various components.

Table 5.4 Anticipated Percentage used by end June 2000 (NORAD funds) relative to the Results achieved by Component.

Component	Per cent used	Result
1 Management and Organisational Development	75	None
2 Financial Management System	0	None
3 Maintenance Management	5	None
4 Road Safety and Axle Load Control	89	Some
5 Bridge Management	73	Some
6 Central Materials Laboratory	91	Some
7 Equipment Management	79	Full
8 Appropriate Technology Project	92	Some
9 Miscellaneous Support	0	-
10 Programme Administration	64	-
Total	67	

The accordance between the anticipated percentage of budget spent and the results of the components is quite good, except for Component 1. The high percentage of budget used for Component 1 is the cost of the technical adviser, whose efforts have not been assessed in this review. For Component 8, manuals for labour-based technology have been produced and almost 80 people have been trained, but there

is a problem with employment of the people trained. When the road authorities start to require that a certain share of the road maintenance work contracted should be carried out using labour-based technology, the effect of this component will be realised without extra costs to the programme.

There is no standard to determine whether the amounts spent are reasonable for this kind of programme. It is, consequently, quite difficult to say whether the results of this programme are reasonable compared to the resources spent. However, by the mid-term of a programme, it is reasonable to find that at least 50 per cent of the resources are spent, whereas the full results for the programme can only be expected to appear at the completion of the programme period.

5.5 Sustainability

According to Chapter 4, Components 1, 2 and 3 are not sustainable, as there has been next to no institutional co-operation so far. It is, however, most important that Component 3 Maintenance Management is revived in order to attain sustainability in this field, which is crucial to the future of the road network.

For Component 4 Road Safety and Axle Load Control Programme, sustainability for road safety activities depends on availability of resources for effective countermeasures, the demonstration of effects of countermeasures and on proper legislation. These conditions depend much on the political concern for road safety. Axle load control is likely to be sustainable under TanRoads.

For Component 5 Bridge Management, the handbooks produced and ownership created through involvement of local staff contribute to sustainability, but several activities remain to be completed before sustainability will be fully achieved.

The programme has taken Component 6 Central Materials Laboratory a few more steps towards sustainability, but much more needs to be done before the goal is scored.

For Component 7 Equipment Management, the programme has been successful in bringing the Regional workshops closer to sustainability. A serious problem, which threatens sustainability, is non-payment of bills by clients, mainly MoW. This problem needs urgent attention.

For Component 8 Appropriate Technology Advisory and Training Project, there are still questions as to sustainability. For this technology, sustainability depends on the funding and the institutionalisation in the road sector, particularly within the MoW.

Sustainability is not relevant for Components 9 Miscellaneous Support and 10 Programme Administration.

Sustainability cannot be considered achieved as yet for the overall programme, but several components are moving towards sustainability. This situation is acceptable at mid-term of the programme, if serious efforts to create sustainability are made in the remaining two years period.

6 Experience with Institutional Co-operation

This chapter gives a summary of the overall experience with institutional co-operation, and the performance of the technical assistance personnel. The pros and cons of such form of co-operation are discussed.

6.1 Experience by Component

The bilateral agreement for development of the road sector, signed between the Government of the Kingdom of Norway and the Government of the United Republic of Tanzania on 6 February 1998, stipulated that the Ministry of Works, "shall enter into contracts with the Norwegian Public Roads Administration (NPRA) and with the International Labour Organisation (ILO) for institutional co-operation in the implementation of the Programme." In conformity with this, MoW signed an agreement for institutional co-operation with NPRA on 17 April 1998 and another one with ILO on 30 September 1998.

Each project component has had different experiences arising from these institutional co-operation agreements. In general NPRA provided advisers who worked with MoW staff on short-term assignments, as stipulated in the Programme Document. Presented here below are the general views of the experiences as expressed by the component co-ordinators, and in the annual meetings.

1 Organisational and Management Development

The MoW had asked a Norwegian adviser in the ministry for assistance to enhance management capacity. Interaction between the different departments was to be given great attention. Important issues were budgeting, monitoring, planning and reporting. The technical adviser's efforts have been the main achievement in this component.

From FY 1995/96 NORAD decided to finance the activities of Women Participation Unit through other components. This affected the activities of the unit in all pilot regions and WPU Headquarters. A female NPRA county road director paid a visit to the MoW in July 1998 to prepare for a self-confidence course for women. A workshop was conducted to sketch principles and contents of the seminar. The self-confidence seminar was carried out in October 1998.

2 Financial Management

A consultant, Carl Bro International, was engaged to carry out a study on the financial management system suitable for use in the roads sector. The contract was subsequently cancelled due to the fact that the government decided to adopt another financial management system, the Platinum. Hence there has not been any technical assistance on this component.

3 Maintenance Management

The technical adviser provided under this component was moved to Component 1.

4 Road Safety and Axle Load Control Programme

The National Road Safety Programme formed the basis of the road safety activities in the institutional co-operation between the NPRA and the MoW in the road sector Programme for FY 1997/98 – FY 2000/01. Unfortunately the Programme was yet to be approved by GoT, and this has slowed down the pace of implementation.

In spite of the document not being approved, the institutional co-operation seems to have been working well in this component. Three experts from the NPRA have paid visits once a year. The RSU personnel have expressed their satisfaction with road safety experts. However, it is our view that some of the sub-components need better focusing, and this would entail a higher frequency of visits by the TA, plus closer communication by E-mail or telephone, in order to expedite implementation.

5 Bridge Management

The Bridge Management System for Tanzania (BMST) has been instituted with the support of NPRA. Three volumes of the bridge handbook have been made. These are: Handbook for Bridge Inventory (1997), Handbook for Bridge Inspection (1998), and Handbook for Bridge Maintenance (1998), and they have been produced under the guidance of the advisers. They are considered a significant contribution to the technical support of MoW.

Training on the inventory system, given to bridge engineers and technicians by the NPRA advisers is another important contribution to institutional development of the ministry.

The development of the BMST was done in-house by forming a team of MoW Engineers and NPRA staff, whereby the latter played the role of trainers and advisers, particularly in computer programming of the system. This had the advantage of the operatives owning the system and reducing the learning and training curve. The BMST has been christened TAN-BRIDGEMAN.

In general, institutional co-operation under the bridge component has worked very well, with both parties feeling that it has made significant contribution to bridge management in Tanzania. The MOW has found it easier to deal with the NPRA advisers than dealing with a consulting firm, since the advisers are brought in only when they are needed. On the other hand, these short-term visits require careful planning and close communication between the parties.

6 Central Materials Laboratory

The association between CML and NPRA has enabled the production of good quality reports, notably the Pavement and Materials Design Manual (1999), Axle load surveys (October 1999), Desk Study of Standard Specifications (June 1999) and State-of-the-art report for work in connection with establishing the CML library. The co-operation has also benefited the library immensely.

Communication between the parties has not been as impressive as on some of the other components, and will need to be improved for speedier implementation.

7 Equipment Management

The latest edition of the RWMS document (Sixth Edition) was issued in September 1999, and it is considered to be an invaluable document for guiding the operations of the regional workshops. The document was prepared through collaborative effort of NPRA advisers and staff of the two workshops. A series of meetings and seminars were held between October 1994 and September 1999, when this edition was produced. Co-operation between the workshops and NPRA has been very good. The team leader from NPRA has maintained close contact by telephone and E-mail, and is able to give technical support timely. This has enabled the workshop staff to double their efforts.

8 Appropriate Technology Advisory and Training Project

Activities under this component include development of appropriate tender and contract documents and procedures, various reports and a business plan for the ATTI at Mbeya. At this institute, courses have been conducted mainly for MoW supervisors and for VTTP trainees from five districts.

The institutional co-operation for this component is through ILO. Generally, co-operation between MoW, especially those working in the ATU, and ILO appears to have been satisfactory.

9 and 10 Miscellaneous Support and Programme Administration

No activity was reported under Component 9.

Component 10 covers programme administrative matters. During the 5th Annual RSP Meeting held in September 1995, it was agreed to establish a Technical Forum. This was based upon the experience that the institutional co-operation

between MoW and NPRA required a forum to assess performance of technical and administrative nature. The first meeting of the Technical Forum took place in November 1996, while the second was held in March 1997. Since then there have been regular meetings. The Technical Forum which has two representatives from MoW and two from NPRA, addresses the following issues:

- Assess achievements and performance of the institutional co-operation,
- Assess performance of NPRA advisers and MoW staff;
- Identify new areas of co-operation; and
- Delineate how the co-operation should be implemented.

Generally, the Technical Forum has functioned as intended and it is considered a useful meeting for co-ordination between MoW and NPRA.

6.2 Conclusions and Recommendations

The institutional co-operation between MoW and NPRA has been useful in building up the capacity of the ministry in road management, road safety and axle load control, bridge management, the Central Materials Laboratory, and equipment management. It has also greatly facilitated project supervision through the Technical Forum and annual meetings.

The relationship between the advisers and MoW staff has been amicable and beneficial to both parties. MoW staff have found it easier to deal with NPRA, than in dealing with a consultant, because they relate to only one institution and more of less the same individuals. This ensures better continuity for the project.

It is pertinent to mention that the fee rate paid for the NPRA advisers is significantly lower than that of international consultants.

The success of a programme component has depended on how closely the adviser has followed up the project. For some components, e.g., Road Safety, a single annual visit by each adviser may not be sufficient to push for faster results.

The institutional co-operation between MoW and ILO is much more limited as it only concerns one component, the Appropriate Technology Advisory and Training Project. Generally, however, co-operation between the to parties appears to have been satisfactory.

In view of the above observations, it is recommended as follows:

- That the institutional co-operation between MoW and NPRA should continue;
- The short-term visits by the advisers should continue, but there should be sufficient flexibility in each project component to determine the frequency of these visits;

- For the Road Safety component the key advisers should visit at least twice per year, and should in addition keep up close communication with MoW component co-ordinator by E-mail or telephone;
- Future institutional co-operation should be closely examined in relation to the establishment of TanRoads.

7 Reporting and Administrative Routines

This chapter contains a brief description of the planning and programming procedures for the TAN 045 Road Sector Programme (RSP) and a description of financial and administrative routines applied. Further, a brief description of the various reports prepared for NORAD and others, an assessment of the routines and reports and, finally, some recommendations aimed at improving and simplifying reporting.

The assessment of existing financial and administrative routines and procedures are based on review of the documentation availed to us and meetings with the various relevant persons and units in the Ministry of Works (MoW), among them the acting chief accountant, the CODAP project co-ordinator responsible for reporting, the resident auditor, one component co-ordinator and the technical adviser. In addition, meetings have been held with NORAD and the NPRA.

7.1 Units involved and Funds included in the Process

The Coordination Office for Donor Assistance Project (CODAP) is a unit within the MoW initially set up to co-ordinate all donor funded projects. The World Bank assisted in the establishing of CODAP when the Integrated Roads Project (IRP) I was started. The Bank also defined the requirements and reports required for its own need. These reports are not necessarily the same as those used for Government purposes. Only funds for IDA and NORAD supported projects are channelled through CODAP today. CODAP, however, also processes payments documents for projects funded by the African Development Bank, Kuwait Fund, Saudi Fund and OPEC Fund, but does not keep those funds. It transmits the documents to the donor for payment. For all the other donors who participate in IRP, the Road Divisions have designated Project Engineers who handle the paperwork and communicate directly with the donor without recourse to CODAP. These engineers submit monthly progress reports to CODAP as input to their monthly reports for all the projects. The monthly CODAP reports, which are distributed to all the donors, only include information reported by the Project Engineers, and CODAP has no means of verifying what is missing. The monthly progress report No. 100 for December 1999 includes, e.g., only four of the 10 RSP components and the information listed for each of these components is quite general.

Under IRP I, CODAP used to organise co-ordination meetings attended by all stakeholders. These meetings have been discontinued under IRP II due to lack of funds. CODAP is supposed to co-ordinate all donor funded projects, but this

appears as described above to be limited to distribution of monthly progress reports. Six persons are employed at CODAP, including one secretary.

The *Chief Accountant* in the MoW is responsible for registering and monitoring the GOT-funds dedicated to the RSP.

The Office of the Controller and Auditor General (CAG) is responsible for auditing activities financed by both the Government of Tanzania (GoT-funds) and Norway (C- and D-funds). Five resident auditors from the CAG are placed in the MoW. If the capacity of the resident auditors is not sufficient, or for any other reasons, the CAG will appoint other auditors to MoW and auditors are regularly transferred between the various ministries. Auditing costs are covered by MoW. Delays in auditing may therefore occur if the Ministry is short of funds.

The *Planning and Programming Engineer* in the Road Safety Unit is responsible for co-ordinating information on budgets, disbursements and activity on all components under the RSP for the various reports to NORAD.

The *Component Co-ordinators* in the MoW prepare plans, programmes and budgets for their components. The Component Co-ordinator verifies the invoices for the component.

The *GoT-funds* allocated for the RSP derive from the Road Fund (financed by a fuel levy of 70 TSh per litre). The expenditures reported are for operational activities, including allowances, operational costs and investments, but not salaries.

C-fund is one of two RSP categories financed by NORAD. The C-fund covers costs in Tanzania and for payment in TSh.

D-Fund is the other category financed by NORAD. It covers expenditures related the institutional co-operation with NPRA and ILO, which is paid in NOK.

Below follows a brief review of the various expressions used for reporting to NORAD and in this chapter

- *Disbursement* is used both for disbursement from NORAD and of disbursement drawn on the bank accounts. In this report, also the expression *pay in* is used for disbursement from NORAD and *pay out* is used for disbursement drawn on the bank accounts.
- *Expenditures* correspond to activity, or actual (activity). For D-funds this is equivalent to the total amount of invoices.
- *Committed* in the reports to NORAD is used for invoices not yet paid.
- *Uncommitted* in the reports to NORAD is used as disbursements from NORAD minus disbursements this period minus committed this period. *Uncommitted balance* or *balance* is also used for uncommitted by the end of a period. Balance by the end of a period is then expressed as uncommitted as defined above plus uncommitted by the end of previous period.
- *Income* is in the reports to NORAD defined as (uncommitted) balance at the end of the previous period plus the disbursements from NORAD this period.

7.2 Programming and planning

Detailed work plans and programmes are prepared for the RSP components. The tools used are Excel, Microsoft Project and Word. Each component is programmed at the sub-component level and often also on an activity level below that. The set-up is the same for all components. It describes which activity shall be carried out in which quarter and indicates the estimated cost for this activity. Further, financing source is specified for each activity (GoT, C-fund and D-fund).

These worksheets are managed by the component co-ordinator, and have usually been worked out in co-operation with the NPRA component co-ordinator. The activity plans and budgets will be revised according to the progress of the RSP and the agreed minutes from the annual meetings between MoW and NORAD. Activity plans and budgets provide the key input for the annual meeting document and the semi-annual requests based on the decisions of the annual meeting.

7.3 Financial and Administrative Routines

A new software programme, Platinum, is being introduced as a common basis for all government ministries for registering disbursements from the Treasury to the ministries and disbursements from each ministry. So far 6 ministries, among them MoW, have implemented the system. In the MoW, the system has been used since July 1999. At this stage only the cash-flow module of Platinum, has been implemented. There are also modules for e.g. pay rolls and project management.

Disbursements from the GoT-fund (corresponding to the Road Fund) are processed in the accounting department of the MoW. Since this fund is not part of the normal Treasury finances, the Road Fund could not be managed through the ordinary procedures using Platinum. A new software program has therefore been developed and is now being implemented for handling disbursements from the Road Fund. The programme is compatible with Platinum.

C-funds and D-funds

C- and D-funds are channelled through CODAP and Excel is allied for RSP registering. For registering for other donors, also Lotus 123 and Dbase III are used. CODAP has not implemented Platinum and has no plans of doing so. On the contrary some steps have been taken to engage a consultant to develop a new system/programme. The World Bank's Tanzania office, however, has indicated to the Review Team that they felt CODAP in future also should apply Platinum. NORAD is of the same opinion.

A separate Programme account in a Tanzanian bank is used for C-funds and a separate account in a Norwegian bank is used for D-funds. Semi-annual requests are submitted to NORAD and funds are transferred to the bank accounts at NORAD's approval. Normally NORAD's approval is given within 14 days. The advice from the Norwegian bank stating the amount being disbursed from

NORAD takes some 4 weeks. There seems, though, to be a good communication between CODAP and the contact person in the Norwegian bank, and on request, the available amount on the account can be verified via fax or other means.

CODAP is, as stated above, using Excel to register disbursements from NORAD and further disbursement from the accounts. Separate systems are used to register C-and D-funds. From the C-funds, expenditures are registered and disbursed continuously. The Components Co-ordinators start the process by approving the request for payment. Two different authorised persons must sign all vouchers to the C-fund, and the chief accountant issues all vouchers. Disbursements are registered when the voucher is issued. Disbursements are registered on main components.

For ILO's component of the RSP as covered by the D-funds, an annual lump sum is paid out to cover the budgeted activity that year. ILO submits a report explaining the actual costs, which has to be approved by the component co-ordinator before a new lump sum is paid. At CODAP the disbursement to ILO will be registered in US dollar and reconciled to the exact amount in NOK upon receipt of the statement of account from the bank specifying that the cheque has been drawn on the account. The disbursement to ILO is registered only on component.

NPRA sends quarterly and separate invoices for each component. The invoices specify both fees and reimbursable expenditures for each sub-component. The NPRA programme number as indicated on the invoice does not correspond with the RSP component number. Expenditures are described in detail for each sub-component. A table indicating the numbers of hours spent is attached (the table also shows numbers of hours spent on institutional co-operation in countries other than Tanzania, and to which county/department of NPRA the consultant belongs). Reimbursable expenditures are signed by the country co-ordinator. NPRA has implemented a time-registering system for all employees. The consultants are hence accustomed to register their time spent on various activities.

The quarters referred to on the invoices correspond to a financial year starting 1 December and ending 30 November, i.e. that the fourth quarter is 1 September – 30 November.

The invoices are sent to the respective component co-ordinators, who control that spending is according to the budget, and check with NPRA for clearing matters. If the invoice is approved, the component co-ordinator signs the invoice and sends it to CODAP for processing. On the file, sub-components are noted. The invoice is subsequently sent to the project co-ordinator in CODAP. An accountant will then process the pay out document. The voucher has to be signed by two out of four authorised persons for drawing on the account in Norway. The four authorised persons are two directors in MoW, the project co-ordinator in CODAP and the chief accountant. There is an authorisation document for each of them in the Norwegian bank. In case of change of personnel, a new authorisation document has to be issued. Normally, a new authorisation document will not be issued for persons acting in a position. This can be one of the reasons for delay of disbursements.

CODAP registers the amount disbursed on main component or category, which is the expression used by them. The invoice as handled by the component co-ordinator, and any comments made by him or the CODAP project co-ordinator and the stamped pay out document are filed and kept at CODAP. The invoice, however, is not registered in CODAP. There are no routines as to what should be registered by the component co-ordinator. In one case shown to us, the approved amount of the invoice was registered together with the budgets and work plans.

If parts of the invoice are not approved, only the approved amount will be registered. If these parts are approved subsequently, they will be registered together with the next invoice. Discrepancies between the invoice and the disbursement are not registered. So far, it has only happened once for TAN 045 that part of an invoice was not approved.

Summing up the above, we find the procedures of the disbursements both for C- and D-funds to be highly secure. The files of the RSP are available at CODAP and it seems that the MoW's internal routines for disbursement are followed strictly. The personnel appear to be familiar with Excel and are working thoroughly. There is, however, still some uncertainty concerning what reports NORAD actually needs as no detailed description of NORAD's requirements have been received. Contrary to this, the World Bank has described in detail its requirements to CODAP.

Substantial improvements in procedures of disbursements seem to have been made from TAN 080 to TAN 045. Serious imperfections were commented upon in the TAN 080 audit report for programme accounts, whereas for the FY 1997/98 accounts only minor comments were made. Accounts for FY 1998/99 were submitted to the Resident Auditor on 24 September 1999 and have already been audited. The Audit Report was awaiting the signature of the CAG early February 2000. The Audit Report has only three reservations concerning unretired imprest amounting to 45 million TSh on the C-funds, and procurement of consultants beyond the authorised limits. These are not serious issues and can be easily rectified.

NPRA also confirms this impression regarding the payment for the activity done. The payment on TAN 045 will in average arrive 2-3 months after the invoice is sent. This varies from component to component, but is nevertheless a substantial improvement from TAN 080.

Due to that the invoice is not registered:

- There is no system to follow up if the invoice is not handled or is handled at a very slow pace
- The activity will not be registered in the period where it has taken place as the disbursement usually only will be made 2-3 months later
- If parts of an invoice are not approved, this will cause an even later registering of the "activity"
- Discrepancies between invoices and disbursements will not be registered

Invoices covering quarters not adapted to the Tanzanian financial year, as is the case with NPRA invoices, make it impossible to register the activity in accordance with the semi-annual budgets.

The budgets are broken down to a very detailed level, whereas the activity is only registered on main components. If the activity should be followed up according to budget levels, it would be necessary to register on sub-components. Invoices from NPRA already give such information. To our understanding it should be easy to refer the expenditures on the C-fund to sub-components.

7.4 Reporting

As stated in the bilateral agreement between Tanzania and Norway, the following reports shall be submitted to NORAD from the MoW:

- In September each year the Annual Report which shall cover the programme activity of the preceding Tanzanian financial year (up to 30 June), and, in addition, a preliminary annual report covering the first half of the current financial year, i.e. July – December.
- In January/February each year an Annual Meeting Document as background documentation for the annual meeting
- 2 requests for disbursements based on approved work plans and budgets accompanied by statements of accounts showing income and expenditures for the foregoing period and the budget for the coming period. The amount already disbursed but not fully used shall be taken into account when requests are made.
- Terms of Reference plus report for every Norwegian visit to Tanzania and every Tanzanian visit to Norway
- An audit report of the programme accounts, no later than 12 months after each financial year.

The reports submitted from the MoW to NORAD are very extensive and detailed. The planning- and programming engineer prepares the reports. He is monitoring progress of the various components and reports on the activity within each component. He will collect the necessary information from different sources. The component co-ordinators provide work plans and budgets and progress reports for each half-year. The budgets as based on the work plans are presented at very detailed level and specify sources of income (i.e. GoT, C-funds or D-funds). CODAP provides information on disbursements from NORAD (income) and disbursements for activity on each component, also per half year and separate for C- and D-funds. Information on the disbursements on GoT comes from the chief accountant in the MoW.

In order to establish the total activity carried out under the programme the current half year or year, invoices not yet paid are added to the amount disbursed this period minus committed by the end of the previous period. Information on invoices not yet paid by the end of a period is received from the component co-

ordinator and such amounts are described as committed. To our understanding this information is not registered systematically, and it is subject to the component co-ordinator having a very clear overview of the activity performed under his component.

All reports to NORAD are based on the same set up. We believe these reports contain all the information required on work plans. They are structured in an informative way and present detailed information. The budgets presented also contain the information required at a very detailed level. Questions can be raised, though, if the budgets are too detailed as the activity is reported only on the main component level. We believe that in order to follow up activity cost based on the budget thoroughly, information on activity costs and budget should be presented at the same level. Therefore, the budget should be presented on sub-component level (or even only for 3-4 main sub-components under each component). The activity should be registered at the same level, i.e. (main) sub-components.

Reporting on the physical progress appears to be based on the same set up as for the work plans. We have not looked at such reporting in detail but believe there is room for some simplification and standardisation also in this respect. A key principle for such reporting would be to focus on deviations from plans rather than describing progress in detail. The physical progress report should be short and focused, and to the extent possible a one-page format including both physical and financial progress should de applied.

Financial reporting, as already stated, is done at the component level. The figures presented appear to be accurate and consistent. The anticipated total by end June 2000 has been estimated based on reported disbursements for activity January 1998 – December 1999, reported committed activity not yet paid by the end of December 1999 and budgeted activity January 2000 – June 2000. The anticipated total by end June has against this background been estimated at NOK 23.28 million (see Table 5.3).

The anticipated total can also be established in a different way as follows:

Cost Item	NOK million
Total disbursed from NORAD September 99*	19.9
Requested for January 2000 - June 2000	1.8
Technical Assistant paid directly by NORAD	1.5
Anticipated Total by End June 2000	23.2

* Reference is made to programme statement in letter from NORAD of 14 September 1999

The two different ways of establishing the anticipated total activity by end June 2000 give the same result, namely NOK 23.2 million. This is an indication on the accuracy of the registering carried out by CODAP, the high competence of the planning- and programming engineer and the management capabilities of the component co-ordinators. This conclusion is only valid if the committed activity is consistent with the activity carried out by NPRA both invoiced and not yet invoiced.

There seem to be improvements regarding the timely submission of reports. Whereas the Annual Report for FY 1997/98 was dated March 1999, the Annual

Report for FY 1998/99 was dated October 1999. Annual Reports should be submitted in September according to the agreement. There is consequently still some room for further improvements. The last Annual Meeting was held in February 1999 as stated in the agreement and The Annual Meeting Documents were prepared on schedule. The audit report for FY 1997/98 was dated September. For FY 1998/99 the audit report was completed by the resident auditor and submitted to the auditor general for signature by early February 2000.

For reporting on the actual activity carried out, disbursements this period have to be corrected with the figures for committed activity by the end of previous month and the committed activity by the end of the reported period. This information is not registered and requires that the component co-ordinator is fully updated and has a good overview of the activity taking place within the component. Discrepancies between the invoice and the approved amount of the invoice, will not be registered and will lead to differences between the actual activity carried out and the cost registered. Invoices not being approved have, however, not been a problem so far. Invoices from NPRA cover quarters not compatible with Tanzanian financial year and this causes small discrepancies between the reported activity and the actual activity.

The reports are very extensive and not easily accessible. They are based on use of complicated terminology and many different sources of information. They can easily be simplified by reducing the number of tables included and by focusing on the deviations from the budget on the one hand, and the disbursements made from NORAD and from CODAP compared to bank account statements on the other hand.

Budgets for the programme period each FY refer to agreed budgets. For additional information, actual activity can be shown.

Budgets and reports on disbursements broken down on components seem not to be relevant information for reporting, unless there is a clearly expressed need for controlling which components have slow disbursements.

The Annual Report for FY 1998/99 is very extensive, including also all bank account statements. For financial information it should suffice to show only 3-4 tables. One table showing the activity carried out (expenditures) compared to the budget for the period in separate columns for GoT, C- and D-funds and distributed on (main) sub-components. Additional information could include number of hours for NPRA staff by sub-components.

For C-and D-funds, information on balance by the end of the previous period (referred to as uncommitted balance in present reports), disbursements from NORAD, disbursements from CODAP and balance by the end of the current period should also be included. These figures could be shown in total and not for each component. The balances must be in accordance with the bank statements for the actual periods. This overview should be shown for C-and D-funds separately, though for the C-funds disbursements will equal activity (expenditures).

The report should also contain information on invoices not yet paid in total per quarter. Finally, the agreed budget for the programme period GoT, C-and D-funds should be included.

It is considered highly important that the CODAP system remains transparent and accessible for review by relevant parties.

7.5 Conclusions

The work plans and related budgets are very well described and are basically following the same set up for all the components. Component co-ordinators seem to have a good overview of the activity carried out on their component.

Registering of disbursements for C- and D-funds are thoroughly carried out by CODAP. The reported figures seem correct and all the relevant documents are filed and accessible. The procedures in CODAP regarding disbursements on the two accounts seem secure.

The rate of disbursements has improved considerably for TAN 045 as compared to TAN 080. The process takes some 3 months from the time invoice is issued until payment is received. Still, there is room for some improvement in this respect.

The reporting also seems to have caught up and is now more or less in accordance with the requirements stated in the agreement. The reporting is extensive. All the information required is reported. The reports should be shortened and focus on the relevant information. This would hence make them much more accessible.

Invoices are not registered. In order to get the necessary input for calculating the activity, disbursements during the report period have to be corrected with committed by the end of previous month and committed by the end of the reported period. This can only be done if all component co-ordinators have very good overview of the activities carried out under their component.

NPRA uses quarters that differ from the Tanzanian fiscal year. This causes unnecessary differences between actual activity and reported activity.

CODAP has not implemented the financial management system, Platinum, which shall be used in all government ministries and which now is being implemented in 6 ministries, among them the MoW. At this stage of implementation the focus is on cash flow/disbursements between the Treasury and the ministries. We have understood that a module for project management exists in Platinum but has not been considered for implementing. CODAP is not likely to implement Platinum, rather to develop another software programme for financial management. This matter should, however, be reconsidered further by the office and its users and the World Bank may be willing to support the use of Platinum in CODAP.

Proper and efficient reporting and following up of activities based on the budget is subject to the application of a project management module. For TAN 045, where the programme expires in about two years, we do not recommend spending money on developing such a system or even to implement the project management module in Platinum. The benefits for the remaining programme period would hardly exceed the costs. It is, however, of particular importance that a project based management system is included when the new system for TanRoads is specified.

For the remaining period of TAN 045, we recommend to continue the existing procedures with some minor changes for registering and reporting. As a consequence the budget on Component 2 for developing a financial management system, can be re-allocated to other purposes. A small amount should, however, be set aside to allow for limited support if required for streamlining the set up of the reports as recommended below.

7.6 Recommendations

In order to simplify the reports and make them more accessible, we recommend some minor changes. These include the measures identified above aimed at reducing the work in connection with reporting, highlighting consistency, registration of invoices and defining actual activity in accordance with the amounts invoiced. This applies primarily to D-fund activities. The following recommendations in this respect are made:

- Register all invoices in CODAP (or another service unit). Define the actual activity as amount invoiced. This will enable CODAP to provide instant input to the planning- and programming engineer on both activity and disbursements. It is recommended that CODAP be responsible for following up the component co-ordinators if invoices have not been approved within a defined time limit which should correspond with the time limit set for Invoices from NPRA, i.e. 30 days.
- Invoices and reports about activity should have reference to the period the activity has taken place and should be registered according to that.
- NPRA should change invoice quarters to Tanzanian quarters (i.e. that the first quarter is 1 July to 30 September)
- ILO should submit a semi-annual status report on activities carried out, following the reporting schedule required by NORAD. The report should be broken down on sub-components
- For C-funds, actual pay out corresponds fairly well to activity performed. Activity on C-funds should be registered by sub-component
- The reported activity and the budget should have the same level of details. Sub-components or possibly main sub-component would be sufficient.
- Reports should be shortened and focussed as described in Section 8.4 in order to make the financial information more accessible
- Funds allocated for a new financial management system under Component 2 should be reallocated to some other purposes. A small amount should, however, be set aside to allow for limited support, if required, in implementing these recommendations. It is considered very important to include a project management component in the new system to be developed for TanRoads

- All procedures concerning registering of invoices and disbursements should be documented properly. Time limits for the various operations and responsibilities for follow up should be defined. Documentation of procedures is of special importance because of the high turn over of staff. Such documentation will also be of help in auditing, because it will facilitate checking that procedures are adhered to.

8 Further Need for Institutional Support

This chapter summarises the need for further institutional support to development of the road sector in Tanzania as related to the current TAN 045 Road Sector Programme (RSP). The starting point is a review of priorities for institutional support during the remaining two years of the current programme in the following Section. Subsequently, in Section 8.2, we discuss the need for support beyond the current programme.

8.1 A Basis for Continued Support

The establishing of the new roads agency TanRoads, now scheduled for July 2000, is a major step towards a more efficient organisation of road management in Tanzania, see Chapter 3. It is well in line with international and SADC recommendations for road sector reform, and fairly advanced compared to what is being implemented in other countries in the SADC-region. TanRoads will not only provide a much better basis for development of the road sector, but also a much more solid platform for donor support in future. When TanRoads becomes operational in the second half of this year, it will be a good first step in the road sector reform process and all parties, including donors, should have an interest in its success. Activities related to improvements of road sector management, including both development and maintenance of roads as well as administrative routines, should consequently be supported as much as possible during the remaining period and beyond. These would e.g. be activities such as management training for TanRoads staff and development of a proper maintenance management system for TanRoads. Efforts should be made to have the Maintenance Management system fully implemented as outlined in the Programme Document of April 1997 within the TAN 045 programme period.

Against the above background, there are strong reasons for further support to the road sector as soon as possible. Others, in particular the European Union (EU) and Switzerland has already pledged to continue and increase their support to development of the sector. The EU will initially finance the services of a consultant who will work jointly with the TanRoads Core Team during the transition period up to June 2000. The consultant is expected to provide expertise that may be lacking in the Core Team. In addition, the consultant will be required to design a programme of institutional support to the Road Fund Board, TanRoads, Local Government and the new Ministry of Works. This programme, which should be available by June 2000, is expected to provide the basis for donor

funding as required for continued institutional support. It will also provide guidance for setting priorities for the final stages of the current RSP.

8.2 Completion of the Current Programme

A major part of the work carried out in the first two-year period of the current programme has been necessary preparations for improvement of basic conditions in the road sector, such as preparing technical manuals, setting up an accident recording system and introducing an axle load control programme. The second part of the RSP should, therefore, emphasise institutional support to the implementation and the use of what has been prepared in the first period in order to see effects and impacts of the resources spent. Some of this implementation can be carried out within the remaining two years programme period. Other parts will, however, require longer time to be implemented and will thus have to be continued beyond the time perspective and possibly also the budget of the current programme, see Section 8.3 below.

Highly relevant and urgently needed activities within Components 1 and 3, namely management training for TanRoads staff and development of a proper maintenance management system for TanRoads, have been mentioned in Section 8.1 above.

Reporting and administrative routines should be simplified according to the recommendations in Chapter 7. This will not require major changes or developing of new systems and could possibly be done by the MoW and CODAP. If there is need for some outside support, a minor budget allocation should be made for this purpose. Otherwise there is hardly any need for further activity within the Financial Management Component at this stage, and the budgeted amount of NOK 2 million can be reallocated to other components.

Effective axle load control is a pre-condition for avoiding unnecessary damage to the roads. Approval of the proposed Axle Load Programme and implementation of the various activities in this programme is of crucial importance. TanRoads is likely to be able to take care of the axle load control properly, once the axle load control programme is approved and the pertinent amendments to Road Traffic Act have been made.

An up-to-date Road Traffic Act is the basis for efficient axle load control as well as for road safety work. The amending of the Road Traffic Act and the approval of the Road Safety Programme should be given high priority in the remaining programme period. Efforts may be needed to stimulate the relevant political processes.

With increasing road traffic, the number of road accidents, fatalities and injuries will increase unless effective road accident countermeasures are implemented. Extensive efforts have been made in preparatory road safety work. The next step should be focused implementation of actual road accident countermeasures, such as traffic engineering measures and increased enforcement combined with information campaigns. This should be carried out as pilot or demonstration

projects and the effects of these projects should be communicated effectively to the public at large as well as to the politicians and decision-makers concerned.

For the Bridge Management Component, comprehensive training on TAN-BRIDGEMAN, computerisation of the remaining regions and preparation of Bridge Design Codes of Practice for Tanzania should be emphasised in the remaining programme period.

The future success of labour-based technology (LBT) as advocated by the Appropriate Technology Advisory and Training Component depends on the actual application of such technology and work methods in road maintenance and construction in Tanzania. Effort should be made, in the remaining programme period, to ensure that LBT is given more room in projects funded by the Road Fund in order to reach the targeted 30 per cent of annual budgets.

Several functions, such as the road workshops, the CML and to some extent road safety, need to find proper positions and partly new roles within the new organisation structure of the road sector in Tanzania. There is consequently an urgent need for identifying realistic institutional and organisational set-up options for these functions in the light of TanRoads. Against this background business strategies should be developed for at least the regional road workshops and the CML. This could be done within the Management and Organisational Development Component.

The current RSP budget includes an unallocated amount of NOK 3.35 million. In addition to that, NOK 2.0 million allocated to Component 2 can be used for other purposes. Further, it seems that the amount budgeted to Miscellaneous Support can be reduced at this late stage of the programme, say from NOK 0.4 million to NOK 0.25 million. Against this background, about NOK 5.5 million will be available for allocation to other components. Such reallocation should be seen in the light of the above observations on priorities within the various components and the need for institutional support to TanRoads as being identified during the transition period.

8.3 Continuation beyond the Current Programme

It appears that there will be a need for continued institutional support beyond the time perspective of the current programme. Some of the activities described in Section 8.2 above could take more time and there could be a good case for continued support. Further, the EU funded support to TanRoads during the transition period (see Section 8.1) may identify areas for institutional support with a longer time perspective. Identification of areas for possible continued support cannot be done in detail in a meaningful way at this stage. It will depend on a number of unknown factors, among them the priorities for completion of the current programme and the contents of the EU funded programme of institutional support to the sector. There are, however, some areas where it seems likely that there will be a need for continued institutional support. They are outlined below.

It is anticipated that beyond the current programme, there will also be continuos need for institutional support to the sector within management and organisational

development and maintenance management. This could become a focal point for continued Norwegian support.

Within road safety, there may be a need for continued institutional support to various activities beyond the current programme. The vehicle inspection system should be implemented gradually, starting with commercial vehicles. Traffic engineering measures should be implemented on a larger scale, based on the experience from the pilot projects proposed above, and the combination of enforcement and information should be continued until serious traffic offences have been reduced to an acceptably low level.

Some of the remaining activities for the Bridge Management Component may also fall beyond the perspective of the current programme. This may apply to preparation of Substructures Design Manuals for small structures and installation of CAD.

When the Central Materials Laboratory has found its place within the new organisation of road administration in Tanzania, areas of future co-operation and institutional support should be identified. They may include training of engineers, continuation of the pavement monitoring and further updating of the library.

9 Main Conclusions and Recommendations

This chapter summarises the main conclusions in the first section. Following that, key recommendations appear in Section 9.2.

9.1 Conclusions

The institutional reform process in the road sector in Tanzania has come a long way, even in an international and regional (SADC) perspective. The TanRoads scheduled for operation by July 2000, will provide a strong new platform for the remaining programme activities and is likely to improve the chances of a successful termination of the current TAN 045 Road Sector Programme (RSP). All parties, including donors, would have an interest in its success, and there are good reasons for further institutional support to the road sector as soon as TanRoads becomes operational. Several functions included in the RSP, such as the road workshops, the Central Materials Laboratory (CML) and to some extent road safety, need to find their proper and partly new roles within the new organisational structure for road sector.

Programme running well – mostly preparatory Work so far

The programme is generally running well, and considerable achievements have been made in several programme components. As can be expected, a major share of the activities during the first half of the programme period has been of a preparatory character. Consequently, considerable effects of the programme remain to be seen. Extensive effects and impacts cannot be expected at the mid-term of the programme.

Variation between Components

There is great variation between the eight technical components as to progress and achievements. Most successful in meeting the objectives so far, is Component 7 Equipment Management, which is considered having a clear impact on the management and financial sustainability of the regional workshops. Component 4 Road Safety and Axle Load Control, Component 5 Bridge Management, Component 6 Central Materials Laboratory Management and Component 8 Appropriate Technology Project have started to take effect. Component 1 Management and Organisational Development, Component 2 Financial

Management System and Component 3 Maintenance have made only marginal or no progress so far.

Too wide Range of Activities

Several components such as Road Safety and Axle Load Control have started a wide range of activities. A clearer priority between activities and emphasis on activities likely to produce significant effects also in a shorter time perspective would have improved the results.

Relevance, Effectiveness and Sustainability

The overall objectives of the programme as well as the component objectives are considered relevant to the general road and road traffic situation in Tanzania.

One technical component (No. 7) can be considered having achieved full effectiveness and four more components (Nos. 4, 5, 6 and 8) have started to take effect. This result should be acceptable, considering the fact that only half the programme period has been completed.

For the overall programme, sustainability cannot be considered achieved as yet, but several components are moving towards sustainability. Such a situation, is considered acceptable at mid-term of the programme if serious efforts to create sustainability are made in the remaining period.

Financial Progress

By December 1999 approximately 50 per cent of the NORAD funds were spent. By June 1999 approximately 30 per cent of the GoT funds were spent. Adding another half year to the GoT funds, to make it comparable to the NORAD funds, an estimated 40 per cent of the GoT funds would be spent by December 1999. This means that the financial progress of the GoT funds is somewhat slower than that of the NORAD funds.

The current NORAD budget allows for approximately NOK 5.5 million to be allocated or reallocated for other components than indicated in the initial budget.

Institutional Co-operation

The institutional co-operation between MoW and NPRA has been useful in building up the capacity of the ministry. MoW staff have found it easier to deal with NPRA, than in dealing with a consultant, because they relate to only one institution and more of less the same individuals. This ensures better continuity for the project. The relationship between the advisers and MoW staff has been amicable and beneficial to both parties.

Reporting and Administrative Routines

The reporting and the rate of disbursements have improved considerably for the current programme (TAN 045) as compared to the previous (TAN 080). Still, some 3 months pass from the time the invoice is issued until payment is received, and there is consequently room for further improvement. The reporting is now more or less in accordance with the requirements stated in the agreement. The reports should, however, be shortened and more focussed, and some routines need fine-tuning.

Further Needs for Institutional Support

A number of activities are considered needing further support, some in the current programme and some beyond the programme. Implementation of those activities prepared in the first part of the programme is needed in the remaining programme period. TanRoads is expected to provide shortly, through a technical advisory project funded by the EU, a framework for continued support to the sector at all levels.

9.2 Recommendations

Continue, emphasising Implementation and supporting TanRoads

The programme should be continued in order to obtain the expected effects of the various preparations made in the first part. Emphasis should be put on implementation of these activities and supporting TanRoads in road sector management. In the latter respect, management and organisational development including training of staff and improvements of maintenance management systems appear particularly relevant at this stage.

Concentrate efforts to fewer Activities within each Component

Within each component, priorities should be made for activities expected to have high effects. Efforts should be concentrated on these activities.

Maintenance Management must be emphasised

Efforts should be made to have the maintenance management system fully implemented within TanRoads during the second half programme period.

Amending the Road Traffic Act and Approval of Programme

The proposed amendments to the Road Traffic Act should be given high priority. Efforts should be made to secure that the Road Safety Programme and the Axle

Load Control Programme are approved as soon as possible to stimulate effective road safety activities and axle load control.

Demonstrate Effects of Road Safety Measures

Effective road safety measures such as traffic engineering and enforcement combined with information campaigns should be implemented as pilot projects. The results of these projects should be communicated effectively to the public at large and to decision-makers.

Strategies for Road Workshops, CML and Road Safety

Realistic institutional and organisational options for the road workshops, Central Materials Laboratory (CML) and to some extent road safety should be identified. Business strategies for the road workshops and the CML, which can be developed within the Management and Organisational Development Component, should be defined as soon as possible.

Implementation of TAN-BRIDGEMAN

Comprehensive training on the new bridge management system and computerisation of the remaining regions should be emphasised in the remaining programme period. Preparation of Bridge Management Codes of Practice should be made in the period.

Increase Use of Labour-based Technology

The future success of labour-based technology depends on its actual use in road maintenance and construction. Effort should be made, in the remaining programme period, to ensure that this technology is given more room in projects funded by the Road Fund in order to reach the targeted 30 per cent of annual budgets.

More frequent Visits and more Communication between Visits

To stimulate the implementation of programme activities more frequent visits by the NPRA technical advisers should be considered and frequent communication between visits should be carried out.

Simplify Reporting and Administrative Routines

The present reporting and administrative routines should be continued and some minor modifications and simplifications should be introduced for the remaining programme period. Invoices should be registered and follow-up routines should be introduced to simplify reporting and ensure that invoices are paid in time.

Annexes

1 Terms of Reference
2 List of People met in Tanzania and Norway
3 References
4 Financial Tables

Annex 1

Terms of Reference

Review of:

TAN 045 Road Sector Programme

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1 Background

NORAD assistance to the road sector in Tanzania started with construction and maintenance of about 420 km of gravel roads in the districts of Rungwe and Lushoto in the period from 1972 to 1978 under TAN 010 Road Betterment Agreement. NORAD contributed about NOK 40 million.

In the succeeding agreement, TAN 036 Rural Roads Maintenance, the main objective was strengthening of REOs and Administration in Tanga and Mbeya regions. This resulted in improved planning, budgeting and implementation of maintenance. A new organisational structure for the REOs was established on pilot basis in Tanga and Mbeya. Main features of this structure were incorporated in the new organisational structure that was implemented in 1990 for all the REOs in the country. Also a number of regional roads were upgraded to gravel standard. NORAD contributed about 300 million NOK during the period form 1979 to 1990.

NORAD has also given considerable support to rehabilitation of a number of roads within the IRP context amounting to NOK 380 million. NORAD is currently considering other rehabilitation projects among them rehabilitation of Songwe – Tunduma.

The TAN 080 Road Sector Programme agreement was signed in may 1991 within the context of IRP. The programme focused more on institutional strengthening through institutional co-operation and less on physical maintenance and rehabilitation of roads. The programme was intended for four years, but was extended up to mid 1997 due to slow progress of some components and because funds from NORAD was put in abeyance awaiting audit reports. Committed funds from NORAD were 140 million NOK.

A new road Sector Support Programme TAN 045 was signed in February 1998. The new road sector programme is a part of IRP and as such a continuation of TAN 080. The assistance is to an even larger extent focused on institutional strengthening and co-operation and less emphasis on physical maintenance and rehabilitation. The technical assistance and financial support to Tanga and Mbeya

Regions were terminated as they were assessed to be strong enough to be left alone.

TAN 045 consist of the following components:

Component 1:	Management and organisational development
Component 2:	Financial management system
Component 3:	Maintenance management
Component 4:	Road Safety and Axle Load Control
Component 5:	Bridge Management
Component 6:	Central Material Laboratory
Component 7:	Equipment Management
Component 8:	Appropriate Technology, Advisory and Training Project
Component 9:	Miscellaneous Support
Component 10:	Program Administration

The purpose of the programme is to increase the competence and efficiency in road administration.

2 Purpose

In the agreement it is stated that an independent programme review will be carried out half way through the programme. The review shall assess the achievements compared to the programme objectives, assess sustainability and provide recommendations for a possible continuation of the support.

3 Scope of work

Specific issues to be covered:

An analysis of the efficiency and effectiveness of the programme. This includes an assessment of the implementation in relation to plans and the results achieved by all the components related to the resources made available. It should also assess whether the resources provided by all parties were according to plan. A list of all reports and documentation produced should be worked out with a general quality assessment.

An analysis of the relevance of the goal and purpose of the programme and to what extend the programme is likely to achieve its purpose, including an analysis of the processes that have facilitated or prevented this.

An assessment of the possible sustainability of the programme, to what extend it is likely that Tanzania will continue to pursue the purpose of the programme after NORAD has terminated its assistance.

An assessment of the experience and achievements of the institutional co-operation between NPRA and MoW. An assessment of the experiences with technical assistance personnel and an assessment of possible termination of this assistance.

An assessment of the impact of the programme and its different components and in particular the three major components namely Traffic Safety and Axle Load Control, Support to Central Materials Laboratory and the development of a Bridge Management System.

Road Workshop, visit plus assessment of relevance and sustainability.

A presentation and review of the actual expenditures for the different components compared to approved budget allocations. Existing financial and administrative routines and procedures should be assessed. Annual reports, format and possible improvement i.e. do they reflect the actual progress and funds allocation compared with plans and budgets.

An assessment of the feasibility of labour-based road construction and maintenance as an integrated part of mainstream MoW funding. The impact of the road programme on employment generation.

Other relevant issues as identified by the Tea

Based on the above findings the team should outline their recommendations regarding the present programme, but also regarding possible future support to institutional development within the Road Sector in Tanzania. The recommendation should take into consideration other ongoing activities of the Government within the IRP programme and CSRP (Civil Service Reform Programme).

4 Implementation

The Team shall, consist of one Team Leader (Civil Engineer), One Traffic Safety Specialist, a one week participation of an accounting/budgeting expert and one local Consultant identified and contracted by Ministry of Works.

Team leader;	Henning Lauridsen, Chief Research Officer, Institute of Transport Economics, Oslo, Norway
Traffic safety expert;	Terje Yngvar Assum, Senior Research Officer, Department of Safety and Environment, Institute of Transport Economics, Oslo, Norway
Local consultant;	To be appointed
Accounting/budgeting expert;	Sønneve Ølnes, Director of Finance and Administration, Institute of Transport Economics, Oslo, Norway

Preparation work of the Norwegian members of the Team start in Oslo during week 2 2000. The Team's work in Tanzania starts Thursday 20 January 2000. The Team is planned to work approximately three and a half week in Tanzania to carry out the required meetings, interviews and field visits and to prepare a draft final report. The draft final report is planned to be delivered to the Norwegian Embassy Monday 14 February 2000.

One vehicle with a driver will be provided by the Embassy.

The Embassy and the Government of Tanzania shall assist the Team in preparing a schedule of meetings, acquiring information and make available all necessary reports, data and documentation.

5 Reporting

The draft final report is planned to be delivered to the Norwegian Embassy Monday 14 February 2000.

The report should have an introduction, executive summary, main text and a presentation of major findings, conclusions and recommendations.

A final report shall be completed within 2 weeks after receiving comments from NORAD, MoW and NPRA.

The report shall present the views, findings and recommendations of the Team, and shall not be binding for either the Tanzanian nor the Norwegian Government.

Annex 2

List of People met in Tanzania and Norway

1. In Tanzania

Ministry of Works

Mr. S. Odunga, Permanent Secretary
Mr. J. L. Ngumbulu, Director Trunk Roads Division
Mr. J. W. Kijazi, Director Rural Roads Division
Mr. Patrick A. L. Mfugale, Chief Engineer Bridges
Mr. E. R. Mollel, Engineer Bridges
Mr. Cuthbert Chiduo, Ag. Chief Engineer Road Safety Unit
Mr. Leopold Lwajabe, Planning and Programming Engineer Road Safety Unit
Mr. A. Gamba, Leader of Agency Implementation Team
Mr. J. E. Shayo, Engineer Agency Implementation Team
Mr. Gudmund Nilsen, TA Agency Implementation Team
Mr. D. J. Mariki, Ag. Chief Materials Engineer – Central Materials Laboratory
Mr. M. Besta, Materials Engineer - Central Materials Laboratory
Mr. A. S. Idabaga, Materials Engineer - Central Materials Laboratory
Mr. S. Sasilo, Senior Engineer Maintenance Trunk Roads
Mr. I. Kirway, Engineer Maintenance
Mr. R. M. Lwakatare, Engineer Maintenance
Mr. Richard Mutagurwa, Mechanical Engineer
Mr. L. Kyombo, Senior Engineer, Appropriate Technology Unit
Ms. U. L. Msengesi. Project Engineer, Appropriate Technology Unit
Mr. Godfrey Kyabula, Ag. Chief Accountant
Mr. Mike Mmbaga, Programmer Platinum Software
Mr. Y. N. Shitindi, Projet Co-ordinator CODAP
Mr. Bakari Sam Msuya, Accountant in Charge CODAP

Office of the Controller and Auditor General

Mr. D. C. F. Kitauli, Resident Auditor in Ministry of Works

National Institute of Transport

Mr. R.M.S. Sawaka, Head of Transport Operations Department
Mr. Henry Kunjyatila,
Mr. Kaimukilwa,
Mr. Hosseah

Tanzania Truck Owners Association

Mr. S. A. Seif, Chairman

Traffic Police

Mr. Luther J. Mbuttu, Commanding Officer, Traffic Police Headquarters

Royal Norwegian Embassy

Mr. Gunnar Føreland, Minister Counsellor
Mr. Arne Olsen, First Secretary

Delegation of the European Commission

Mr. Alexander Baum, First Secretary

Swiss Agency for Development and Cooperation

Mr. Niklaus Zingg, Counsellor

World Bank

Mr. Rakesh Nangia

Norwegian Public Roads Administration Team

Mr. Bjørn Kåre Steinset, Road Safety Adviser
Mr. Charles Øverby, Pavement/Materials Adviser

2. In Norway

NORAD - Norwegian Agency for Development Cooperation

Mr. Lasse Nymoen, Ag. Assistant Director
Mr. Ørnulf Strøm, Adviser
Ms. Ragna Fidjestøl, Adviser

Norwegian Public Roads Administration

Mr. Harald Julsrud, Head of International Division
Mr. Petter Koren, Senior Engineer, Country Co-ordinator Tanzania
Mr. Wilhelm B. Klaveness, Senior Engineer
Mr. Odd Rønnestad, Senior Engineer
Ms. Gunn Enge, Accountant

Annex 3

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Table 1 : Budget and Actual Cost FY 1997/98 and FY 1998/99. Million.

Componets	FY 1997/98 2)									FY 1998/99 3)								
	NORAD						GoT			NORAD						GoT		
	Budget		Actual		Act/Bud %		Budget	Actual	Act/Bud	Budget		Actual		Act/Bud %		Budget	Actual	Act/Bud
	C-FUND TZS	D-FUND NOK	C-FUND TZS	D-FUND NOK 1)	C-FUND	D-FUND	TZS	TZS	%	C-FUND TZS	D-FUND NOK	C-FUND TZS	D-FUND NOK 1)	C-FUND	D-FUND	TZS	TZS	%
1 - Management and Organisational Development	2.0	0.460	0.0	0.269	0	58	1.0	0.0	0	20.0	1.140	16.6	0.842	83	74	15.0	4.0	27
2 - Financial Management System	10.0	0.000	0.0	0.000	0	0	2.0	0.0	0	150.0	0.000	0.0	0.000	0	0	5.0	0.0	0
3 - Maintenance Management	0.0	0.150	0.0	0.000	0	0	1.0	0.0	0	6.0	0.300	0.0	0.039	0	13	5.0	0.0	0
4 - Road Safety and Axle Load Control Programme	77.0	0.945	0.0	0.887	0	94	63.0	27.6	44	120.5	1.155	89.4	0.924	74	80	125.0	205.0	164
5 - Bridge Management	0.0	1.170	0.0	1.155	0	99	836.0	386.1	46	0.0	1.485	0.0	1.371	0	92	2 514.0	1 155.3	46
6 - Central Materials Laboratory	15.6	2.060	6.4	2.059	41	100	33.0	34.1	103	29.6	4.778	21.8	3.677	74	77	53.0	29.6	56
7 - Equipment Management	10.0	0.555	8.0	0.468	80	84	11.0	7.0	64	14.0	1.480	5.8	0.872	41	59	14.0	3.1	22
8 - Appropriate Technology Advisory and Training Project 4)	20.0	0.500	18.0	0.000	90	0	85.0	28.5	34	3.0	0.405	2.7	0.945	90	233	262.0	135.2	52
9 - Miscellaneous Support	5.0	0.000	0.0	0.000	0	0	5.0	0.0	0	0.0	0.080	0.0	0.000	0	0	0.0	0.0	0
10 - Programme Administration	0.0	0.360	0.0	0.393	0	109	0.0	0.0	0	0.0	0.526	0.0	0.446	0	85	10.0	0.0	0
Total	**139.6**	**6.200**	**32.4**	**5.231**	**23**	**84**	**1 037.0**	**483.3**	**47**	**343.1**	**11.349**	**136.3**	**9.116**	**40**	**80**	**3 003.0**	**1 532.2**	**51**

1) Including TA

2) Based on Table 3 from Annual Report FY 1997/98

3) Based on Table 3 from Annual Report FY 1998/99

4) Including additional disbursement of NOK 0.200 million. No activity took place in FY 1997/98. It is therefore more relevant to see the budget for the two financial years 1997/98 and 1998/99 in total when activity is compared with budget. The activity is 104 per cent of the total budget for the two years.

Table 2 : Budget and Actual Cost for July - December 1999. Million.

Componets	NORAD						GoT 4)		
	Budget 2)		Actual Cost 3)		Actual/Budget %		Budget	Actual	Act/Bud%
	C-FUND TZS	D-FUND NOK 1)	C-FUND TZS	D-FUND NOK 1)	C-FUND	D-FUND	TZS	TZS	
1 - Management and Organisational Development	18.0	0.450	3.0	0.413	17	92			
2 - Financial Management System	0.0	0.000	0.0	0.000	0	0			
3 - Maintenance Management	2.0	0.100	2.0	0.003	100	3			
4 - Road Safety and Axle Load Control Programme	64.9	0.460	42.1	0.141	65	31			
5 - Bridge Management	0.0	0.165	0.0	0.056	0	34			
6 - Central Materials Laboratory	14.9	1.440	1.7	0.599	11	42			
7 - Equipment Management	7.0	0.465	4.3	0.427	61	92			
8 - Appropriate Technology Advisory and Training Project	9.0	0.235	9.0	0.000	100	0			
9 - Miscellaneous Support	0.0	0.000	0.0	0.000	0	0			
10 - Programme Administration	0.5	0.210	0.0	0.042	0	20			
Total	**116.3**	**3.525**	**62.1**	**1.681**	**53**	**48**			

1) Including TA

2) From Table 1 of Tan 045 Request for Disbursment of NORAD Funds for July - December, 1999

3) From Table 3 of Tan 045 Request for Disbursment of NORAD Funds for January - June 2000; and Total Disbursments and Committments minus Committed from Table 3 of Tan 045 Request for Disbursement of NORAD funds for July- December 1999.

4) GoT is only reported annually, both on budgets and activity in the reports we have seen.

Table 3 : Total Budget and Actual Cost, January 1998 - December 1999. Anticipated Cost, and estimated Remainder by End June 2000. Million.

Components	Jan 1998 - Dec 1999						Jan 2000 - Jun 2000		Jan 1998 - Jun 2000	Programm	Performed/	Remainder
	Budget		Actual		Act in % of Bud		Budget 2)		Anticipated Cost 3)	Budget 4)	Progr. Budg	
	C-FUND TZS	D-FUND NOK	C-FUND TZS	D-FUND NOK 1)	C-FUND	D-FUND	C-FUND TZS	D-FUND NOK 1)	C- & D-FUNDS NOK	NOK	%	NOK
1 - Management and Organisational Development	40.0	2.050	19.6	1.524	49	74	28.0	0.580	2.633	3.500	75	0.867
2 - Financial Management System	160.0	0.000	0.0	0.000	0	0	0.0	0.000	0.000	2.000	0	2.000
3 - Maintenance Management	8.0	0.550	2.0	0.042	25	8	0.0	0.000	0.064	1.300	5	1.236
4 - Road Safety and Axle Load Control Programme	262.4	2.560	131.5	1.952	50	76	56.1	0.420	4.456	5.000	89	0.544
5 - Bridge Management	0.0	2.820	0.0	2.582	0	92	0.0	0.340	2.922	4.000	73	1.078
6 - Central Materials Laboratory	60.1	8.278	29.9	6.335	50	77	26.7	1.182	8.146	9.000	91	0.854
7 - Equipment Management	31.0	2.500	18.1	1.767	58	71	4.0	0.246	2.259	2.850	79	0.591
8 - Appropriate Technology Advisory and Training Pr	32.0	1.140	29.7	0.945	93	83	13.3	0.235	1.658	1.800	92	0.142
9 - Miscellaneous Support	5.0	0.080	0.0	0.000	0	0	0.0	0.000	0.000	0.400	0	0.400
10 - Programme Administration	0.5	1.096	0.0	0.881	0	80	0.5	0.260	1.147	1.800	64	0.653
Unallocated	0.0	0.000	0.0	0.000	0	0	0.0	0.000	0.000	3.350	0	3.350
Total	**599.0**	**21.074**	**230.8**	**16.028**	**39**	**76**	**128.6**	**3.263**	**23.284**	**35.000**	**67**	**11.716**

1) Including TA

2) From Table 1 of Tan 045 Request for Disbursement of NORAD funds for January -June 2000, plus TA

3) Anticipated Cost defined as Actual Cost Jan 1998 - Dec1999 plus Budget Jan 2000 - June 2000. NOK 1=TZS= 90.

4) According to Revised Budget, Table 3 Total, from Agreed Minutes from the third Annual Meeting March -99