Sida Evaluation 00/25

Feeder Roads Program, Mozambique

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Department for Infrastructure and Economic Cooperation

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Sida Evaluation 00/25
Commissioned by Sida, Department for Infrastructure and Economic Cooperation

Registration No.: INEC 1995-0296
Date of Final Report: July, 2000
Printed in Stockholm, Sweden 2000
ISBN 91 586 8867 6
ISSN 1401–0402

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List of Acronyms and Abbreviations

ADRA	Adventist Development and Relief Agency
ANE	National Road Administration
Asdi	Swedish International Development Cooperation Agency
ASIST	Advisory Support Information Services & Training (ILO Project)
CFE	Centro de Formacao de Estradas (in Chimoio)
CMU	Core Management Unit
CTA	Chief Technical Advisor
DETs	Divisoes de Estradas Terciarias (in ECMEPs; previously DEDs)
DEN	National Roads Directorate (in ANE)
DEP	Provincial Department of Roads and Bridges
DER	Regional Roads Directorate (in ANE)
DDOPH	District Directorate of Public Works and Housing
DFID	Department of International Development (UK; previously ODA)
DINAGECA	National Directorate of Geography and Cadastre
DNEP	National Directorate of Roads and Bridges (the predecessor of ANE)
DPOPH	Provincial Directorate of Public Works and Housing
ECMEP	Provincial Enterprise for Construction and Maintenance of Roads and Bridges
EU	European Union
FE	Road Fund (in ANE)
FG	Full Gravelling
FRP	Feeder Roads Programme
GOM	Government of Mozambique
GSG	Gender Support Group
GTZ	Gesellschaft für Technische Zusammenarbeit
IDA	International Development Association
IFAD	International Fund for Agricultural Development
ILO	International Labour Organisation
INAV	Instituto Nacional de Viacao – National Traffic Institute
KfW	Kreditanstalt für Wiederaufbau
LCB	Local Competitive Bidding
MPF	Ministry of Planning and Finance
MOPH	Ministry of Public Works and Housing
MTC	Ministry of Transport and Communications
MINEC	Ministry of Economics and Cooperation
MT	Meticais (unit of currency)
NGO	Non-governmental Organisation
PG	Partial Gravelling
PGA Unit	Poverty, Gender and Aids Prevention Unit

RET	Reparticao de Estradas Terciarias (predecessor to SET; in DNEP)
ROCS	Roads and Coastal Shipping Project
RMTA	Regional Maintenance and Training Advisor
RTA	Regional Technical Advisor
SCF	Save the Children Fund
SEK	Swedish Crowns
SET	Seccao Estradas Terciarias (in DER)
SI	Spot Improvement
STD	Sexually Transmitted Diseases
TA	Technical Assistance
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNV	United Nations Volunteer
USAID	United States Agency for International Development
USD	United States Dollar
WB	World Bank
WFP	World Food Programme

Executive summary

General

The international community has since 1981 provided external assistance through various projects to develop the capacity of the National Directorate of Roads and Bridges (DNEP) and, as from 1999, its successor, the National Road Administration (ANE) to programme and execute labour-based construction and maintenance of tertiary roads. A nation-wide Feeder Roads Programme (FRP) is being implemented by ANE with technical and financial assistance from a number of international agencies, including UNDP, ILO and Asdi.

The FRP is an integral part of the National Roads Programme, which is being supported through the Roads and Coastal Shipping Projects (ROCS 1 and 2) with the World Bank as the lead agency. The overall objective of the FRP is to directly contribute to improvement of rural access. The first phase of the present support from UNDP and Asdi started in 1992, was evaluated in 1994 and terminated at the end of 1996. The Second Phase was initiated in January 1997 and was initially expected to terminate in December 1999, but has been extended by one year and until the end of the year 2000.

This Final Evaluation Report covers the second phase of support by UNDP and Asdi. There are two main purposes of the Final Evaluation: Firstly "to assess overall achievements of the programme, specifically to ascertain relevance and potential effectiveness of the programme and to assess the impact and effect generated from the programme and what lessons can be drawn on operational, organisational and policy levels", and secondly to analyse future needs for support to the FRP and to make recommendations in this regard.

The Final Evaluation is a joint effort by the Government of Mozambique (GOM) and the two donor agencies, Asdi and UNDP. The findings of, lessons drawn and recommendations made by the Final Evaluation Team are as follows:

Final evaluation: Findings and lessons learnt

Findings: Project Preparation and Design

1. The Project objectives are relevant.

2. However, the Project as designed was not feasible in some respects. Ambitions with respect to institution-building have thus been too high, and conditions and environment have not been conducive to allow objectives to be met with respect to institutional development.

3. A substantial amount of new equipment is being delivered to the ECMEPs /DETs putting emergent private sector operators at a disadvantage. These contractors have not so far been given easy access to their own equipment.

4. The Project is achieving its physical outputs – as formulated in the Project documents – in spite of delays in procurement and recruitment, apparently partly by using available – heavier – equipment.

5. Project appraisal was inadequate as reflected by unrealistic ambitions, lack of equipment needs analysis, lack of sector analysis as well as poor Project documents.

Findings: Efficiency of Project Execution

1. Given the circumstances, the Project has been well managed internally.
2. The Project has played its role vis-à-vis the donor community, and has been effective in supporting and contributing to the co-ordination of assistance to the Feeder Roads Sector
3. Co-ordination between 'ROCS' activities and FRP activities appears to have functioned less well. There has been no jointly developed strategy for how to support the development of the DEPs. The same applies to contractors.
4. Governance has primarily been undertaken through the Mid-term Evaluation and less through donor monitoring.
5. Short term experts in maintenance systems and baseline studies would have been helpful. More backstopping would perhaps also have been useful. But the real emphasis of the Project, as executed, has been on works and much less on 'development' and 'institutions'. The conditions and environment of the Project have not been conducive to higher ambitions.

Findings: Effectiveness of Institutional and Technical Aspects of the Project

1. Technically the rehabilitation and maintenance works have generally been of good standard, and there is no reason why these standards should not be retained in future. Output targets set for the Project are being reached although the number of km of feeder roads under labour-based routine maintenance are lower than hoped for.
2. DETs often suffer now in their position within the ECMEPs, for example with respect to supplies of tools and investment in equipment. There is no guarantee that future ECMEP Directors will fully support labour-based operations. Specific contract conditions may be required.
3. ECMEPs/DETs have been doing good work to date, but there are examples of the unnecessary use of heavy equipment and the concern is that this may increase in the new commercial environment. It is unclear to what extent the ECMEPs/DETs will function profitably in a fully commercial environment.
4. Extensive training has been provided covering all levels for ECMEPs/DETs, but has not focussed on the DEPs (although they have been partially assisted through other consultancies not part of the FRP), thus leading to an imbalance of capability. At present the 'contractor' is in a stronger position than the client, as site supervision is weak.
5. Future position and roles of the DEPs are unclear, and the DEPs are not in a position to embrace commercial contract management. The need will be for experienced engineer/managers who may not be readily available.
6. DER needs to develop systems, procedures, contract documentation, and technical manuals and guidelines in order to fulfil the policy, standards and monitoring role within ANE and vis-à-vis the DEPs.
7. With current reforms, some of the existing role/positions in the CMU/DER will be significantly changed and be less 'hands on', which is what most staff have been trained for.
8. Counterpart situation is now good, and the technology transfer programme (TTP) is a priority. However, TTP system is not appropriate for an institutionalised human resource development within ANE.
9. CFE at Chimoio is weak with staff levels insufficient to go in the 'commercial world'. The established labour-based courses are unlikely to be attractive to profit-motivated contractors.

10. Equipment procurement has been well managed, mechanical support is good and technology transfer has been achieved, and equipment utilisation has steadily increased. Procurement has suffered repeated delays due to a number of factors, outside the immediate control of the Project staff, including, apparently a decision to delay procurement until ANE had fulfilled certain conditions in respect of TA staff.
11. Much of the equipment has arrived late in the Project and some has not yet reached the sites. This will result in nearly new equipment being handed over at the end of the Project. Since the progress does not appear to have been adversely affected the initial equipment needs assessment could be questioned.
12. Private sector development has left out consultants, but a key role is to be played by them in future support to DEPs.

Findings: Impact of the Project

1. The socio-economic impact of the FRP has apparently been generally positive, but the quantitative data to support this impression is not available. Although the project impact objectives appear to have been over-ambitious, the quantitative baseline required to measure these was not carried out. The lack of quantitative baseline information resulted in the unsystematic development of monitoring and evaluation formats to verify the participation of target beneficiary groups aside from women. The effects of the Project on their lives was not followed up, particularly monitoring the dynamics of local roadside recruitment. The advantages of maintaining skilled workers in road brigades were not directly addressed, and subsequently neither were the conditions of contract for longer and shorter term workers.
2. Labour brigade members have acquired skills and income from employment, but the number of beneficiaries could have reached over double if recruitment of labour brigades had occurred more frequently and included more new candidates without previous experience. Brigade members have benefited from reasonable wage incomes, although the impact of this in terms of poverty reduction in the population living around rehabilitated roads is at best marginal.
3. The gender component has positively influenced the participation of women in labour brigades, the number of which rose steadily during the Project period. The installation of provincial Gender Núcleos is improving women's participation and working towards improving working, living and health conditions of brigade workers.
4. The improvement in accessibility between district centres as a result of the FRP is significant. There are evident signs of greater commercial and agricultural development among the people living around the roads since their improvement. However due to the pervasive effects of widespread poverty in the rural areas the majority of road users are still on foot, commerce along the roadsides is very slow in gearing up, and the markets for agricultural produce depend on the availability of scarce and rather

Lessons Learnt: Project

1. Independent and thorough appraisal is necessary.
2. There is a need to ensure that 'projects' are not too diverse in nature (there must be homogeneity in 'culture' within a project).
3. Institution- and capacity-building is a long process. A technical assistance framework can only be expected to achieve limited results.
4. There is a need to ensure an arm's length relationship between the donors and a technical assistance team financed by the donors. The principal of the technical assistance is and should always be the recipient of donor assistance.

Findings and recommendations: Future support

Findings

1. The donor community will continue to be involved in the tertiary (including the non-classified) road sector for many years to come. Donors tend to support contractor development and the execution of road works, but the support is unevenly spread throughout the country. Support offered by DFID in Zambézia and planned by NORAD in Cabo Delgado is, in general, appropriate for developing small-scale private sector operators.

2. The DER is the appropriate framework for supporting donors and the provinces, and for co-ordinating assistance, but DER is an emergent institution, where some foundation has been laid through the Project.

3. The DEPs will remain being the road managers for the tertiary road network. The DEPs are, however, weak and their position has become even more vulnerable through the recent road sector reform. The future of the DEPs must be viewed as uncertain, and any future assistance will therefore have to be carefully assessed with the parties concerned.

4. The successor of ROCS (Estradas3), which will likely be a 10 year road sector programme, is delayed, and will not be finally formulated until well into 2001.

5. The Project comes to an end at the end of 2000. Asdi has indicated its willingness to provide support to the FRP also after the end of 2000.

6. The Road Sector Reform implies that after the end of 2000 it would be inappropriate to use ANE as a vehicle to support private sector (consultants and contractors) development. This also applies to the state-owned entities, including the school in Chimoio.

7. The MOPH is considering the establishment of a separate unit to be responsible for the preparation and management of the reform of the road sector, including with respect to the parastatals, and contractor and consultant development.

Recommendations

1. Donors (Asdi) should provide (new) support to DER to allow it to grow and to handle programming of support to tertiary roads. This support should be phased in by January 2001 to allow for continuity and to capitalise on the outputs of the current Project.

2. The support should be small – it should focus on providing capacity – in view of the current uncertainties with respect to the DEPs and the programme for the next ten years.

3. The core of the support would involve about 5 persons for a period of three years to be based at DER, but would also provide outreach capacity to the provinces and the DEPs.

4. Donors (Asdi) should provide support to a proposed new unit in the MOPH to assist with driving the road sector reform forward, as soon as a decision has been made to establish this unit, provided it is given adequate authority. The envisaged support would comprise 1 to 2 TA staff and funds for studies, seminars and training.

5. The Estradas3/ROADS3 framework will be the most appropriate framework also for developing, programming and co-ordinating other forms of support to the tertiary roads sector. There is a need for ANE, Asdi and UNDP to promote further support to the tertiary road sector, including the proper co-ordination of such support, within the Estradas3 framework.

1. Introduction

1.1 Background

The international community has since 1981 provided external assistance through various projects to develop the capacity of the National Directorate of Roads and Bridges (DNEP) and, as from 1999, its successor, the National Road Administration (ANE) to programme and execute labour-based construction and maintenance of tertiary roads. A nation-wide Feeder Roads Programme (FRP) is being implemented by ANE with technical and financial assistance from a number of international agencies, including UNDP, Asdi and ILO.

The FRP is an integral part of the National Roads Programme, which is being supported through the Roads and Coastal Shipping Projects (ROCS 1 and 2) with the World Bank as the lead agency. The overall objective of the FRP is to directly contribute to improvement of rural access. The first phase of the present support from UNDP and Asdi started in 1992, was evaluated in 1994 and terminated at the end of 1996. The Second Phase was initiated in January 1997 and was initially expected to terminate in December 1999, but has been extended by one year and until the end of the year 2000.

According to the project documents for the Asdi and UNDP financed support to the FRP, an in-depth evaluation was planned to take place in early 1998, and a final evaluation was to take place at the end of 1999. It was additionally planned that an Asdi-funded review would take place in early 1999 focusing on institutional development and national funding capacity aspects.

In the event, it was decided to carry out a mid-term evaluation during the first half of 1998, and to include in that evaluation a review of the institutional issues, and to undertake the final evaluation in the first half of 2000. The national funding capacity review will be carried out as part of the preparation of the ROADS3 project, which is currently under development, and which is expected to be initiated during 2001, with the World Bank as the lead agency.

The timing of the final evaluation was dictated by the extension of the closure date of the second phase until the end of 2000, but also by the decision to rely on the final evaluation in order to determine the need and scope for any further assistance to the FRP, starting early 2000. There are hence two main purposes of the Final Evaluation (See Annex 12: Terms of Reference (TOR)): One purpose is "to assess overall achievements of the programme, specifically to ascertain relevance and potential effectiveness of the programme and to assess the impact and effect generated from the programme and what lessons can be drawn on operational, organisational and policy levels." The other purpose is to analyse future needs for support to the FRP and to make recommendations in this regard.

The final evaluation covers support by UNDP under the project MOZ/96/013: "Management Assistance to Labour Based Tertiary Roads Programme" and by Asdi under the project "Swedish Support to the Road Sector". The UNDP support is co-financed – initially on a fifty-fifty basis, but later revised – by Asdi, and Asdi's contribution to the UNDP project is one component of the Asdi project, which also covers other support components to the FRP, as discussed further in Chapter 2. When reference is made henceforth to 'the Project', the two above mentioned projects are referred to.

1.2 The final evaluation

The Final Evaluation is a joint effort by the Government of Mozambique (GOM) and the two donor agencies, Asdi and UNDP. The Final Evaluation Team (the Team) comprised three members Nils Bruzelius (team leader, nominated by Asdi), Peter Bentall (nominated by ILO/UNDP) and José Luis Rocha Lobo (nominated by ANE). The Team was assisted by a local consulting firm, Sustém, Lda., which was responsible for undertaking the socio-economic impact analysis; Sustém was recruited by UNDP, Maputo. The Team was requested to submit one consolidated report reflecting the professional assessments of its members rather than any particular interest of the concerned agencies.

The Team undertook field work in Mozambique during the period 20 March to 19 April 2000, including visits to the provinces of Nampula and Zambézia. The itinerary of the Team and information about roads visited are to be found in Annex 1, whilst persons met by the Team are listed in Annex 2. Main written material relied on are collated in Annex 3.

1.3 Evaluation issues

1.3.1 Comments on TOR

The Terms of Reference (see Annex 12) do not raise any specific issues per se. However, the structure and contents of these TOR differ somewhat from the evaluation framework set out in the two project documents, albeit not in a conflicting way. When undertaking its evaluation as well as presenting its results, the Team has opted to use the evaluation framework set out in the project document for MOZ/96/013. The framework used in the Asdi project document differs somewhat from the UNDP Project document, mainly due to the fact that the Asdi project was envisaged to cover a number of additional activities, which are strictly seen not a part of the FRP.

However, as noted by the Mid-term Evaluation, also the use of the logical framework presented in MOZ/96/013 is somewhat problematic; see further Section 2.3. The Team therefore, in principle, only makes systematic reference to the objectives listed in the UNDP project document in this evaluation report, essentially trying to answer the questions if the objectives have been met and, if not, why.

1.3.2 Evaluation Context

The following had to be taken into account when undertaking the evaluation:

1. The Project was originally designed in 1996, i.e. at a time when the arrangements in the feeder roads sector were still characterised by operations, which may be seen as being of a force account nature. Although it was envisaged at that time that these arrangements would undergo considerable change during the implementation of the Project, the Project was designed against the background of the conditions prevailing in 1996. In the event, the reforms did not materialise as quickly as envisaged, and indeed as of writing this report they are not yet fully implemented. Nevertheless, for some years the operations of the road sector have been moving away from force account operations, towards contracting and also competitive bidding, which has made it necessary for the Project to adapt. It was also a recommendation of the Mid-term Evaluation that the Project should become more involved in preparing the FRP for operating on commercial principles.

2. Related to the first item is the changing nature of the tertiary road sector and indeed the entire road sector (although this will be affected by the flooding of early 2000). The National Roads Programme as well as the FRP were originally designed with the view to reconstruct a road

network which had fallen into disrepair or had been destroyed during the war in the 1980s. Towards the end of the 1990s this situation had changed in a substantial way, with large parts of the road network, including parts of the tertiary road network, having been rehabilitated. This development has implied that there is now an increasing need for paying attention to maintenance works. Whilst this change was fully foreseen in the project documents, it may be argued that its implications were not – and perhaps could not – adequately be catered for.

3. The Final Evaluation took place just after the severe flooding in early 2000. Although this situation only affected the evaluation to a limited extent, it prevented the Team from paying visits to roads in the southern parts of the country. At the time of the Final Evaluation, many of the tertiary roads in the southern part of Mozambique which had been reconstructed or were being reconstructed under the FRP were still partially under water, and all works had been discontinued; labour brigades instead concentrated on the reopening of key major roads. As a consequence, the Team was only able to visit roads and sites in Nampula and Zambézia.

1.3.3 Evaluation Methodology

As indicated, the Team has seen it as its main task to evaluate the Project against the objectives set out in the UNDP project document (see further Section 2.3). In addition, the Team attempts to answer the additional questions raised by the TOR for the Final Evaluation, i.e. the adequacy of the design of the Project and how efficiently the Project has been executed.

The large size of the Project, the diverse backgrounds of the Team members and the amount of time available for the Final Evaluation has made it impossible to attempt to apply a set methodology for the evaluation. The Team has instead relied on an impressionistic technique, combining results and assessments made from interviewing a substantial number of the TA staff engaged under the Project and their counterparts, site visits, including interviews with villagers, workers and concerned officials, and a review of a substantial volume of reports and other documents, with the Team member's own experience, in order to draw broad conclusions. An important starting point for the Final Evaluation has been the report of the Mid-term Evaluation, as this was a comprehensive effort and was undertaken only two years before the Final Evaluation.

This also means that the Final Evaluation will not touch upon several numerous smaller issues which have surfaced during various periods of the FRP. The emphasis of the Final Evaluation is on the broad picture.

1.3.4 The Asdi and UNDP Project Documents

As indicated above, the Asdi Project Document, in effect, caters or was envisaged to cater for a number of activities which are not directly related to the FRP. It was thus, for example, envisaged that consultants would be made available under the Asdi project to assist the GOM with implementing the institutional reforms which have been in the offing for a number of years. In the event, such assistance was only requested in 1999, and then to a non-core activity of the reform process. The Project furthermore provides financing of a number of cooperantes (i.e. TA staff recruited by the DNEP/ANE directly), which would be working on non-FRP activities, including accounting staff for the Road Fund, as well as financing of a number of studies, which might not necessarily be required from the point of view of the FRP. Some studies of this nature have also been carried out or are in the process of being carried out.

The Final Evaluation will not cover these additional activities explicitly. The focus of the Final Evaluation is on the activities financed under the Asdi project which are directly concerned with the FRP.

Similarly, the UNDP project includes money for cooperantes and UNV to work as TA staff on two UNCDF projects in Nampula and Zambézia provinces; these costs have not been co-financed by Asdi. Also these two UNCDF projects do not form part of the evaluation, although they form part of the FRP.

1.4 Future support

A second focus of the work of the Team has been on mapping out the future support to the FRP. It was thus indicated to the Team that Asdi would be prepared to consider some form of continued support if the Final Evaluation were to conclude that such further support was warranted.

The Team has concluded that further support under the FRP umbrella is required and also recommends that such support be provided for a period of several years. In view of the short time remaining until Project closure, and donor processing time required to make funding available, this report contains a number of specific recommendations on the scope and approximate costs of the proposed future support. The aim is to allow Asdi (or other donors which might be interested) to act speedily, with the aim of ensuring continuity in support and minimum disruption to ANE and the Mozambique feeder roads sector.

2. The project

2.1 Background to the project

The Project subject to evaluation is – as mentioned – a combination of two projects financed by UNDP and Asdi, of which the core is jointly financed by the two donors. These two projects make up a – substantial – part of a wider programme of support to the feeder roads sector in Mozambique, which by now has a long history. This programme of support originally had as its emphasis the introduction of labour-based techniques when undertaking road works. However, with time and given the events in the country, not least the civil war, it has come to take on a wider scope, primarily the development of the 'institutional capacity' of contractors and of the country's road authority, originally the DNEP and more recently, the ANE, and ensuring that road works would generate increased incomes in rural areas as a means to improve living standards and resuscitate economic growth in these areas.

External assistance for the development of the DNEP capacity to execute labour-based works for the rehabilitation and maintenance of feeder roads was first provided by ILO under a NORAD-funded pilot project in Zambézia province in 1981/82. For security reasons, the project was transferred to Maputo province in 1983/84 under Swedish assistance and was subsequently discontinued in 1985.

Following a bridging phase during which UNDP-funded ILO technical assistance focused on training, it proved feasible to restart operations in the provinces of Gaza and Inhambane in 1987 (MOZ/85/007). Subsequently under project MOZ/89/009 – Labour Based Road Improvement and Maintenance Systems; Inter-Phase – assistance was provided for the preparation of a nationwide programme for the management of the expanding donor supported labour based feeder road activities in the country.

These UNDP assisted projects were evaluated in June 1989 by a joint GOM/UNDP/ILO evaluation team. It recommended an extension of the project as well as a gradual expansion with a continuation of technical assistance, and it was also recommended that future support be co-ordinated within the umbrella, the Feeder Roads Programme (FRP), a donor construction without any counterpart in the then existing road authority structure in Mozambique. These proposals were presented during a workshop held in Maputo in October 1990, with extensive GOM and donor participation. As a result, MOZ/91/007 – Management Assistance to Labour Based Feeder Road Rehabilitation and Maintenance Programme Phase I – was initiated in January 1992.

The FRP Phase 1 comprised the following objectives:

1. Launching labour based rehabilitation and maintenance brigades in 22 priority districts.
2. Rehabilitating some 2400 km of secondary and tertiary feeder roads to all-weather gravel standards.
3. Introducing maintenance systems which rely on local participation and resources.
4. Building the institutional capacity of DNEP at the central level and the ECMEPs at the provincial level, including capacity to manage FRP executed labour based road works supported by donors.

At about the same time, the GOM launched the Roads and Coastal Shipping Project (ROCS), the overall framework for the rehabilitation of the country's road and maritime infrastructure, with the World Bank acting as the lead agency. The first ROCS Project was presented to the donor community in Brussels in June 1991; a follow-up project was subsequently introduced in May 1994, and commenced operation in 1995. It will come to an end during 2001, and will likely be followed by the ROADS3 project, again with the World Bank as the lead agency.

The ROCS and ROADS projects contain the overall strategy and framework for the development of, *inter alia,* the road network and the institutional and policy framework of the road sector in Mozambique. The available documentation normally emphasises that the FRP is to be seen as a part of the ROCS/ROADS projects, but the Team's impression is that the World Bank-sponsored project activities have largely lived side by side with the FRP, without there having been much interaction and co-ordination. This is partly – but not only – explained by the fact that the ROCS projects have focused on the main roads (non-feeder roads), and/or the use of conventional techniques based on plant intensive methods.

The first phase of the support to the FRP comprised the years 1992-96; it was co-financed with Asdi for the year 1996. Taking into account an evaluation in 1994, Asdi and UNDP decided late 1996/early 1997 to extend their support to the FRP through the two projects subject to evaluation. The second phase was originally intended to cover the period 1997 to the end of 1999, with some remaining activities to be undertaken in the year 2000. In the event, it was agreed to extend the second phase until the end of the year 2000, which was made possible by the fact that Asdi had actually originally budgeted for support until the end of the year 2001, although the original decision on support covered the period until the end of 1999, with some additional expenditures in the year 2000; see further Section 2.4.1.

Phase 2, i.e. the Project subject to review, may essentially be seen as a continuation of Phase 1, i.e. of the project originally formulated at the beginning of the decade. It will be described further in Section 2.3 below.

2.2 Policy and institutional framework

When the Project was designed in 1996, it was expected that the road sector would undergo considerable change during its implementation. Although the reforms are now being implemented there has been a delay implying that the environment in which the Project is operating in during the year 2000 is not significantly different from that of 1996, although there is now much more awareness and expectations of change. Against this background, it must be viewed as appropriate that the Project closure has been extended up to the end of the year 2000. It is not until at that time that it may be claimed that the environment will have changed sufficiently to make the current Project design inappropriate.

The policy and institutional changes in the road sector will be considered extensively in Section 4.2; the reader is also referred to Annex 11 for a review of these matters and related issues up to the year 1998. Here only a number of matters of importance to the evaluation of the Project will be considered.

Until recently, the road manager of the country, the DNEP, essentially operated as a directorate of the Ministry of Public Works and Housing (MOPH). DNEP was not an operator, but relied almost exclusively on provincial state enterprises, the ECMEPs, to carry out maintenance and minor construction works. Larger works were undertaken by private contractors, often foreign ones. The ECMEPs worked subject to contracts, but these were entered into through direct negotiations, and the contract conditions were by and large laid down by DNEP. The labour-based brigades established under the FRP are divisions of the ECMEPs, and are supposed to operate within their own financial management system and on a financially self-sustained basis.

This is by and large the situation still prevailing today. However, during recent years a number of smaller private contractors have come into being, not least through donor supported activities under or related to the FRP. However, it is understood that essentially all contracting – except for works on the primary and secondary roads subject to international financial assistance and the contractors working under DFID financing (see Section 4.3.3) – is still done on a negotiated basis, and not through competitive tendering, although this will likely change some time in a not too distant future. The changes now taking place also means that the ECMEPs will have to be treated on par with the private sector (which has not been the case so far), particularly when considering that the ECMEPs are much larger than the emergent private contractors, and in addition have benefited from a substantial amount of aid, including equipment as also provided for under the Project. A first move in that direction is the ongoing transformation of the ECMEPs into companies established in terms of ordinary company legislation.

DNEP, which was replaced by ANE in 1999, was organised in terms of functional activities, and not in terms of types of roads to be managed, which meant that the Feeder Roads Programme did not have a natural counterpart structure within DNEP. The DNEP organisation unit responsible for the FRP was referred to as RET, but only existed in donor documentation, and thus not formally within DNEP. The RET construction must be seen against the background of the FRP originally having been an emergency rehabilitation programme, but with time the lack of a formal link to DNEP came to hamper FRP, as was pointed out in the Mid-term Evaluation Report. The RET was therefore recognised as a unit in DNEP in 1998.

With the creation of ANE in 1999, development took a new turn, as two new units were established under ANE, one with responsibility for National Roads (DEN), and the other to be involved with Regional Roads (DER), i.e. tertiary roads, non-classified roads and urban roads. This development has now provided a much clearer link-up for the FRP.

DNEP operated at the local level through the DEPs, the provincial road management organisation. The DEPs were not formally under DNEP, but part of the provincial government also under control of the Ministry of Public Works and Housing. The recent reforms does not change the role of the DEPs, but have in certain respects clarified their functions.

2.3 Project design

The Project is to be seen as a continuation of a previous support – phase one of the support to FRP – which was primarily financed by UNDP, and has an emphasis on institution building, and rehabilitation and maintenance of feeder roads. The Project has been designed within a logical framework, and the Asdi and UNDP project documents make use of essentially the same framework, although the Asdi framework is somewhat more elaborate and also contains more objectives. As mentioned, the Team mainly relies on the UNDP framework for its evaluation, but the UNDP logical framework has been modified somewhat to take into account some elements reflected in the Asdi document related to equipment (see Annex 4).

The logical framework used by UNDP distinguishes between the following

- Objectives
- Inputs
- Activities
- Outputs
- Success Criteria (or Results)

As indicated in Chapter 1, the Team found the logical framework developed for the Project inadequate, and therefore uses a simplified approach for its evaluation. The Objectives will be considered in Chapter 3, whilst the inputs will be described further below. The 'Activities' referred to in the Logical Framework have all, in principle, been undertaken, and will therefore not be specifically reported on. The difference between Success Criteria and Outputs is unclear, and some of the indicators proposed in the Logical Framework for assessing Success and Outputs are difficult to measure. For that reason only quantitative outputs are referred to here, and will be reported on in Section 2.5.

A general comment about the Project design, to be seen against the background that the Project has its roots in the late 1980s and is strongly associated with the introduction of a works method (labour-based building techniques), is that it does not make a clear distinction between the public (client) and private (operator) side of the road sector. The Project provides support to both the road manager (DNEP/ANE) and the contractors (i.e. the DETs of the ECMEPs). Indeed, the support under the Project at the central level has been directed towards DNEP/ANE, whilst most of the support at the provincial level has been directed towards the DETs. It is noted that during the existence of DNEP, this organisation was viewed as being the principal and 'owner' of the ECMEPs, so that when the Project was designed in 1996 it was seen as straightforward to include support to both sides within the same Project framework.

The Mid-term Evaluation noted that the focus of operations had resulted in a neglect in providing assistance to the DEPs in its role with respect to the tertiary roads, although the DEPs have received assistance under World Bank financing, albeit with an emphasis on the National roads. The Mid-term Evaluation therefore recommended that there be a shift in emphasis away from support to the ECMEPs and towards support to the DEPs. It is the Team's assessment that there has also been a shift during the last two years, and that the DEPs are now receiving more attention.

The reason for mentioning this is that in order to understand the Project subject to review, it has to be realised that it is trying to accomplish two main things, which are quite different in nature: One is to contribute to the development of the road manager with the aim of establishing a self-sustained road management function in Mozambique for the tertiary road sector. The other is to consolidate a construction technique believed to be highly relevant to Mozambique for economic and income distributional reasons. These are two quite different ambitions, and whilst they are reflected in the objectives formulated for the project, it cannot be expected that they both can readily be accomplished within the same Project; see further Section 3.2.

2.4 Inputs

2.4.1 Budgets and Expenditures

The budgets applicable to the Project are summarised in Tables 2.1 (for UNDP) and Table 2.2 for Asdi. The tables indicate the main categories of inputs to the Project. Note that the UNDP table is in dollars whilst the Asdi table is in SEK. The following should be mentioned in addition:

UNDP budget:

- TA-CMU is the technical assistance to the Central Management Unit, the core of the UNDP support
- TA-UNCDF refers to technical assistance to two UNCDF projects, the costs of which have been exclusively financed by UNDP. These projects, which are not considered explicitly in this Evaluation, were completed in 1998 and 1999.
- 'Training' refers to costs for training of staff outside as well as in Mozambique, including transport, etc.;
- Equipment mainly refers to equipment required by the Project *per se.*
- The original budget was prepared on the basis of Asdi financing 50% of costs expressed in dollars (excluding separate administration costs not indicated in Table 2.1), as set out in a separate agreement between Asdi and UNDP.

Asdi budget:

- Other TA refers to cooperantes working both for DNEP/ANE and the ECMEPs
- Miscellaneous operating costs mainly include tools and spares but also training and gender activities.
- FRP local costs include a certain percentage of the actual contract costs for works to be undertaken by labour brigades of the ECMEPs.
- FRP equipment refers to equipment provided to the ECMEPs.
- 'Studies' includes a variety of studies foreseen to be of interest to DNEP/ANE in general and not only to the FRP.

The two tables also set out actual expenditures up to the end of 1999, and contain two revised budgets for the year 2000. Revised budget 1 for UNDP is the original revised budget for the year which had been cleared with UNDP (budget revision "H"), whilst Revised Budget 2 refers to a budget prepared in January 2000 ("Substantive Budget Revision"), which is based primarily on an undertaking by Asdi to make funds available during the year 2000 to allow for essentially full Project operations during this year. Asdi has given its approval to this request, and final clearance was also obtained from MINEC in April.

Table 2.1: UNDP Budget and Expenditure: USD million

	1997		1998		1999			2000			Total 1997–2000		
	Orig.bud.	Expend.	Orig.bud.	Expend.	Orig.bud.	Rev.bud. 1	Expend.	Orig.bud.	Rev.bud.1	Rev.bud.2	Orig.bud.	Rev.bud.1	Rev.bud.2
1. TA-CMU	1315,0	705,0	1316,5	852,1	1343,9	1122,0	1086,8	214,8	392,3	1377,5	4190,2	3071,4	4056,6
2. TA-UNCDF	541,3	243,5	441,9	247,0	0,0	102,0	75,9	0,0	0,0	0,0	983,2	592,5	592,5
3. Training	126,0	64,3	126,0	124,4	126,0	125,0	101,9	0,0	53,0	170,0	378,0	366,7	483,7
4. Equipment	712,3	399,1	82,8	67,6	82,5	218,0	58,7	42,5	32,5	141,0	920,1	717,3	825,8
5. Miscellaneous	88,6	40,0	89,2	68,8	79,5	5,0	32,5	34,4	17,0	15,0	291,7	130,8	128,8
6. Total	2783,2	1451,9	2056,4	1359,9	1631,9	1572,0	1355,7	291,7	494,9	1703,5	6763,2	4878,7	6087,4
7. Total minus UNCDF	2241,9	1208,4	1614,5	1113,0	1631,9	1470,0	1279,8	291,7	494,9	1703,5	5780,0	4286,3	5494,9
8. Asdi Share	1121,0	1266,8	807,3	807,3	816,0	816,0	455,8	145,9	360,2	1362,0	2890,0	2890,0	3891,8
9. UNDP Share	1662,3	185,1	1249,2	552,7	816,0	756,1	899,9	145,9	134,7	341,5	3873,3	1988,7	2195,5
10. UNDP-UNCDF	1121,0	-58,4	807,3	305,7	816,0	654,1	824,1	145,9	134,7	341,5	2890,1	1396,2	1603,1
11. UNDP percentage	50,0	-4,8	50,0	27,5	50,0	44,5	64,4	50,0	27,2	20,0	50,0	32,6	29,2

Source: UNDP project document; DER

Table 2.2: Asdi Budget and Expenditure: SEK million

	1997		1998		1999		2000			Total 1997–2000		
	Orig.bud.	Expend.	Orig. bud.	Expend.	Orig.bud.	Expend	Orig.bud.	Rev.bud.1.	Rev.bud.2	Orig.bud.	Rev.bud.1	Rev.bud.2
1. TA-CMU	7510	9758	5409	6553	5467	1000	6331	15371	14726	24717	32682	32037
2. Other TA	4569	1275	4798	3531	4729	5780	3586	4937	4334	17682	15523	14920
3. Mis. Op. Costs	3351	1125	3552	1078	3753	574	3862	6263	5401	14518	9040	8178
4. FRP Local costs	11545	3225	14618	4244	16601	20770	16441	24298	31128	59205	52537	59367
5. FRP Equipment	18827	0	469	3078	268	17357	268	6965	3848	19832	27400	24283
6. Studies	4818	353	4234	522	4903	358	4690	12600	14579	18645	13833	15812
Total	50620	15736	33080	19006	35721	45839	35178	70434	74016	154599	151015	154597

Source: Asdi project document; DER

The Asdi table also contains two revised budgets. Revised Budget 1 is as per 'Revision no.2' dated 01.11.1999, whilst Revised budget 2 is the most recent proposal submitted by ANE, which has been accepted by Asdi and cleared with MINEC.

The tables show that there was considerable under-expenditure against budget during the two first years of operation, whilst there has been a degree of over-expenditure during 1999. This reflects

- delays in recruitment of TA staff and cooperantes, including that a few envisaged TA staff positions have not been filled
- delays in the procurement of equipment (see further Section 3.3.6).
- delays in transfer of money for paying for FRP local costs from the ANE account to the Road Fund (see the Mid-term Evaluation Report).

It is not believed that the under-expenditure on staff has materially affected the execution of the Project; the delays in procurement may have had some but not any apparently significant impact on the capacity of the DETs.

As concerns the budget revisions the following is noted:

- According to the original budget, UNDP would contribute all in all USD 3,873 million, including USD 2,890 to the components to be cost-shared with Asdi. UNDP has since then had to reduce its commitment to the Project, and will now only contribute a total of USD 1,824 million (including USD 1.232 million to the components to be cost-shared with Asdi). These costs do not include UNDP administration costs.

- Revised budget 2 is based on the assumption that Asdi would actually pay almost 78% of the component of the Project which was originally envisaged to be financed on a fifty-fifty basis by Asdi and UNDP.

- The revised budget 2 has been prepared on the basis of that all the money – in SEK – which Asdi once budgeted for the period 1997 up to and including 2000, as set out in the Asdi project document, would actually be required. The Team has not seen any needs assessment of that this money is indeed required in order to complete the Project, as originally envisaged but with one year delay. This point is made here against the background of the observation made by Mid-term Evaluation team and repeated again in Section 3.2 of this report, viz. that no proper appraisal was made of the Project in 1996, including of the resources required in order to implement the Project.

As part of the institutional development process ongoing at present in Mozambique, donors have emphasised the importance of secured financing for the road sector – primarily of road maintenance – as well as establishing priorities for how scarce funds are to be spent. When assessing the pace of progress being made by the Mozambican authorities in this regard, it has to be acknowledged that the donors are not themselves able to live up to the virtues they preach.

2.4.2 Technical Assistance and Cooperantes

The technical assistance provided under the project comprises the TA staff of the Core Management Unit (CMU), jointly financed by UNDP and Asdi and cooperantes working for ANE and the ECMEPs financed by Asdi. In addition, Asdi and the Dutch government have financed Associate Expert civil engineers which form part of the CMU. As mentioned, cooperantes and UNVs for the two UNCDF projects have been financed under the UNDP project.

The staffing of the technical assistance and cooperantes positions is summarised in Table 2.3. Initially planned and actual TA usage is shown in Table 2.4 for the various components. Actual figures are below planned figures because of delays in appointing staff and as some posts have not been filled. However, and as reflected in the presentation above with respect to the budgets and expenditures under the Project, the situation improved during 1999.

Table 2.4: Planned and Actual TA Usage; Man-months

Area of Support	Planned to the end of 1999	Actual to the end of 1999	%
CMU	423	311	74
UNCDF Projects	282	266	80
Cooperantes	636	453	71

Source: The FRP Annual Report for 1999

The Project provides for the recruitment of a Maintenance Systems Specialist for a shorter period of time. ANE has so far objected to the recruitment of this expert on the ground that short term experts are not effective. The reason why the expert to be involved in the design of the Baseline Data Collection/Analysis was not recruited is unclear.

The Team notes that the shortcomings with regard to manning of TA staff for the southern provinces, which was observed by the Mid-term Evaluation team in 1998, have essentially been addressed.

During 2000, a reduction is taking place in the manning of primarily a number of cooperante positions with the ECMEPs. Given the fact that the support to the ECMEPs under the FRP will likely come to end (see further Chapter 4), this policy is appropriate.

Table 2.3 Technical Assistance & Counterparts as at December 1999

* Cooperante Posts

PROJECT	POST	PLANNED MM	ACTUAL MM	NAME	DATE OF ARRIVAL	COMMENTS	COUNTERPART
MOZ/96/013 CMU – UNDP/ILO/Asdi	Chief Technical Advisor	42	14 20	John Clifton James Markland	1.01.97 (8.05.94) 1.05.98		Jorge Muonima
	Mechanical/Procurement Advisor	36	30	Tin Htut	23.07.97		Inácio Chiculo
	Training Advisor	36	16 10	James Markland David Jennings	1.01.97 (5.11.93) 2.03.99	Apponted CTA 1.05.98	Osório Muianga
	Maintenance Systems Specialist	12				Post not to be filled	
	Baseline Date Collection/Analysis	6				Post not to be filled	
	* Administration Manager	39	12 24	Rizal Libre Mysore Krishna	1.01.97 (15.05.93) 1.01.98 (27.06.94)		Vasco Machava
	UNV Accountant	36	12 15	Mysore Krishna Immaculate Ssenkumba	1.01.97 (27.06.94) 24.09.98	Appointed Admin Manager 1.01.98	
	Regional Technical Advisor (S)	36	18 18	I.A.Bizios Karin Andersson	1.01.97 (1.02.92) 1.07.98		Adelino Serage, A Silvestre, F Ezembro
	Regional Technical Advisor (C)	36	36	Edward H Greenhalf	1.01.97 (31.05.93)		J Simbe, J Domingos
	Regional Technical Advisor (N)	36	36	K.H. Myaing	1.01.97 (1.10.96/ 8.09.93)		E Douglas
	Ass Exp Reg Training/Maint (S)	36	11	Aurélio dos Santos	26.01.99		L Nhamué
	Ass Exp Reg Training/Maint (C)	36	28	Joan Bijl	8.08.97		Adelino Joaquim
	Ass Exp Reg Training/Maint (N)	36		Sampson Addo-Teye	11.02.99		T Mario,
UNCDF PROJECT MOZ/89/CO2	* Project Manager	24	24	C.Brandão	1.01.97 (12.06.94)	Demobilized 31.12.98	Fabião Abaco
	* Road Engineer	21	24	A.C.Bezerra	1.01.97 (13.04.95)	Demobilized 31.12.98	S Tuaia
	* Road Engineer	21	15	Koko Blessing	1.01.97 (29.12.92)	Transferred to Moz/ 89/CO4	E Abílio
	* Bridge Engineer	12					

PROJECT	POST	PLANNED MM	ACTUAL MM	NAME	DATE OF ARRIVAL	COMMENTS	COUNTERPART
	* Mechanical Foreman	21	24	T.Emmanuel	1.01.97 (12.06.94)	Demobilized 15.01.99	Martinho Amurane
	* Mechanical Foreman	21	24	Jai Chand	1.01.97 (18.08.94)	Demobilized 31.12.98	Santos Liguela
	UNV Surveyor	18					
	UNV Accountant	24	24	Michael Katende	1.01.97 (26.10.94)	Demobilized 31.12.98	M. Lapucheque
UNCDF PROJECT MOZ/89/CO4	* Senior Road Engineer	24	12 12	Jairos Mavhiza Mariano Leal	1.01.97 (17.03.95) 17.06.98	Left Dec. '97 Transferred as Asdi Mech Foreman from 1.07.99	Venâcio Aquimo
	* Road Engineer	24	17	Koko Blessing	13.03.98 (29.12.92)	Demobilized 18.07.99	Roberto Dique
	* Road Maintenance Engineer	24					
	* Mechanical Foreman	24	18	Mariano Leal	1.01.97 (11.07.96)	Appointed Project Manager 17. 06.98	Eusebio Wazela
	UNV Accountant	24	32	Bongani Felix Dlamini	1.01.97 (21.11.96)	Demobilized 26.07.99	Maria Goveia
MOZ/96/013	TOTAL	705	537				

PROJECT	POST	PLANNED MM	ACTUAL MM	NAME	DATE OF ARRIVAL	COMMENTS	COUNTERPART
Swedish Support to Road Sector in Mozambique	Associate Expert Accountant/Administrator	36				Post not to be filled	
	Associate Expert Civil Engineering	36	18	Karin Andersson	1.01.97 (2.04.96)	Transferred to RMTA (C)	
	TOTAL Associate Experts	72	18				
	* Mech. Foreman – Maputo	36	36	Fernando S Faria	1.01.97 (1.07.96)		Anibal Marangane
	* Mech. Foreman – Gaza	36	29	Vladimir Zabrodin	August 1997 (26.06.96)	Transfer from Nampula	João Dias
	* Mech. Foreman – Inhambane	36	36	Julian Gumabon	1.01.97 (9.12.90)		Rafael Siquice
	* Mech. Foreman – Sofala	36	25	Wilfred Deloviar	26.11.97	M Balança	
	* Mech. Foreman – Tete	36				Post not to be filled	
	* Mech.Foreman – Zambezia	36	16 6	Jan Andersson Mariano Leal	11.09.97 1.07.99	Resigned 30.04.99 Transferred from C04	
	* Mech. Foreman – Nampula	36	36	Manuel Leal	16.08.97	V.Zabrodin in post from 1.01.97 – transfer to Gaza	Santos Liquela
	* Mech.Foreman – Niassa	36	13	Napoleon Nazereno	12.12.98		Rosário Adriano
	* Mech. Foreman – Cabo Delgado	36	21	Wilfredo Gumabon	16.03.98		Omar Andala
	* Road Engineer (South)	36	24	Teresa Lopes	1.01.97 (21.07.93)		E Correia / R Machacale / F Muayane
	* Road Engineer (Central)	36	22	Rogélio Castro	9.03.98		Walter de Almeida
	* Road Engineer (North)	36	21	Alejandro Monroy	13.04.98		Eugênio Cavacha
	* Accountant Road Fund	36	36	Rosa Gil	1.01.97 (2.02.93)		José Catarino
	* Accountant (ANE)	36	36	Francis Ruhumbika	1.01.97 (1.06.94)		G Sumbane
	* Accountant Road Fund	36	36	Manuel Revoredo	1.01.97 (1.08.96)		Joaquim Alfredo
	* Gender and Social Issues	24	26	Angélica Aguilera	6.10.97		A Balate / F Goveia
Swedish Support to Road Sector in Mozambique	TOTAL	636	453				

2.4.3 Local Staff

The Project is based on the presumption that all TA staff members shall have a counterpart. In effect, some TA staff members have several counterpart positions, e.g. the Regional Technical Advisors (RTA), each one of whom supports the ECMEPs in several provinces and also the DEPs in these provinces.

During the initial phase of the Project the assignment of counterpart staff was inadequate. Later during Project implementation the situation improved, and in early 2000 almost all TA staff members had counterpart staff. As stated by the Mid-term Evaluation team, the problems with counterpart staff may be explained by the fact that the FRP has involved the creation of structures which were not integral parts of the DNEP, and therefore of positions for which no official basis existed. With the establishment of SET in 1998 and subsequently the DER in 1999 this situation has improved, but some of the positions of the TA Team and their counterparts even as of today have no clear link to the DER, for example the Mechanical/Procurement Advisor and the Training Advisor.

2.4.4 Other Local Contributions

The UNDP project document states that the local contributions (local costs) of the Project will comprise, *inter alia,* office accommodation, housing for cooperantes, and transport for counterparts and cooperantes. It is also stated that cooperantes will receive a housing allowance under the Asdi support until such time as DNEP make accommodation available. The Asdi Project document also states that a housing allowance is to be paid to cooperantes until DNEP makes houses available. There is no reference to local transport being paid by DNEP and/or the ECMEPs in the Asdi document, but it is stated that vehicles will be provided to the cooperantes under the Project. Transport and accommodation for the other TA staff members, the CMU, is provided for under the Project.

Most of the cooperantes have been receiving a housing allowance during the entire period of the Project, which often may be explained by the fact that the housing that could be made available has been of poor quality. In addition, it has to be recognised that a substantial part of the cooperantes have the ECMEPs as their principal, not DNEP/ANE. Cooperantes have had access to transport through vehicles paid for under the Project, and the running costs of these vehicles, with the exception of spares, have normally been paid for by ANE or the ECMEPs.

2.5 Outputs

2.5.1 Road Rehabilitation and Maintenance

The Asdi project document indicates that two major outputs expected from the project are that 2263 km of roads would be rehabilitated in the period 1997–99 with labour-based methods, and that labour based maintenance systems would be in place on all rehabilitated roads. Essentially the same formulations are to be found in the UNDP project document.

The Table 2.5 below summarises achievements with respect to rehabilitation and maintenance as presented in the Annual Reports prepared by the FRP. Rehabilitation works include both spot improvement and full gravelling.

Table 2.5: Planned and Actual Rehabilitation and Maintenance Works; km

	1997		1998		1999		Total	2000
	Planned	Actual	Planned	Actual	Planned	Actual	Actual	Planned
Rehabilitation	869	761	935	688	1102	949	2398	1121
Periodic. Maintenance	20	36	99	103	414	284	423	410
Routine Maintenance	1631	1678	2832	2194	2015	1945		2581

Source: The FRP Annual Reports

The following should be taken into account when considering the presented data:

1. Labour-based methods are being applied under a number of different projects, financed by different donors and involving not only the brigades established under the ECMEPs (i.e. the DETs), but also private contractors. How the expected output is to be measured is not clearly stated in the project documents, but one plausible interpretation is that output was supposed to be measured as the outputs of the DETs only. (The interpretation of the Mid-term Evaluation team was that the output should only be measured as the outputs of the those DETs which had actually been receiving direct support through the Asdi-financed project.) The Annual Reports, on the other hand, report on outputs in a way that differs from year to year. For the years 1997 and 1998, outputs in Table 2.5 reflect the work done by the DETs plus the DFID supported brigades in Zambézia. The data for 1999, however, in addition includes the outputs of a number of private contractors developed by NGOs and receiving support from USAID (apparently at the request of USAID).

2. The FRP Annual Reports provide data on planned output, and information is provided about the percentage of target actually attained. Data on planned output for a given year is provided both in the Annual Report preceding the year in question as well as in the Annual Report for that particular year. However, although the data on planned output from the two reports would be expected to be the same as they refer to the same year, they differ. This is explained by the fact that the data appearing in the report proceeding the actual year are preliminary budget data, and not the final ones, which are based on contract data, which replace the preliminary ones in the next report.

3. The lack of clarity as to how to measure and what is being measured may be explained by the fact that all the data made available through the Annual Reports originally were project driven. They have thus not been obtained from a standard internal management information system made use of by ANE (or before DNEP) but are based on a separate reporting system linking the ECMEPs and some other projects (such as the DFID project) with the FRP office in ANE. Attempts are now being made to establish a 'generic' data base which will be of general use to DER, and which will not only refer to roads which have been subject to works with labour-based techniques.

4. The nature of the data presented in the Annual Reports also means that they do not necessarily reflect works with respect to the tertiary road network of the country. The Feeder Roads Programme has not only involved roads which are now classified as *tertiary* roads, but also secondary roads; (it is understood that some of the secondary roads should essentially be seen as tertiary roads reflecting an outdated road classification system). By the same token, information now provided about roads – which have already been rehabilitated – and which are being maintained, may not give an adequate picture of the volume of feeder roads now actually maintained. It is e.g. possible for a road, classified as a secondary road but rehabilitated under the FRP, to now be under a maintenance contract with a contractor who is not using a labour based method.

This road will not enter into the maintenance statistics of the FRP. On the other hand, roads of a feeder road character have also been rehabilitated under other projects. For example, under the National Roads Emergency Opening Programme, which was established under ROCS1, machine-based techniques were used to open 1 054 km of tertiary roads between 1994 and 1998. And under the Rural Rehabilitation Project, which is a component of ROCS2, 919 km of tertiary roads have been rehabilitated by machine-based techniques between 1996 and 2000. It is unclear how many km of these roads are now maintained with labour-based techniques, and hence enter into the statistics of the FRP Annual Reports.

The Annual Reports provide a wealth of information, clearly showing that a substantial amount of work has been done to rehabilitate and maintain feeder roads in the country. It seems likely that the volume of work matches – probably even surpasses – what was hoped for in 1996, whatever that might have been, although the work done is not only the result of the efforts made possible through the Project.

It is understood that the DER has now developed a data base that makes it possible to fully report on tertiary roads, whether of not they have fallen under the FRP or some other programme, or have not been rehabilitated at all. With the current Project coming to an end, it is hoped that DER will be able to make use of this data base to report on the tertiary as well as non-classified roads, to enable a more complete picture to be obtained of the actual position of the – public – feeder roads in the country.

2.5.2 Training

Under the FRP a substantial volume of training has been undertaken. During the first phase the number of person-weeks of training was of the order 300–600 per year. During the second phase this output has increased to between 600–1000 person-weeks per year, as may be gleaned from Table 2.6.

Table 2.6: Staff Training in Person-weeks of Training during 1997-1999

Person-weeks of training

	1997	1998	1999
DEP Eng.			5
Technicians	42	84	50
Fiscais			58
Contractors	26	16	4
Contractors' admin. staff	14	36	
Foremen	12	52	157
Tractor mechanics	36	88	
Maintenance supervisors	222	360	244
Rehabilitation supervisors	308	330	465
Total	660	966	983

Source: FRP Annual Reports.

2.5.3 Generation of Employment

The Project document includes the following two success criteria:

5. 2000 person days of generated employment per km of rehabilitated road (FG), 1500 person days (SI).

6. 75 person days of generated employment per km per annum on routine road maintenance.

Table 2.7 provides information about workdays generated and the workdays per km. It should be noted that essentially the same comments apply to the data in this table as made with respect to works done on the feeder roads, i.e. they refer to labour-based works but may not include all the various projects and may have been measured differently from year to year. The data provided regarding workdays per km suggest that more input is required per km of spot improvement (SI) than for full gravelling (FG), raising questions about the integrity of the data. According to CMU, the difference in employment input partially reflects that partial gravelling tends to be done in hilly terrain with denser vegetation, and that the use of equipment when doing full gravelling has reduced employment. The considerable variability in the workdays per km from one year to the next raises further questions about the quality of the data.

The table indicates that the 'success criteria' formulated in the Project documents appear not to have been fully met. On the other hand, the fact that the number of workdays per km is lower than apparently 'hoped for' could perhaps be seen as an indicator of a better level of cost-effectiveness than originally envisaged.

Assuming about 220 workdays per year, the employment generated under the FRP corresponds to around 5000 full-time jobs in 1997, 6500 in 1998 and 6200 in the year 1999.

Table 2.7: Employment Generation

	1997		1998		1999	
	Total workdays	Workdays per km	Total workdays	Workdays per km	Total workdays	Workdays per km
Rehabilitation FG	655268	1212	471087	1301	231689	727
Rehabilitation SI	303546	1380	667520	2048	528285	838
Periodic maintenance	24451	677	88854	897	293233	904
Routine maintenance	115920	-	189747	-	306122	-
Total	1099185		1417208		1359329	

Source: FRP Annual Reports and Team estimates

2.5.4 Equipment

In terms of the Asdi project document, it was envisaged that the Project would result in an availability level of the equipment at 75% and a utilisation rate of 50%. Only partial information in this regard is available through the FRP Annual Reports. The statistics which have been reported are summarised in Table 2.8., and are based on data reported by the ECMEPs. it is understood that the data are to be seen as averages for the DETs of the ECMEPs, but that not all DETs may be included. The Annual Report for 1999 states that the increase in the utilisation of the equipment may be explained by the tractor rehabilitation programme (see Annex 9) and also reflects the efforts of the Mechanical Foremen.

The Mid-term Evaluation indicated that its own estimate of equipment utilisation was significantly lower than the data provided by the FRP for 1997. The team notes that neither the Asdi project document, nor the Annual Reports set out how the indicators are to be measured and verified.

Table 2.8: Equipment Availability and Utilisation

Year	1997	1998	1999
Availability (%)	N.A.	N.A.	79
Utilisation (%)	45	55	67

Source: FRP Annual Reports for 1998 and 1999.
N.A.: data are not available

3. Final evaluation

3.1 Introduction

This Chapter contains the evaluation made by the Team of the Project. The structure of the Chapter is as follows: Section 3.2 covers issues related to the preparation of the Project, including the Project documents. Section 3.3 discusses project implementation from three angles, emphasising in turn Project management, co-ordination within DNEP/ANE and co-ordination on behalf of donors. The focus in Section 3.4 is on the two objectives of the Project documents related to institution building, whilst the focus in Section 3.5 is on the remaining 3 objectives, i.e. the socio-economic impact of the Project. Section 3.6 contains the main findings and lessons learnt.

3.2 Project preparation and design

3.2.1 Relevance of Objectives

The objectives of the Project focus on institution building and the improvement of accessibility and living standards of rural people through the provision of road works and employment in order to rehabilitate feeder roads. A main idea of the Project is furthermore to apply a special works technique as a means to achieve accessibility and improvement in living standards of rural people, i.e. by way of labour based works.

Given the background and history of Mozambique these objectives must be viewed as highly relevant. The Team finds no fault with the relevance of the Project, and its objectives, *per se.* This does, however, not mean that the Project as designed was feasible. As will be argued below, part of the objectives have not been fully attained, in particular the institution building component is in certain respects substantially incomplete.

3.2.2 Project Feasibility and Project Documents

It is the Team's view that the main reason for the Project to only partially having met the institution building objectives of the Project (Objectives 1 and 2 of the UNDP Project Document logical framework) is that it was improperly conceived of and appraised. There are two main drawbacks associated with the design of the Project. Firstly, the Project actually tries to achieve two ambitions which are too different in nature to actually fit together within the same project framework. One ambition is thus to establish and make use of a works technique, an operation which is highly engineering oriented in its nature. The second ambition is to establish functioning organisations for the purpose of running commercial and road management entities, activities which have a clear managerial orientation. These two ambitions involve activities which are of a very different nature, and which do not easily marry.

The other drawback of the Project design is that it was never queried during the formulation of the Project if it would actually be feasible to establish DNEP, DEPs, and DETs, the institutions referred to in the Project documents, on a self-sustained basis. This is the implicit ambition of the institution-building component of the Project, albeit with respect to the feeder roads only. Whilst this issue should have been raised, there was, on the other hand, no real need to demonstrate the viability of the other main component, i.e. undertaking rehabilitation and maintenance works through labour-based techniques. That this was feasible had already been demonstrated through the harbingers of the Project.

A number of circumstances suggest that if the feasibility question had been asked in 1996, at the time of the formulation of the Project, the answer is likely to have been no. These circumstances include:

- the lack of experience of ANE staff
- the lack of clear policies, and above all strong commitment to clear policies on the institutional development of ANE and the parastatal operators in the sector
- the inadequate management style of the DNEP
- the lack of institutional foundation within DNEP of the FRP
- the clear engineering cum project orientation of the FRP so far, etc.

So why was this question not raised? One possible answer to this question is that it happened because Asdi and UNDP did not carry out any proper appraisal of the Project, as already noted by the Mid-term Evaluation. As it were, the Project documents were prepared by the then staff of FRP, and although comments were provided on the drafts by the donors, these documents were the products of some of those who stood to benefit from a continuation of the Phase 1 of the support to FRP.

That the donors did not impose any clear demands on the project design is also demonstrated by the inadequate quality of the Project documents, as has already been indicated above. There is no need to elaborate on this matter further here. The lesson learnt is that donors must undertake their own independent – and rigorous – project appraisal.

3.2.3 Inputs

Above, the statement has been made that Phase 2 may essentially be seen as a continuation of Phase 1. The reason is that the types of inputs used during Phase 2 have been essentially the same although the magnitude, in terms of TA support and the supply of spares and equipment to the ECMEPs, have been substantially larger during the second phase. The additional inputs have in other words primarily allowed the FRP to expand its capacity, which appears also to have been the case. It is thus understood that much of the Project inputs were envisaged to provide for additional maintenance capacity, whilst retaining a significant rehabilitation capacity. However, the equipment and spares supplied under the Project raises a number of further issues, as discussed in Section 3.3.6.

On the other hand, if the Project was indeed meant to have achieved more in terms of institutional development than has now in fact been achieved, then the nature of the inputs to have been supplied would also have had to be different. It would have been necessary to e.g. provide TA with more managerial experience as well as experience from developing and running a roads authority, than has now been the case. And in order to develop the ECMEPs/DETs into commercial entities it would have been necessary to have provided expertise with a background in, and experience of, contracting in a commercial and competitive environment. The actual situation is that there has been a general absence of management expertise within the CMU, and even more so of entrepreneurial experience, although the CMU has, or could have had, access to such expertise through consultants. What has been done has made the DETs into generally effective management units but not yet in the realities of the commercial world.

In addition, it may be argued that institutional development as foreseen in the Project documents cannot easily be accomplished through straightforward technical assistance. It is normally much more effective to develop an organisation by empowering the institution-builders. Of course, this also requires that they be made accountable for results.

As mentioned, the CMU was meant to have included two short term experts for developing appropriate maintenance techniques and to prepare baseline studies to enable a proper socio-economic impact evaluations to be carried out. It is the Team's finding that both these positions should have been filled in order to allow the Project to fully accomplish its tasks, even assuming that this second phase of the FRP would only have had ambitions of the same nature as during the first phase. As discussed in Section 3.4, current maintenance procedures and practices give rise to several questions, and as discussed in Section 3.5, the socio-economic evaluation of the Project would have greatly benefited from an appropriate data base. The fact that these positions were never filled suggests that the environment in which the Project has been implemented has not been conducive to other activities but those which actually focused on getting rehabilitation and maintenance works done.

3.2.4 Implementation Arrangements

Arrangements to be used for mobilising the inputs to be provided under the UNDP and Asdi projects are not set out in the Project documents. The Project Summary of the UNDP document states that ILO will act as the Executing Agency, but no further comment is offered neither in the UNDP Project document nor in the Asdi document. Against this background, the Team has not found it worthwhile to review the recruitment and procurement procedures actually applied.

3.3 Efficiency in project execution

3.3.1 Management

The management of the TA team appears at first sight to be a tall order, considering the number of people involved, the diverse background of the TA staff and the cooperantes, and the fact that the TA team has been based throughout the country. The various TA team members have, in addition, served different organisations, with some working for ANE, including in different departments of ANE, others for the ECMEPs, and yet others for the Road Fund. Indications are, however, that management by and large has functioned well. To a large extent this is explained by that the TA has had only limited management responsibilities vis-à-vis the various members, as they in effect have been subject to a form of management control for their ordinary day-to-day activities by the organisation to which they have belonged. It is also clear that some TA members have in effect filled line positions in the organisation which they have been expected to support. Another reason why the management or co-ordination of the TA team has functioned is that the Project, as emphasised, has on the whole been operational in nature. The tasks to be undertaken by the TA staff and cooperantes have been seen as clear.

It is, on the other hand, not easy to obtain a clear picture of the work activities undertaken by the different TA team members. A simple plan of operations is included in the UNDP Project document, but was subsequently not followed-up by the DER/CMU. The Mid-term Evaluation commented on the absence of work plans in its report, and in response thereto the Annual Report for 1998 contained a simple work plan for each of the members of the CMU covering the second half of 1998 and 1999. It is understood that these work plans have since then been used for monitoring purposes and have also been updated and extended in time.

The Team notes that concern has been raised about the performance of the administrative functions within the FRP, although it appears not to be of serious nature. The Team is of the opinion that this is likely to be a kind of problem that will always occur in any organisation, and which can and should be dealt with within the FRP.

3.3.2 Co-ordination within FRP

The Team concurs with the opinions expressed by the Mid-term evaluation, which are restated here in slightly edited form: The FRP is a complex operation, not least in view of the number of donors involved. The technical assistance provided under this phase of support to the CMU/DER was designed with a view to strengthen ANE's capacity to co-ordinate the different activities of donor assistance to the FRP.

Donor support to FRP takes different shapes. At the one end is the support of Asdi, which works through the traditional organisation structures, i.e. ANE and the DETs in the ECMEPs. At the other end one can find support which to a considerable extent by-passes the official structures of ANE, for example, the DFID supported project in Zambézia. This project is characterised in that it has a stand-alone character, although the project is ultimately under the control of the DEP.

For the sake of clarity it should be stated that the actual responsibility for co-ordinating the efforts to rehabilitate and maintain the tertiary roads in the first instance rests with the DEPs. It is at the provincial level that priorities are established, and work to different donor-financed projects, in principle, is allocated. It is the Team's impression that this process actually functions. This does, of course, not rule out that initiatives may also come from ANE, including from the DER. ANE further has the power to issue policies that have to be considered by the DEPs in their planning work. However, the executive powers, at the first level, with respect to the FRP are to be found in the provinces.

The role of the DER/CMU as concerns donor co-ordination is therefore primarily to provide support for project development, to identify and direct support to where it is needed, to ensure that projects are monitored adequately, and to ensure that ANE and the donors have adequate information about the performance of the FRP and the overall development of the Programme. For this to function it is essential that information from various projects flow to the DEP and that the DEP then consolidates and disseminates this information.

It is the Team's evaluation that these functions are being performed and that the process is functioning. The DER does maintain regular contacts with not only the activities supported by Asdi and UNDP projects in the field, but with other projects as well. The DER, in addition, supports donors in project development and disseminates information through its annual reports and reporting at, for example, the annual meetings of the Multi-partite Review and the Annual GOM/Donor Review meetings. Without having gone into a detailed investigation of the functioning of 'donor co-ordination', the Team's impression is that donor co-ordination is working, and adequately so.

3.3.3 Co-ordination within ANE

Co-ordination of different activities within ANE, involving different donors appears, on the other hand, to have functioned less well. The Mid-term Evaluation noted that there was inadequate co-ordination between the FRP, on the one hand, and the ROCS project on the other, and that this referred to the situation both within ANE, i.e. between FRP and activities financed under the World Bank support to the roads sector, and between FRP donors and the World Bank. It was also stated that the lack of co-ordination within DNEP had led to a situation where different technical assistance teams were seen as competing and encroaching into each other 'territories'.

The Team's observations largely confirm these findings. It was noted that the DER, in general, and the CMU, in particular, seem to be inadequately informed about other projects and technical assistance activities of relevance to the work of the FRP. This applies in particular to project activities aiming at developing the DEPs – financed under the ROCS projects – but also other technical assistance activities.

There are a number of factors which may be seen as contributing to this situation, viz.:

- The 'culture' of management within ANE gives the impression of being 'project' oriented. This can be seen as being the result of an organisation which is more or less fully dependent on donors for being able to operate. The ANE management style is also characterised by lack of information dissemination.
- The World Bank is the dominant donor, apparently not only taking a lead role but also, in effect, acting as an agent for other donors. This may very well reflect a passive role in effect being played by the donors.
- The Project is, in effect, seen by ANE management and perhaps also by the World Bank as primarily being a civil works project, with limited responsibilities as concerns more general institution-building activities.

3.3.4 Backstopping

Backstopping has been provided by the ILO-ASIST office in Harare. On average, ASIST staff has been visiting the Project about 2 times of year. The backstopping has primarily provided assistance with the administration of the UNDP part of the Project, as well as support with respect to donor co-ordination issues, Project initiatives and contractor development activities. ASIST staff have also attended the meetings at which progress of FRP and the Project have been reviewed; see Section 3.3.5.

Limited assistance of a technical nature has been provided through backstopping. It is understood that this lack of backstopping reflects a lack of demand on the side of the Project/FRP, which in turn may be explained by the fact that the Project has played a rather limited role as concern institutional development. Additional support in the form of backstopping has been offered to ANE but has not been taken up.

3.3.5 Governance, Reporting and Evaluation

The project documents stipulate the establishment of a Project Steering Committee to meet bi-annually to review progress and monitor plans for the continuation of activities under the Project.

The Project documents also stipulate annual GOM/Donor Agency Review and Multi-partite Review Meetings. These Meetings have taken place once every year – in the month of June – during the period of review. In addition, the Asdi documents call for bi-annual meetings between Asdi and ANE to review the Swedish support to the road sector. These meetings have also been arranged.

No terms of reference are provided in the Project Documents for the elaborate governance structure set up for the Project.

The Mid-term Evaluation team proposed some economising on the meetings, suggesting that Asdi align its bi-annual meetings with the Steering Committee meetings. The Mid-term Evaluation also noted that the Steering Committee meetings were primarily concerned with the performance of DNEP/ANE, and not with the Project, and the TA Team, *per se.* It was therefore recommended that the Committee become more involved in following-up the Project proper, leaving it to the other Meetings to attend to matters of more general interest.

In the event, the Steering Committee meetings were discontinued in 1998, whilst no change has been made to the Asdi bi-annual meetings, perhaps reflecting the fact that Asdi has in effect become the major donor. Given the lack of actual role played by the Steering Committee, its demise has not had any real impact.

The DER/CMU has been reporting on Project activities as required per the Project documents. Reporting has by and large been of a good standard, and has served a useful purpose in informing the donor community about FRP activities, in addition to enabling monitoring and evaluation to be undertaken. It is, however, regretted that the core information made available through the Annual Reports do not fully reflect ANE's own management information system, partially on account of the inadequacy of the present in-house management system, partially reflecting the 'project' nature of the FRP.

As concerns evaluation of the Project, see Section 1.1

3.3.6 Provision of Equipment and Spares

Equipment procurement has continued in this phase of the Project, much of this has been delayed in delivery, to which can be added delays at the ports in the clearing procedures associated with the duty free importation of certain types of vehicles. The budget in the Asdi Project document assumed that of the entire budget for FRP equipment (SEK 19.8 million) about 95% would be disbursed already in 1997, i.e. during the first year of the Project. According to the recently revised budget a total of SEK 24.3 million will be spent on equipment for the DETs, 0% of which was disbursed in 1997, 12% in 1998, 72% in 1999 and 16% is planned to be disbursed in the present year; see Table 2.2.

In 1998 (after a delay in authorisation, apparently on account of a requirement that ANE fulfil certain conditions in respect of recruitment of TA staff) orders were placed for tractors; trailers; graders and rollers; pickups and motor cycles (all of which were subject to some form of delay) and in 1999 for further small items (of these the concrete moulds are still not in use). For example, of the construction equipment 27 pedestrian rollers, the supply contract of which was signed in August 1998, were not in evidence on the sites that were visited, having only recently reached some of the ECMEP compounds. The 1998 and 1999 Annual Reports cite several instances of suppliers' invoicing errors causing delays in payment and consequently shipment.

The target of 3 months lead time for delivery was over-optimistic, based on previous experience, with delays due to a number of factors:

- Government and donors procurement procedures, particularly International Competitive Bidding;
- Preparation and agreement of specifications (all equipment types have been used elsewhere on similar projects – specifications should be standard);
- Suppliers' delivery promises unrealistic, as well as invoicing errors;
- Letters of Credit procedures being cumbersome;
- Port clearance procedures; and
- Pre-delivery inspections.

The reasons for scheduling more equipment through this phase of the Project are not explained in the Asdi Project document. The Asdi Project document is similarly silent about the impact of the equipment on the market, a matter which seems relevant to have considered against the background of the plans at the time of drafting this document to open up the contracting market. It has now become even more relevant in view of the fact that the ECMEPs are finally being commercialised, at which time they will also be bestowed with a considerable amount of free equipment, whilst the emergent contractors have considerable difficulties in obtaining any equipment.

Site progress does not seem to have been unduly hindered by a lack of equipment (the ECMEPs have other sources), and the result will be much (almost) new equipment remaining at the end of the Project. Equipment needs and scheduling should have had more consideration at the Project appraisal stage which (as noted elsewhere) was lacking.

A major tractor rehabilitation exercise is still being undertaken by the local agents but the amount of work initiated has put a severe strain in their capacity. In retrospect the work could have been carried out by ECMEP workshops under guidance of the TA Mechanical Foremen, to the benefit if ECMEP mechanical skill capacity (engine overhaul experience added to the important routine maintenance expertise), if these Foremen had all been in place at the appropriate time.

3.4 Effectiveness of project

3.4.1 Introduction

The Mid-term Evaluation, which was carried out before ANE and DER came into existence, highlighted the progress to date as overall satisfactory based on the lengths of roads rehabilitated and maintained and the capacity of the organisations to plan and execute labour-based roadworks. The coming institutional changes were noted and some of the potential implications were set out, in particular the move from basically command contracts at fixed rates given to the ECMEP/DETs to a competitive situation with management in a performance-oriented environment. This transformation would affect the targets and the form of the technical assistance support with greater emphasis recommended to be placed on private sector operations, business and commercial management.

Thus while an assessment of the achievements of the Project against the stated outputs shows a satisfactory performance, especially in view of the dispersed nature and complexity of the Project, there is a clear need, during the remainder of the Project, to assess whether these achievements are adequate (or relevant) for the new situation. These questions could be summarised as,

- the relevance of the training capacity at CFE Chimoio which now has to operate in an independent and competitive environment.
- the future of the DET brigades as entities with particular labour-based construction skills, or simply as part of a large ECMEP structure
- the role and responsibilities of the DEPs if design, supervision and construction implementation is undertaken by the private sector (i.e. consultants)
- can labour-based technology for road works be assured (and expanded) in a free competitive bidding environment where the profit motive will be the primary concern?
- will the large number of people in the public sector trained under the Project find effective roles in the private sector where they can contribute their skills?

Future continued support, which was clearly identified in the Mid-term Evaluation as necessary, will need a radical rethink in adapting to the needs of the changed situation.

3.4.2 Achievement of Outputs

The detailed assessments of the training programme, the technical aspects and the mechanical/ procurement support are given in Annex 7, 8 and 9. Whilst the actual achievements are substantial in terms of:

- Roads rehabilitated and under maintenance
- Person-weeks of training
- Employment generated in the rural communities

– Increasing opportunities for women's participation
– Technical quality of the works being carried out
– The numbers of counterpart staff involved,

and have in this respect fulfilled the stated outputs of the Project, there were some areas of concern identified in the Mid-term Evaluation which are still relevant.

Training: This has continued to focus on the ECMEPs/DETs because TA to the DEPs has been the responsibility of other projects and consultant teams, although over the last year more attention has been given in FRP to DEP personnel. Now also Crown Agents have a contract for the development of the ECMEPs as commercial enterprises in the three Regions. The FRP has little influence in ensuring that labour-based technology issues are addressed within these other programmes.

– Although the number involved in labour-based training has increased, the staff situation at Chimoio remains a constraint to the expansion of activities and labour-based training may be reduced if it is not viewed as commercial due to lack of demand.

– Current courses/materials and trainers have largely targeted the public sector. Some involvement in developing ECMEPs and private contractors (LRCI and DFID) has taken place but commercial and business development are areas outside current experience. The needs of the consulting sector are also yet to be addressed.

With less emphasis on the DEPs there is a perceived imbalance between the supervisory experience of DEP staff – particularly at site level – and the ECMEP/DET staff who have received the training. With the DEPs in this position there has not been much progress towards the acceptance of a more commercially oriented, competitive contracting approach which is their future role. Local consultants working for the DEPs, have not yet been included in training programmes.

TTP: The technology transfer programme (TTP) problems were identified and, although the procedure works more comprehensively than it did, it remains largely the responsibility of TA staff to ensure that reports are forthcoming. There is also too much data (produced quarterly) for a proper analysis to be made and relevant action taken. The original rationale for establishing the system has been lost.

Sustainability: Whilst those counterpart staff who were interviewed showed a good level of competence and commitment, the Project document objective of…'no need for a continuation of TA beyond the Project period' is unlikely due mainly to the institutional reforms underway. The roles and responsibilities of the various organisations are changing with more management and less hand-on tasks needed in future. The new Directorate will therefore need substantial support in its formative stages in a situation which is outside the experience of most technical staff (including the TA). The Mid-term Evaluation report was right in concluding that continuing support will be needed.

Capacity: Evidence from the sites and from discussions with technical staff indicate that considerable technical capacity has been created for the performance of labour-based works. But the environment is still one of command contracts (using donated equipment) and this will change as private sector enterprises are created (ECMEP/DET and Plant Pools). There would be concern as to the ability of individuals raised in one environment to adapt readily to another. Even with encouraging signs of Directors increasing capacity they still operate in a protected environment. One opinion was that only one of the ECMEPs has a business-oriented Director. Everything will depend upon 'who the new Boss is' as one Director put it.

Even at present it is observed on some DET sites that heavy equipment is being used for some tasks which could be undertaken manually, and in a competitive environment the future of labour-based works could be affected. Reinvestment in tools and equipment maintenance is one such area of concern expressed by site members.

Contractor development: Project support in terms of advisory services and equipment has mostly been directed to the ECMEPs/DETs. DFID has supported the development of 8 contractors in Zambézia and LRCI assisted the development of local contractors (but substantially only to routine maintenance level) in the provinces. Local contractors have also participated in the FRP training programmes and World Vision employed some of them in Zambézia, but the access to equipment problem has not been resolved. Since the ECMEPs also received Japanese equipment they have considerable advantages over small local contractors who continue to struggle for development. Even the DFID contractors may not receive the promised equipment at the end of their project. Once established as private enterprises ECMEPs could simply swamp the local market. Discussions with EMPREMO revealed that none of its contractors could imagine bidding for a stake in the ECMEPs nor even the DETs if they were separately offered. The proposed establishment of the Plant Pools (the PERCs) also raises concerns for the smaller contractors. It is access to smaller, light equipment which these contractors will need for periodic maintenance operations and there seems no suggestion that this is what the PERCs may provide.

Equipment: One issue concerns the delayed arrival of much of the equipment which will result in its underuse by the end of the Project. It does not appear that these delays have seriously affected Project progress.

The ultimate disposal of equipment given under donor grants;

- Asdi to the DETs
- Japan to the ECMEPs
- DFID to the Zambézia project
- UNCDF to two projects

may also be a pertinent issue in the establishment of private companies, which would benefit greatly from such gifts.

Technical Aspect: Some concerns expressed in the Mid-term Evaluation report remain:

- Poor quality and random use of scour checks
- One tractor/one trailer combination
- Material spreading by towed grader
- Dead-weight towed compaction
- Varying ditch standards
- Use of heavy equipment in quarries
- Lack of setting out aids on sites
- Lack of labour-based technical manual
- Need for increasing soils testing programme
- Systematic field assessment and contracts preparation

Detailed discussion of these points is made in Annex 8.

Environmental Aspects: Observation from the site visits showed the usual picture that there are few environmental concerns on labour-based sites, which involve works on existing road alignment, apart from the use of bulldozers to clear quarry areas. Heavy machines do create problems with generally indiscriminate clearing resulting in large piles of material at the edge of road reserves and quarries. Labour-based operations pay more attention to drainage details and cause less disturbance to natural drainage patterns. If excavated by hand, gravel pits are easier to restore at the end of operations.

However, on some sites it appeared that site clearance did include the cutting of some substantial trees which might have been saved by small shifts in horizontal alignment or a local relaxation of the standard clearance width. Work camps appeared well organised and clean.

The Mid-term Evaluation noted that the Environmental Guidelines for road works which had been provided with Asdi assistance was of too general nature to be of particular use in the FRP. As discussed in Annex 8, there is a need for DER to develop a technical manual for labour-based works (as also proposed by the Mid-term Evaluation). This manual should also include guidelines on how to consider environmental aspects when undertaking rehabilitation and maintenance of roads by way of labour-based methods.

Employment: The impressive figures for employment generation are somewhat misleading as it is clear that ECMEPs retain much of their labour for longer than the local casual limit of 3 months (thereby also diminishing the creation of local skill for future maintenance). Fixed duration construction contracts over three months are indicated by Ministry of Labour advisers as legal, but this seems to be a grey area. Average employment periods of 8 months seem common but the benefits for labour employed under such "permanent" conditions may not be enjoyed. Delayed payment of labour and even incomplete payments to workers were mentioned but no evidence was immediately available. Contract documents should cover all the issues of Core Labour Standards and this should be noted for the current revision taking place. ILO/ASIST backstopping should play a key role in this respect.

3.4.3 Maintenance

The sustainability of all the Project activities depends on the ability to maintain the assets created by the labour-based road operations. From this point of view it is very encouraging to observe the amount of maintenance work which is being carried out by both the ECMEPs and private contractors trained under the LRCI programme. It is unusual to find a government prepared to put rehabilitated roads under immediate maintenance regimes when the amount of work required initially is minimal. However it is important to establish the principle of maintenance and under the DFID project for example all the contractors have one year maintenance contracts included with their rehabilitation works. The standard of work being carried out was generally good but, as always, there are areas which could be improved,

- over-emphasis on grass cutting rather than pothole and surface repairs
- inappropriate tools used for some operations
- ditch cleaning but without proper dispersal of the material
- little attention paid to scour checks
- insufficient attention to spot maintenance (identification of the key trouble spots)
- inappropriate use of graders
- (one case) fully effective maintenance of the road but no work on an impassable bridge

Under the length-person system, where each worker is allocated 2 to 2.5 km of road for annual routine maintenance, the objective has been to appoint one supervisor (basically establishing a labour-only contractor) to be responsible for up to 10 workers using a bicycle provided. An extension of this arrangement can be implemented if motor-cycles are available (36 of these were delivered in 1999). For this to be a sustainable system in a private sector environment the "contractors" will need the means of acquiring the motor cycles and an adequate set of handtools.

On some roads the maintenance work was being carried out using a group system – still apparently based on task work – as it was considered a better method for a "backlog" situation where the initial work to be done was considerable. In some places workers prefer to operate as groups and it should be left to the individual contractor to decide the most profitable working method.

There is now increasing use of the "level of service" maintenance contract with its objective parameters of average vehicle speed and maximum acceptable road conditions (e.g. surface defects and drainage). The first contracts under this system were awarded to local contractors developed under the LRCI programme. This concept is still quite new and it will need good monitoring and analysis of results before being refined and probably introduced on a wider scale. This would be a task for the new DER so that advice and appropriate documentation can be given to the DEPs who are responsible for managing the implementation.

For primary and secondary roads major (international) maintenance contracts are being awarded in which 30% of the works are to be sub-contracted to local contractors. Experience would suggest that these will be machine-intensive works and will reduce the possibility of assessing the contribution that labour-based methods can make to these roads also. Whilst major resealing or resurfacing work may reasonably require machines almost all other road maintenance (including bitumen road surfaces) can be carried out by hand, and often more effectively.

One example of motor grading observed during the site visit consisted in simply moving loose material to fill potholes when the surface really required some scarification, reshaping and compaction. Since it was raining at the time the result was not expected to be effective.

3.4.4 Systems and Procedures.

The priorities for deciding upon the roads to be rehabilitated and/or maintained lie with the provinces which is initially where the programmes and budget estimates are drawn up. The concept of decentralised government requires planning to be carried out at the devolved level usually through a process of popular participation within established (elected) bodies at various levels. Roads form only part of a provincial development plan and the responsibility for this component lies with the DEPs. It appears that this process in Mozambique has not yet reached an established "bottom-up" approach to planning (nor has it in many countries) but the institutional reforms of DNEP/ANE have formalised the DEP responsibilities in this area. DER (within ANE) now has a policy and monitoring role which will involve defining standards and producing the appropriate documentation, guidance and monitoring procedures to ensure a common national approach to tertiary roads.

It is not clear at this stage whether the Road Fund, which will provide the finance (including donor contributions) for road rehabilitation and maintenance, will deal directly with each provincial government for disbursement and monitoring of funds, or whether the money will be routed through the ANE/DER thus giving the Directorate a financial, as well as a technical, auditing role.

On one aspect of the planing and prioritisation of works it was stated (in one province) that no traffic counts are undertaken on tertiary roads. The project has also not carried out before and after

counts so the immediate impact of traffic on the improved roads cannot be measured. Regular road and bridge condition surveys are also needed for the planning exercise, and in this respect a road classification re-assessment is overdue (and apparently in hand).

It is noticed that in the 10 year proposals for Estradas3 some lengths of tertiary roads are programmed to be surfaced and it is suggested that this points to a need to reclassify. Some predicted traffic figures in the same document are in the 200–300 vpd range which would usually take roads out of the tertiary category, or at least suggest that they be maintained together with other surfaced roads.

Contracts are currently awarded without competition with fixed unit rates calculated under the Highway Network Management System (HNMS) unit cost module, which is a complex programme, suggested in the Mid-term Evaluation report as not necessarily appropriate for labour-based construction works. In future since contracts will be awarded largely under competitive bidding procedures this may no longer be a relevant issue. Instead it raises the question of the systems needed within DER (for implementation by the DEPs) for contract and tendering procedures, and other contracts management controls. The supervision of contractors and consultants requires different skill and more consistent, transparent procedures than have been needed for the current contracting environment.

Mention has already been made about the need for manuals (technical; financial; administrative) which the new Directorate will require and these are not confined to the labour-based activities. Ultimately the procedures should be such as to allow a contractor to choose the technology for the works according to preference (and profitability) although initially it may be necessary to direct that a proportion of works are constructed by labour-based methods to allow contractors and local communities to experience the advantages (and usually cost savings) of the technology. A situation has been reached elsewhere (e.g. in Soweto) where the local communities will not allow machines to operate where labour is a viable alternative.

There is a considerable amount of work to be done if the DER is to be properly established in its new role

3.4.5 Costs.

The road rehabilitation and maintenance costs are tabulated in the Annual Reports and not surprisingly these vary widely when taken on a country wide basis. It is not possible to do any meaningful analysis since the site conditions are seldom the same and the amount of work done on each road will also differ. Descriptions are under the heading of,

- Full gravelling (FG)
- Partial gravelling (PG)
- Spot improvement (SI)
- Periodic maintenance
- Routine maintenance

Apart from some (unexplained) abnormalities in the very high (or very low) range for the designated descriptions the costs appear to compare well with common experience. They also correlate closely with other projects such as DFID. A full rehabilitation cost of between USD 10,000–12,000 per km is the average with the lesser works proportionately less. It is significant that in dollar terms these figures seem to have been very consistent for labour-based works over the past decade in most countries. The DFID experience of 18 months of competitive bidding amongst the 8 contractors

has seen a consistent figure of around the Site Engineer's estimate, which has not been the case in other places where competitive bidding has been initiated. This is another area where DER will need a good monitoring procedure in place as it is an important input into the planning process. Figures used for estimates in the 10 year plan document are seen to be somewhat higher than current trends, to allow for the inclusion of realistic equipment costs and the uncertainties of the open market.

3.4.6 Target Beneficiaries.

Apart from the beneficiaries of the capacity building activities, DNEP/ANE staff; contractors; DEPs etc the main direct beneficiaries of the project are the workers who receive the wages in the rural areas. They are the subject of Section 3.5 of the report and it sufficient in this section to express the concern about the amount of equipment operating on many sites. Whilst the labour force figures of around 180–200 per brigade are admirable there are still tasks (e.g. spreading material; gravel quarry clearance, excavation and loading) which can be done by labour in a cost effective manner. The worry is that as the contracting system is commercialised and therefore less directly under the direction of DER/DEPs, contractors may edge more towards equipment use (seen initially as cheap because equipment is donated).

Contract conditions can be written to ensure that this is prevented and again a DER monitoring role is foreseen.

3.5 Impact of project

3.5.1 Introduction

The design of the UNDP/Asdi support to the Feeder Roads Programme (FRP) planned for two types of data collection during the project's life which should have contributed to the final evaluation:

- Short term specialist assistance to the CMU to carry out baseline data collection and analysis for a period of 6 person months in 1997, (and subsequent in-house monitoring of data).
- In order to react to the recommendations of a study on women's participation in the FRP carried out during 1995/6 a Gender and Social Issues Advisor was to be employed for 24 months by DNEP with a scope of work that included data collection and analysis that built on the initial study concerning constraints to women's participation in the FRP.

Although the project impact objectives appear to have been over-ambitious, the quantitative baseline required to measure these was not carried out. The lack of quantitative baseline information resulted in the unsystematic development of monitoring and evaluation formats to verify the participation of target beneficiary groups aside from women. The effects of the Project on their lives was not followed up, particularly monitoring the dynamics of local roadside recruitment. The advantages of maintaining skilled workers in road brigades were not directly addressed, and subsequently neither were the conditions of contract for longer and shorter term workers.

The systematic testing of labour systems in different social and geographic conditions depended to a certain extent on knowledge of the different social and geographic conditions that should have been made available from quantitative baseline information.

As a result of having no baseline study it is difficult to draw conclusions for this final impact evaluation of the Project from available information. A Gender and Social Issues Advisor was employed, and within a non-enabling environment has achieved some important steps towards mainstreaming

key issues in ANE's operational systems, partly indicated by the increased involvement of women in the project. The ambitious social impact objectives of the project appear to have been unrealistic. The development of the Advisor's data collection and analysis capacity was initiated with a basic qualitative assessment in 1998, and although this report appeared not to have been a priority for ANE at the time, the relevant, instructive findings and recommendations (See Annex 10) have informally been used to orientate social and gender issues development.

An eight day visit to two provinces during this evaluation did not provide an opportunity for verification of more than the operating conditions of the Project in some very small non-representative sections of Nampula and Zambézia provinces. Since there is little useful information from the UNDP/Asdi Project on which to base an assessment of the Project's impact in terms of its stated objectives, the experiences of impact monitoring on two other donor funded FRP projects will contribute to considerations of impact in this Project.

3.5.2 Employment of Casual Workers

The majority of locally recruited workers are usually hired once a year. At the beginning of the year the ECMEPs carry out recruitment drives, normally in the areas where the roads are to be rehabilitated, but sometimes (as was the case in Sofala in 1998) they also use the district Labour Offices, or radio broadcasts (in Niassa). Ideally contacts are to be made with local authorities and village meetings held to inform residents in the area where the road will be rehabilitated. In practice this occurred but actual or past brigade members passed along much of the information. Brigades were hired following a manifestation of interest on the part of prospective candidates. At the start of the project gender was not a factor in the hiring decision. After installation of the provincial Gender Núcleos in 1998 this situation was changed and each province agreed to a locally defined proportion of women to target as brigade members.

For labour-based works it is often recommended that the length of casual worker contracts be a maximum of three months. In practice this has usually been much longer and often the case that workers hired at the beginning of the year continued through to the end of the year carrying out an average of eight months of work (see Annex 10:3). This situation was initially identified in the Gender Advisor's assessment in 1998. Factors conducive to it were explained as the lack of roadside residents in some areas where roads are to be rehabilitated, preferences of brigade leaders for experienced workers that are already skilled, and pressure from the brigade workers themselves to keep their jobs and ensure continuation of their income. In addition due to inability to pay salaries on time the ECMEPs sometimes have not been able to terminate contracts. Some workers interviewed in 1998 had worked with brigades for approximately ten years.

Countering the advantages expressed, the negative effects of this form of recruitment and contracting in relation to Project objectives include reduction of :

- the size of the skill pool expected to be trained during the Project life,
- the overall numbers of people involved in the Project and therefore,
- the potential reach of income generated in roadside locations where recruitment is expected to take place.
- the potential for longer term sustainability of operations:
- of local responsibility towards the state of the road,
- of potential for local recruitment of skilled workers, particularly women, for maintenance activities and,
- potential for creation of local labour organisations.

In reality over 19,700 people were employed as casual labourers by the project (see Annex 10). If employment had been for three instead of eight months on average, even given the real problems in some areas of local labour not existing, at least double this number would have been able to participate in the labour brigades, of which approximately 13.6% would have been women. As the majority are usually heads of households, the road is seen by them as a good opportunity for employment, even though it is temporary. Women in Zambézia and Nampula noted it as a chance to learn new things.

Most women employed in the work brigades are heads of families and as such are among the most affected by conditions of poverty in the rural areas. Calculations based on the minimum wage at official exchange rates, indicate the overall injection of cash via 22,957 employed workers to the local rural economy is approximately USD 5.36 million. This provides an approximate annual cash income of USD 233 per family having carried out an average of 8 months of work a year (see Annex 10:4). This estimate is likely to have many permutations depending on the employment methods used by the ECMEPs, the actual family sizes in the locations of work, and the receipt of full minimum wages for work carried out.

As mentioned above, as an instrument of poverty reduction, the FRP has reached fewer families than expected due to the practice of hiring casual labour for longer periods than expected. Thus while family incomes have been higher the overall impact has not occurred along the edges of rehabilitated roads, and distribution of participants through the project areas is probably so low that effects of the cash injection will be less 'visible' than might have been expected.

3.5.3 Creation of marketable skills

Informal on-the-job training was provided to all brigade members. No training was provided by the Project that assisted in the promotion of casual labour to permanent labour. The recruitment to permanent labour positions with the contractors, stipulated minimum educational levels that precluded most brigade workers. Thus the two systems tended to operate independently, and while formal training was offered by the Project to recruited maintenance supervisors, rehabilitation supervisors and brigade leaders for example, these candidates were not necessarily sought from the rural areas along the roads. Application of gender sensitive criteria to the selection of candidates appeared after the gender component became active in 1998, and the proportion of women participants reached its height in this year at 18% (average over three years 13%).

A total number of 22,956 people were employed in the labour brigades and as shown above, on average each worker is employed for about eight months per year. Since the ECMEPs recruit annually and some of the same core brigade members are selected as the best from previous experience work on all the roads, the resulting mobile semi-permanent brigades are a testimony to the marketability of the skills acquired. By retaining workers to continue working on different roads the numbers of first-time workers learning new skills as a proportion of those employed are reduced. These figures are not monitored directly. However, the 1998 assessment carried out by the Gender Advisor provides detailed supportive information to calculations, showing the average length of time of employment, that can be made with the employment level figures available in the FRP annual reports.

3.5.4 Benefits to Rural Disadvantaged

With the premise that over 70% of the rural population is considered to live in absolute poverty, it can be assumed that the participants in rehabilitation and maintenance brigades will largely belong to this group. Assessment of the effectiveness of the Project in generating socio-economic impact in the areas of influence cannot be quantitatively expressed here, since there is no data to support

claims. As such, generalisations from the field visit during this evaluation and experiences of other rural roads projects will be used illustratively to point to some of the key areas that should be addressed in order to obtain data for measurement of socio-economic impact.

Women involved in the FRP road brigades have mostly been single/widowed heads of families. Reports from the DFID and the USAID funded projects support views expressed during the evaluation visit to Nampula and Zambézia where women reported that they used their salaries for home improvement and support of family expenses, particularly of children. Where women often suffered unexplained salary reductions as brigade members in the past, this was said to be rare now and they receive the full minimum wage. The steady rise in numbers of women employed on the FRP (17% in 1999) is broadening the impact of their income. For an average of eight months of work a woman may receive approximately 230 USD.

In 1998 a Gender Commission was set up in DNEP as the forerunner of the Poverty, Gender and Aids (PGA) Unit. This had the objective of creating awareness on gender issues through seminars and increasing training opportunities available to female staff. The issue of the production of recruitment guidelines and the subsequent development of fair contractual conditions for contracted workers should have been the result of a study planned in 1997. This study was not carried out by the independent consultant as originally hoped, but was initiated by the Gender Advisor in her study in 1998. In general it appears that studies were not actively encouraged and although the results of her preliminary investigations in 1998 were available, no endorsement from ANE was received to permit their follow-up. Initial findings included:

- Information concerning recruitment was not well disseminated prior to the activity
- The few women participants in brigades were employed for the first time and, as most were illiterate, few held posts with additional responsibilities, such as supervisors.
- Basic health and accommodation facilities were poor in the camps.

In 1998 Núcleos de Apoio were to be installed in each province to assist in addressing these issues. It was expected that funding and an official mandate would be secured to ensure their effective operation, however this was not established. Instead Gender Núcleos were set up in each ECMEP where their costs were covered within general contract funds. Their legitimacy is partially resolved by ensuring that the three members are a quality controller from DEP (DDOPH or DPOPH), the head of DET (ECMEP) and a woman ECMEP staff member, who is also the team leader. One of the principle reasons for not securing a mandate for these structures was the continued indecision about the legal status of the ECMEPs themselves.

Two social science university students were appointed by ANE in 1998 as counterparts to the Gender Advisor. Aside from their focus on gender awareness creation in ANE, the principle responsibility of the counterparts has been to ensure the establishment and effective operation of the provincial Núcleos. At the end of 1999 Gender Núcleos introduced a stipulation that in every work brigade a representative responsible for gender issues be nominated. This is expected to assist private contractors and the ECMEPs to deal with gender issues on-site and with local authorities.

Plans for guidelines to be produced in 1999 concerning non-discriminatory recruitment were not followed up with success up to the end of that year. However actions are being taken in 2000 in parallel with the other institutional changes occurring with the encouragement of the World Bank.

3.5.5 Accessibility to social services

The number of education and health care facilities could have been established by the baseline survey and monitored during the Project. Details of the trends in attendance in schools and visits to

clinics could have been used as additional qualifying information. To date few education sector provincial directorates have all schools mapped. Only those made of permanent construction materials are identifiable, and the decisions concerning their location are made through a long process of prioritisation that includes participation of the Ministry of Education in Maputo. The education and health sectors prioritise facilities for rehabilitation over the building of new schools and health units. The criteria for site selection have largely been based on coverage issues, prioritising areas of known higher population density. As such the condition of access roads often played a lesser role. With complex causal relationships such as these, information that includes schools and health units made of temporary construction materials should be obtained from a comprehensive baseline social impact survey. Attendance records of education and health care facilities indicate general trends over time, but are also subject to many complex influences including road rehabilitation. Qualitative field studies can assist interpretation. Where distance is identified as the principle reason for non-attendance for example, the results may more reasonably be seen as related to transport and physical access.

The general impression communicated to the evaluation team in Zambézia and Nampula provinces is that the FRP has ensured more rapid and safer access to health units and has permitted educational outreach teams to transmit ideas about STDs/AIDS more easily. Distances to primary schools still require many pupils to walk for up to two hours from home to school.

In general, delivery of agricultural inputs are closely related to the establishment of extension services, and other rural development projects throughout the country, although this does vary in some areas where markets are better developed. Extension services are only available in 52 districts in Mozambique, most of these being in Nampula and Zambézia with the highest population densities in the country. Evaluation of the changes of use of inputs such as pesticides, fertilisers, improved seeds and traction assistance may usually be obtained from comprehensive quantitative surveys or the quantification of qualitative assessments. Interpretation of quantitative results should be assisted by qualitative assessment results that identify the sources of the inputs, their distance and the costs. Reasons why rural residents do not have any improvements have been found through other surveys to indicate difficulties with communication and diffusion of information, distance, lack of trade and traders as well as transport difficulties. Information supplied to the evaluation team in Zambézia and Nampula confirmed impressions of the growth of informal markets and that improved access for the sale of agricultural products appears to be stimulating rural development.

Access to urban markets would appear to be an indicator better attuned to more developed areas than the rural areas of Mozambique. Marketing of agricultural produce and the products of micro-enterprises rarely involve first level producers interacting with urban buyers. Due to the great distances between urban centres, often trading middlemen are the ones supporting the transport costs to urban centres for sales, unless producers live within about 40 km of these. Passenger and cargo costs (approximately 50 kg) identified in Zambézia varied between USD 1.00 and USD 1.50 to travel 40 km. While it is understood that the broader impact of the rehabilitated roads may be sought through the commercial connections of rural communities with urban centres, surveys focusing on the reality of rural markets (temporary and permanent) would be more indicative of the mobility and socio-economic impact of improved access to the majority of rural residents. Information collected concerning the type of products sold, prices and distances travelled and means of transport (including head loads) would give a much more relevant image of current and medium term rural market dynamics. Where there are few vehicles, as is the case in many of the rural roads in Mozambique, traffic counts of pedestrians and bicycles with loads could be instructive in terms of estimating potential demand for transport.

3.6 Summary of evaluation

3.6.1 Findings: Project Preparation and Design

1. The Project objectives are relevant.

2. However, the Project as designed was not feasible in some respects. Ambitions with respect to institution-building have thus been too high, and conditions and environment have not been conducive to allow objectives to be met with respect to institutional development.

3. A substantial amount of new equipment is being delivered to the ECMEPs /DETs putting emergent private sector operators at a disadvantage. These contractors have not so far been given easy access to their own equipment.

4. The Project is achieving its physical outputs – as formulated in the Project documents – in spite of delays in procurement and recruitment, apparently partly by using available – heavier – equipment.

5. Project appraisal was inadequate as reflected by unrealistic ambitions, lack of equipment needs analysis, lack of sector analysis as well as poor Project documents.

3.6.2 Findings: Efficiency of Project Execution

1. Given the circumstances, the Project has been well managed internally.

2. The Project has played its role vis-à-vis the donor community, and has been effective in supporting and contributing to the co-ordination of assistance to the Feeder Roads Sector

3. Co-ordination between 'ROCS' activities and FRP activities appears to have functioned less well. There has been no jointly developed strategy for how to support the development of the DEPs. The same applies to contractors.

4. Governance has primarily been undertaken through the Mid-term evaluation and less through donor monitoring.

5. Short term experts in maintenance systems and baseline studies would have been helpful. More backstopping would perhaps also have been useful. But the real emphasis of the Project, as executed, has been on works and much less on 'development' and 'institutions'. The conditions and environment of the Project have not been conducive to higher ambitions.

3.6.3 Findings: Effectiveness of Institutional and Technical Aspects of the Project

1. Technically the rehabilitation and maintenance works have generally been of good standard, and there is no reason why these standards should not be retained in future. Output targets set for the Project are being reached although the number of km of feeder roads under labour-based routine maintenance are lower than hoped for.

2. DETs often suffer now in their position within the ECMEPs, for example with respect to supplies of tools and investment in equipment. There is no guarantee that future ECMEP Directors will fully support labour-based operations. Specific contract conditions may be required.

3. ECMEPs/DETs have been doing good work to date, but there are examples of the unnecessary use of heavy equipment and the concern is that this may increase in the new commercial environment. It is unclear to what extent the ECMEPs/DETs will function profitably in a fully commercial environment.

4. Extensive training has been provided covering all levels for ECMEPs/DETs, but has not focussed on the DEPs (although they have been partially assisted through other consultancies not part of the FRP), thus leading to an imbalance of capability. At present the 'contractor' is in a stronger position than the client, as site supervision is weak.
5. Future position and roles of the DEPs are unclear, and the DEPs are not in a position to embrace commercial contract management. The need will be for experienced engineer/managers who may not be readily available.
6. DER needs to develop systems, procedures, contract documentation, and technical manuals and guidelines in order to fulfil the policy, standards and monitoring role within ANE and vis-à-vis the DEPs.
7. With current reforms, some of the existing role/positions in the CMU/DER will be significantly changed and be less 'hands on', which is what most staff have been trained for.
8. Counterpart situation is now good, and the technology transfer programme (TTP) is a priority. However, TTP system is not appropriate for an institutionalised human resource development within ANE.
9. CFE at Chimoio is weak with staff levels insufficient to go in the 'commercial world'. The established labour-based courses are unlikely to be attractive to profit-motivated contractors.
10. Equipment procurement has been well managed, mechanical support is good and technology transfer has been achieved, and equipment utilisation has steadily increased. Procurement has suffered repeated delays due to a number of factors, outside the immediate control of the Project staff, including, apparently, a decision to delay procurement until ANE had fulfilled certain conditions in respect of recruitment of TA staff.
11. Much of the equipment has arrived late in the Project and some has not yet reached the sites. This will result in nearly new equipment being handed over at the end of the Project. Since the progress does not appear to have been adversely affected the initial equipment needs assessment could be questioned.
12. Private sector development has left out consultants, but a key role is to be played by them in future support to DEPs.

3.6.4 Findings: Impact of the Project

1. The socio-economic impact of the FRP has apparently been generally positive, but the quantitative data to support this impression is not available. Although the project impact objectives appear to have been over-ambitious, the quantitative baseline required to measure these was not carried out. The lack of quantitative baseline information resulted in the unsystematic development of monitoring and evaluation formats to verify the participation of target beneficiary groups aside from women. The effects of the Project on their lives was not followed up, particularly monitoring the dynamics of local roadside recruitment. The advantages of maintaining skilled workers in road brigades were not directly addressed, and subsequently neither were the conditions of contract for longer and shorter term workers.
2. Labour brigade members have acquired skills and income from employment, but the number of beneficiaries could have reached over double if recruitment of labour brigades had occurred more frequently and included more new candidates without previous experience. Brigade members have benefited from reasonable wage incomes, although the impact of this in terms of poverty reduction in the population living around rehabilitated roads is at best marginal.

3. The gender component has positively influenced the participation of women in labour brigades, the number of which rose steadily during the Project period. The installation of provincial Gender Núcleos is improving women's participation and working towards improving working, living and health conditions of brigade workers.

4. The improvement in accessibility between district centres as a result of the FRP is significant. There are evident signs of greater commercial and agricultural development among the people living around the roads since their improvement. However due to the pervasive effects of widespread poverty in the rural areas the majority of road users are still on foot, commerce along the roadsides is very slow in gearing up, and the markets for agricultural produce depend on the availability of scarce and rather

3.6.5 Lessons learnt: Project

1. Independent and thorough appraisal is necessary.

2. There is a need to ensure that 'projects' are not too diverse in nature (there must be homogeneity in 'culture' within a 'project').

3. Institution- and capacity-building is a long process. A technical assistance framework can only be expected to achieve limited results.

4. There is a need to ensure an arm's length relationship between the donors and a technical assistance team financed by the donors. The principal of the technical assistance is and should always be the recipient of donor assistance.

4. Future support

4.1 Introduction

The review of the performance of the Project in Chapter 3 has resulted in the conclusion that whilst much has been accomplished under the Project, institution-building is by no means complete. It will, in fact, be a much larger task to ensure that the feeder roads can be managed on a self-sustained basis than what is suggested by the Asdi and UNDP project documents.

To ensure progress, in and development of, the feeder roads sector continued support will therefore be needed. It is understood that Asdi is prepared to consider such continued support, whilst UNDP does not have any further resources to devote to the road sector at the present time.

This chapter will now consider the specific needs as well as the scope for a continued support to the feeder road sector. This will be done by first undertaking a situation analysis focusing initially – in section 4.2 – on the policy and institutional framework, which has recently changed significantly, and subsequently – in section 4.3 – on the plans and programmes of other donors of relevance to the sector.

4.2 Situation analysis i: Institutional change

4.2.1 Policy Framework

The policy and institutional framework of the road sector is currently undergoing significant change. This section summarises recent changes of this framework and draws conclusions for any possible future support. A review of the institutional arrangements and proposals for institutional change up to about mid-1998 is contained in Annex 11 (which is an annex of the report of the Mid-term Evaluation Team).

Through a Ministers' Council Resolution (No. 50/98) of 28 July 1998, the GOM has recently issued its new road policy ("The Road Policy"). It reaffirmed a number of principles already established, including

- emphasis on road rehabilitation and reopening rather than on new road construction;
- emphasis on routine and periodic maintenance rather than on continued rehabilitation;
- the relevance of the use of labour intensive methods, thereby providing jobs for the rural population whilst taking into account the gender factor;
- that the road fund would be used to finance road maintenance;
- increased private sector participation in the design, supervision, construction, rehabilitation and maintenance of roads;
- the need for decentralisation of the management of the feeder roads to the provincial level; and
- that the ECMEPs would be restructured on a commercial basis.

The most important part of the new Road Policy was, however, that it confirmed that the GOM intended to reform the institutional arrangements in the road sector, within a framework referred to as the "National Road Administration System".

The new system was subsequently enacted through the following decrees in 1999:

- The Road Administration System; Decree 14/99 of 27 April
- The Fundamental Statute of the National Road Administration; Decree 15/99 of 27 April

4.2.2 The New Institutional Structure

The key elements of the new system are:

- The Road Board
- The National Road Administration (ANE)
- a reformed Road Fund (FE), now part of ANE
- a new role for the Provincial Government.

The internal regulations of ANE, which develop the decrees by providing operational details about the functioning of ANE, were approved by the Minister of Public Works and Housing in December 1999. The organisational structure of the National Road Administration System is shown in Figure 4.1.

The Road Board is responsible for the supervision of the management of the road network. The Road Board approves ANE's annual plans and budgets, and proposes to the Minister the adoption of ANE's contract-programme (i.e. performance agreement) with the GOM.

Appointments to the Board are made by the Minister of Public Works and Housing based on proposals from designated ministries and private sector organisations. The Board has a total of 11

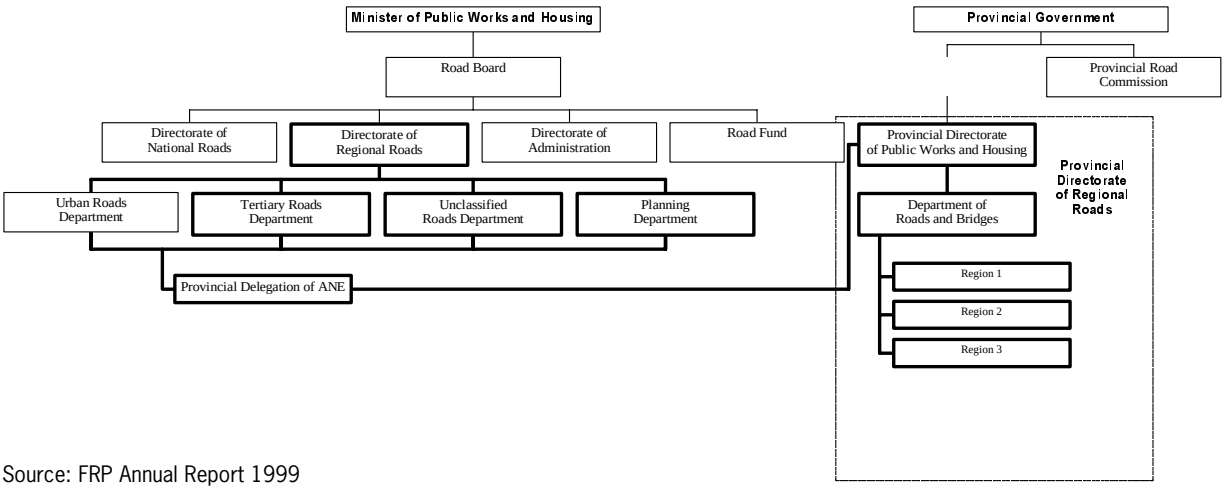
members, a Chairman, a Vice Chairman, four representatives of ministries, four private sector representatives, and one person nominated by the Eduardo Mondlane University.

The Chairman is also the Executive Director of ANE, and is responsible for implementing the contract-programme, and the overall management of ANE. The Vice Chairman also acts as the Director of the Road Fund.

The National Road Administration (ANE) replaces DNEP. It is a juristic person, with financial and administrative autonomy, and comprises four directorates, the Directorate of National Roads (DEN), the Directorate of Regional Roads (DER), the Road Fund (FE) and the Directorate of Administration (DA).

The DEN is responsible for the management and execution of works on national (primary and secondary) roads. DEN will rely on the DEPs (Directorates of Provincial Roads in the provinces) to undertake condition surveys and supervision of maintenance works on the national roads. The DER has a policy-making, co-ordinating, monitoring and advisory role for work carried out by the provinces on regional (i.e. tertiary, urban and non-classified) roads. The DER will also collate and compile the annual budget submissions from the provinces. Actual day-to-day responsibility for the management of the Regional Roads will rest with the DEPs.

Figure 4.1: Road Administration System



Source: FRP Annual Report 1999

The FE is responsible for financial planning and the management of income and expenditure in the road sector. Budget proposals from the DER and DEN are co-ordinated and combined into an overall budget for approval by the Road Board and subsequent incorporation into ANE's contract-programme with the GOM. The Road Fund derives its incomes from various road user charges/ levies, as well as appropriations from the budget of the GOM and donor funds. The FE may make proposals for changes in the level and new charges to the Board for approval by the GOM.

The DA is responsible for internal resource management, human resources and training. The CFE at Chimoio, does, however, not fall under the DA; it is at present reporting directly to the MOPH, but is expected to later be established as a self-financing autonomous unit under the Human Resources Directorate of this Ministry.

The role of the Provincial Government has been clarified with respect to the Regional roads – it is the road authority with respect to these roads – and these responsibilities will be vested in the DEPs

within the DPOPH. As before the heads of the DPOPH will report both to the Provincial Governor and to the Minister of Public Works and Housing.

Two new bodies are to be established at the provincial level:

- Provincial Road Commissions, which will fill advisory functions to the Provincial Governments with respect to provincial road plans and budgets.
- Provincial delegations of ANE, which will advise the DPOPH/DEPs and monitor and supervise maintenance planning, inspection, traffic counting and road condition surveys carried out by the provinces.

By the time of writing of this report the new organisations had only partially been established, including the appointment of senior management. The impression gained was that a considerable amount of work still remained to be done to actually launch the new system of operations. A next step, apparently to be finally prepared during May 2000 is to effect the transfer of assets, etc., from the DNEP (which is not yet defunct) to ANE as well as the DEPs.

4.2.3 Reform of Parastatals

The plans for transforming the ECMEPs into Companies Act companies were also effected during 1999. The legal framework is now in place for establishing three regional ECMEPs as limited liability companies (SARLs), to be operated through branches in the various provinces. The boards as well as senior management are in the process of being appointed, but the impression gained by the Team was that the new companies have not actually started to operate, although the environment in which the ECMEPs now function has changed. The DETs, i.e. the labour brigades previously established under the ECMEPs, will remain part of the reformed ECMEPs for the time being.

The three proposed plant companies – the PERCs – to be established by transferring heavy plant and equipment from the ECMEPs – have not yet been set up. An earlier attempt to establish these companies through a partial privatisation of the shares of the envisaged companies was apparently aborted. At present a commission is working on the issue as to which equipment should be transferred to the envisaged companies. The future of the PERCs appears unclear.

4.2.4 Evaluation

The purpose of the institutional reform – which has been pushed by the donor community involved in the road sector – was to promote increased efficiency of the management of the road sector by allowing for delegation subject to a system for effecting accountability. From that point of view, the reforms now being implemented must be viewed as containing some deficiencies, viz.:

1. The Road Fund and road management are accountable to the same board, and ultimately to the same ministry. It is preferable to clearly separate the funding from the management role in the road sector, and view the funding role as regulatory in nature.

2. The Chairperson of the board is also the executive director of ANE, including the Road Fund. This vests too much power in one and the same person. For operational entities in the public sector it is clearly preferable to separate the policy and monitoring function from the executive function.

3. The degree of delegation from the political level to the Road Board is constrained in a number of ways, which limits the independence of the Board.

4. The ANE has executive responsibilities for the national road network but formally does not control the organisations responsible for road management at the local level, i.e. the DEPs. In addition, the DEPs remain responsible for the tertiary roads but have not been reformed, and thus still have two masters, the Governor and the Minister of Public Works and Housing. The DEPs will now furthermore have to relate to the provincial delegation of ANE. The very vulnerable situation of the DEPs will, in addition, be aggravated by the fact that the DEPs traditionally have been in a weak position vis-à-vis the ECMEPs.

From the point of view of the tertiary road network, including the Feeder Roads Programme, the reforms may be seen to have resulted in certain positive changes. Firstly, it has now been clarified that the management of the tertiary roads is a provincial responsibility, implying that the role of ANE is only supportive and advisory. Secondly, there is now a unit in the ANE responsible for activities related to the tertiary roads (including urban and non-classified roads) with basically clear terms of reference, which in addition is separate from the unit responsible for the national roads (although it is to be recognised that a first step in this direction was taken in mid-1998 through the creation of the SET). This also means, as already emphasised, that the FRP now has a clear organisational link with ANE.

On the other hand, it should also be noted that ANE will control the budget process, as the Road Fund is part of ANE, which means that some of the new powers given to the provincial level may in effect be illusionary. In addition, the DEPs have as noted not been reformed, and these units which will have to drive road management of the tertiary roads, are still part of the public service.

It is understood that several donors have voiced criticism of the reforms and that the GOM has taken note thereof. The GOM has thus accepted the principle that the Road Fund should be separate from ANE, and it is expected that legislation will be passed in the course of 2000 to effect this change; see below. The GOM is also evaluating other views which have been expressed on the reforms implemented so far.

The view of the Team is that the reform now being implemented is incomplete, and mainly for the reasons given above. The Team also notes that there is apparent dissatisfaction amongst staff of the ANE, reflecting – in addition to that no salary upgrading has yet been carried out – that other changes are being implemented slowly and that there has been little change in management style since the creation of ANE. The ANE remains being a top-down organisation, and the Team's impression is therefore that the establishment of ANE has – as yet – not been accompanied by a change in culture'.

Having said this, it should finally also be emphasised that one important change has now been accomplished through the reform, i.e. the separation of the road authority functions from the operational aspects of the road sector. ANE and the provinces now represent the public side of the road sector, whilst the ECMEPs are to be seen as a contractor, i.e. belonging to the private sector. This also applies to the PERCs, if they were to be established.

4.2.5 Implications

From the point of view of designing a possible support to be seen as some form of continuation of the support to the FRP, the implications of the reform process to date may be seen as:

1. ANE will in the future not be involved in contractor development. It will hence not be possible to, through ANE, develop contractors, including to directly promote labour-based works techniques. Any support of this nature will in the future have to be channelled through a different vehicle, either directly to contractors or via, for example, the Contractors' Association (EMPREMO) and or the MOPH (see below).

2. The institutional structure now being put in place will likely be reformed yet again. In particular, the important role to be played by the DEPs in the new System, whilst considering their very vulnerable situation within the new arrangements, suggests that the arrangements for road management at the provincial level may have to be changed in the near future.

3. There is a unit at the central level which now has clear responsibilities with respect to regional roads, viz. the DER. It is to be noted that these responsibilities do not relate to feeder roads, but to the tertiary roads as well as non-classified roads. The DER is as yet only a skeleton organisation, and only the top position has been filled to date. Draft internal regulations have been produced and are awaiting approval and a recommended staff structure exists.

4. The school in Chimoio is now not a part of ANE. Any possible support to that entity will have to be channelled via MOPH or to it directly.

4.3 Situation analysis II: Plans, programmes and projects for the future

4.3.1 Estradas3

During the 1990s and until the end of the decade the operations of the roads sector have been managed through two sets of projects, viz. the ROCS projects and the FRP, with the FRP actually being viewed as a component of the former. These projects/programmes are the framework within which the donor support to the roads sector is being co-ordinated. However, this framework has also become the actual programming, planning and budgeting framework for more and less the entire road sector in the country.

With the ROCS2 project coming to an end, ANE has initiated a new round of planning for programmes to be supported by the donor community, now being referred to as Estradas3. This work was initiated in 1999, and is continuing on into the year 2000. The framework of the planning process is given by the condition that the World Bank is again expected to take the lead, and progress on the formulation of the plans is therefore dictated by the time table set by the World Bank. It is understood that the original plans involved the launching of the successor of ROCS2 early 2000, but that there has now been a delay by at least a year; see further below.

DNEP's first attempt to prepare a programme of future support was presented through a document issued in May 1999, entitled "Draft Donor's Document; ROCS-3; Funding Agency's Summary Report". It envisages a 10 year support programme for the period 2000 to 2009, which is divided into 3 periods of 3 plus 3 plus 4 years. The FRP was actively involved in this planning process.

The proposal is built up around three areas of activity, viz. institutional capacity development, road network maintenance and development, and bridges maintenance and development. The total cost of the 10 year programme is estimated at USD 3 288,8 million. The financing of the proposed programme is based on the assumption that the GOM would be able to fund the cost of all road and bridge maintenance through revenues generated by the Road Fund.

This document envisages that ANE would continue to play a leading role in the road sector, and also beyond its immediate area of responsibility as the country's road manager. This would appear to go against and negate some of the principles of the reform process, and the official policy has also changed since then; see further below.

In February 2000, this document was followed up by a second round of plans, from which a specific document for the regional roads sector also exist, reflecting the fact that the DER had been established by then ("ESTRADAS3, Regional Roads Programme Component", DER/ANE, Febru-

ary 2000). This document is more elaborate in the sense that it is more specific about the institution building work required within the regional roads sector. It also sets out the activities with which DER, and the provincial road authorities – the DEPs – have to be involved and conversant, and indicates in which area capacity has to be developed and strengthened. The document furthermore contains outline proposals for technical assistance required in order to build up the know-how required for the operations of the regional roads sector by DER and the DEPs.

As for the previous programme proposal, the plan document identifies tertiary and non-classified roads to be rehabilitated and those to be subjected to periodic routine maintenance, and provides annual cost estimates for various types of works for each year. The total works costs are estimated at USD 370.5 million. No cost estimates are provided in the document for the envisaged technical assistance (although such cost estimates have been prepared), but an approximate manning schedule is indicated.

This document furthermore makes reference to the need for support to contractors, but states that the support should be provided though the Directorate of Economics of the Ministry of Public Works and Housing, EMPREMO and CFE (i.e. the school in Chimoio).

It is understood that the MOPH has since then decided to move these reform and development matters forward by creating a specific unit within the Ministry to drive the process. The unit would play a facilitating role, but would also be involved in formulating policies for the future development of the ECMEPs, the DETs and the proposed PERCs. If adequately staffed and having sufficient authority, this arrangement could prove to be instrumental in inserting some energy into process which so far has been weak and slow.

4.3.2 ROADS3

Meanwhile, the World Bank is doing its work as part of the preparation of the successor to ROCS2. It appears that the time table for launching this next phase, now expected to be referred to as ROADS3, is partly dictated by that the Bank is seeking certain commitments from the GOM with respect to the new Road Administration System. The Bank has expressed concerns about, *inter alia*, the fact that the Road Fund is an integral part of ANE, and GOM actions to affect this situation are apparently awaited before the Bank is prepared to conclude its programming of its next operation. But the apparent delay of the next operation is also made possible by the fact that funds are still available under ROCS2.

This next operation is envisaged to become a programme (a so-called Adaptable Program Lending (APL)), to be divided into three tranches. The current time table is pre-appraisal in October 2000, appraisal in February 2001 and board presentation in July 2001.

To develop its current plans for future support further, the ANE will have to:

1. Carry out a Road Sector Strategy study; consultants are being recruited
2. Undertake an Environmental Impact Assessment of proposed investments in the National roads; recruitment of consultants is being initiated
3. Implement separate and improved accounting and financial management systems for ANE and the Road Fund; consultants are being recruited
4. Mobilisation of additional international expertise (two experts) to assist ANE to develop its investments proposal further so that they comply with the Bank's procedures.

It is envisaged that the ROADS3 project will – in outline form – identify all substantial activities to be carried out during the coming 10 year period (2001-2010) – including with respect to the

regional road network – but with greater details to be provided for the first 3 years. It is understood that the Bank may also consider becoming involved in financing activities in the tertiary road sector. The Bank is currently undertaking a Mozambique Rural Travel and Transport Program (RTTP) study which is part of a wider strategy to promote rural development. The RTTP study is expected to identify actions in order to improve rural travel and transport, and may generate actions which later may be brought into the framework of the envisaged APL.

However, at the present time no decisions have been made on specific actions to be supported by the Bank within the proposed ROADS3. The approach to be used to identify who does what under ROADS3 is first to identify all the needs, and then to split the external financing needs between interested donors, with the Bank playing the role of ensuring the integrity of the final programme of support.

4.3.3 Other Donors

A substantial number of other donors are also involved in the tertiary road sector, generally on a rather small scale. This section will briefly identify the activities of these other donors of relevance primarily to the regional road sector. The coverage is not necessarily exhaustive, but most important ongoing and planned activities are referred to.

The **DFID** (UK) support to the FRP was initiated in 1995 and aims at rehabilitating more than 800 km of classified feeder roads in Zambézia. A component of the project is to develop small scale private sector contractors conversant with labour intensive methods, and under the project 8 such contractors have been fostered. All contracts are at present let under competitive tendering. The project is being implemented by ANE through DEP Zambézia.

By the end of December 1999, 579 km of road had been rehabilitated and were under routine maintenance, against a project target of 683 km. Following a review in July 1998, additional funding was made available – the total budget is now about USD 16.6 million – to enable the initial project target to be achieved up to March 2001. DFID has not yet decided on a future course of action after this date, but it seems unlikely that the present programme will be extended further in its current form. DFID will field a mission in June 2000 to review the scope and nature of any further support to the feeder road sector.

USAID is financing the activities of several NGOs, including World Vision, ADRA and Save the Children who develop and undertake road rehabilitation and road maintenance using labour intensive methods. World Vision has programmed 460 km in Zambézia, 525 km in Nampula and 39 km in Tete, being a mixture of tertiary and unclassified roads. World Vision may also initiate operations in Maputo. ADRA is involved in the rehabilitation of 370 km of unclassified roads in Zambézia, and SCF is rehabilitating 125 km of road in Nampula province. The current support, involving a total of USD 4 million, will continue to at least the year 2002, with future plans not yet determined.

KfW of Germany has for some time been involved in the development of a camp-based maintenance system for (secondary and tertiary) gravel roads in the provinces of Manica and Tete. In addition, a project for the same class of roads has recently been initiated in Zambézia involving rehabilitation and subsequently the introduction of the same maintenance system as already introduced in the two other provinces. It is planned to initiate a similar project in Sofala as from 2002.

Irish Aid is providing assistance to the FRP in Niassa through direct budget support to the provincial government. The works are being done by the DET – although part of the work was subcontracted to a small private contractor in the province – and has initially involved rehabilitation of 35

km, with a further 100 km being considered. No TA has so far been provided under this programme of support.

The **OPEC Fund** is financing a fisheries development project in Nampula province, and coastal roads are being rehabilitated as part of the project. Responsibility for the project has been passed to the provincial government. The works were meant to be executed by local contractors, but the ECMEP later became the contractor.

The **OPEC Fund** is also funding, through IFAD, an agricultural development programme in Niassa which includes funding for the emergency rehabilitation. Work started in 1999 and by the end of that year 12 km had been completed involving an international contractor. Labour-based work is now also starting using the DET.

PROAREA is a community development project in Tete province, which is receiving support from **UNDP**. It was scheduled to undertake the rehabilitation and upgrading of a total of 80 km of rural roads over a 2 year period, but so far little has been achieved on account of a failure to mobilise the workforce on a voluntary basis.

DANIDA of Denmark is about to initiate an operation in Tete and Manica as part of its support to the agricultural sector. It will entail the rehabilitation of two feeder roads (one tertiary and one non-classified road). Work on the design has commenced, and the works will be implemented through competitive tenders to be let on a regional basis. The support includes a three year maintenance period, and TA to the DEPs in Tete and Manica. The DANIDA support is not expected to be followed by additional activities of a similar nature.

NORAD of Norway is in the process of initiating a programme of support to the feeder roads in Cabo Delgado province for a five year period and with a budget of about USD 10 million. The project will involve

- rehabilitation and maintenance of tertiary roads
- promotion of the local construction industry through the training of local contractors
- capacity building within DEP in the administration and supervision of contracts
- provincial execution by DPOPH/DEP supported by technical assistance
- use of local consultants for training activities.

The initiation of the project is pending the completion of two studies, one environmental impact study and one regarding how to facilitate access by small contractors to equipment. It is not likely that the project can be started until towards the end of 2000.

UNCDF has announced preliminary plans for providing support for work on non-classified roads in Nampula province. It is envisaged that the support later will also involve the development of contractors in the province, although this may be done through a separate initiative. The Dutch government has expressed interest in making funding available.

The Ministry of Agriculture is developing a project for **IFAD** funding. The project envisages the rehabilitation and maintenance of between 500 and 600 km of rural roads in Maputo and Niassa provinces over its 7 year life. Local contractors using labour-based techniques will execute the works.

Finally, the **EU** is developing a rural development project, which will include a feeder road bridges component in the province of Zambézia. This project will likely commence in 2001, last for a

period of up to 4 years, and will have a budget of EUR 6 million. The project will be implemented through DER/DEP, and the works will be undertaken by small private contractors. Technical assistance will be provided under the project to assist the DEP, but also to develop the contractors in bridge construction.

A first conclusion of the above review is that although support to the feeder roads will be significantly affected as from next year, with the Project subject to review coming to an end, there will still be a not insignificant volume of donor funded activities. However, the support that is now known will be concentrated to certain provinces. Whilst during the past years, the Project has ensured that there would be support to more or less all provinces, this will not necessarily be the case any longer. A second conclusion is that the emphasis of the ongoing and planned support is on works, contractor development and, to some extent, on developing the DEPs. There appears to be an increasing emphasis on the development of small-scale contractors following-on the model applied by the DFID; the planned NORAD project is an example. It is the Team's view that this approach to private sector development is appropriate, and should be applied even more widely in the future. There is, however, a need to solve the problem of how to ensure that the small-scale private sector contractors can gain access to equipment, an issue that has not been resolved successfully as yet. As mentioned, a study to review this matter is about the be initiated with funding from NORAD.

The Team finally notes that there is at present no proposal for support to the continued management and co-ordination of the FRP and to the DER.

4.4 Proposals for future support

4.4.1 The Needs

The situation analysis has brought out the need for continued support to activities to sustain and develop the feeder roads sector. The needs relate both to capacity building and financing of rehabilitation activities; there are also needs with respect to the developments of contractors and consultants, and to assist with the finalisation of the transformation and reform of the road sector, including of the parastatal companies.

The terms of reference for the Final Evaluation require the Team to make comprehensive recommendations on the future support to the regional roads sector. The Team's findings are, however, that such comprehensive recommendations would not be helpful at the present time in view of the ongoing process of formulating the Estradas3/ROADS3 programme. That process can be expected to be used as the main instrument to identify specific needs for investments in the regional road sector, including how to fill the vacuum created by Asdi support to the feeder road sector – in provinces where other donors are not active – coming to an end with the closure of the year 2000. The Estradas3/ROADS3 programme can also be expected to more generally address issues related to capacity building, institutional development and private sector development. There is a need to avoid overlapping proposals, and to instead promote an open and participatory process in developing the next 10 year programme for the Mozambican road sector.

This notwithstanding, the Team believes that there are certain areas where recommendations can meaningfully be made already at this time. These areas concern primarily the provision of support for capacity building to allow the organisations in the road sector to effectively be able to manage and implement the Estaras3/ROADS3 programme, whilst also contributing to the capacity-building efforts. There is, however, a need to ensure that the proposals made may not risk overlapping other activities that may be launched later as part of Estrads3/ROADS1.

One recommendation made by the Team is thus to provide support to the DER, already as from the beginning of the year 2001. Whilst from a capacity point of view, both DER and the DEPs need assistance, the DEPs do receive and will receive some support through ongoing and planned projects. In addition, the effectiveness of additional support to the DEPs must at present be viewed as uncertain for mainly two reasons. Firstly, their position must be viewed as vulnerable as pointed out above. Secondly, the DEPs will play a role also with respect to the national roads, and there is in the future a need to ensure a co-ordinated support to the provincial road authorities to avoid a continuation of the piecemeal approach to their development which has prevailed during the past 4 to 5 years.

A further recommendation made is that support should be provided to the new unit to be established in the MOPH, and as soon as possible, i.e. also before the launching of the next 10-year programme.

4.4.2 Support to the DER

The proposed continued support to the DER would capitalise on the foundation that has been laid by the present Project. It would primarily be of a technical assistance nature to develop the policies, procedures and systems to run the regional road sector, but it should not be ruled out that the proposed assistance be used to actually fill vacancies in the DER organisation, so as to ensure its functioning.

In addition, it is proposed that the assistance has capacity to work towards the DEPs in order to establish and to initiate the implementation of the policies, procedures and systems being developed by DER in terms of the present legislation. All the work would focus on slowly setting in motion those instruments that an ordinary roads authority would require to sustain its operations. It is, however, not expected that the assistance would be involved in setting up financial management systems for DER. A project is being launched with funding under ROCS2 to define and implement financial management systems for ANE, including DER.

The proposed assistance would, in addition, continue with the co-ordination activities of donor support to feeder roads as done currently by the DER. An aim of the proposed assistance would be to soonest develop the current annual report for the FRP into an annual report for the DER based on a recognised and verifiable data base.

The proposed assistance is viewed as another stepping stone in a chain of many activities in order to over a number of years build up the DER and the provincial road authorities. Whilst the milestones to be reached by the proposed assistance will have to be laid down as part of a more detailed project definition exercise, it is not expected that the proposed assistance would be the final contribution to the DER, in line with the comments made earlier about the time it takes to actually build up institutions of the road authority type.

It is estimated that a team of about 5 persons will be required. One person would be the team leader, and would focus on strategy issues, including donor co-ordination. A second person would be an expert in systems and procedures used by a roads authority. This person is expected to have experience from several of the following areas (whilst other members of the team would have complementary skills in these areas): long term and short term planning, budgeting, specifications, contract documentation and contract administration. Two persons would provide outreach capacity; in addition to possessing complementary skill as concerns systems and procedures, they would work against the DEPs, to establish their needs but also to initiate implementation. The final person would be a data management expert who would be charged with developing – from what is now available in DER and DEPs – the data management systems required, and to establish how they can be linked in with the financial management systems to be established.

The proposed assistance should commence operations immediately after 1 January 2001, in order to provide for continuity. In view of present uncertainties, it is proposed that the assistance not have a longer duration than 3 years.

The total cost of the assistance over a 3-year period can be estimated at about USD 3 million (about SEK 26 million).

4.4.3 Support to a Reform Unit in MOPH

Donors are also recommended to consider giving support to the envisaged Reform Unit to be established within MOPH. Again, the purpose would be to quickly establish a capacity for the Unit to function, and to become a facilitator for initiating other activities, to be funded by the donor community, with the aim of promoting the private sector and reform of the state-owned companies. Such an assistance should be in the interest of all parties concerned, and is not dependent on the finalisation of ROADS3.

The support would comprise one to two persons to work in a technical assistance capacity in the Unit. It would in addition be necessary to provide some funds for studies and seminars. A preliminary total cost estimate for the envisaged support is of the order SEK 10 million for a 3 year period.

4.4.4 Other Matters

Asdi will have to undertake a separate mission to define the proposed support in detail; this should be done soonest.

The proposal should if possible be presented to one of the upcoming events/meetings mid-2000 involving the donor community to provide information and obtain feed-back.

4.5 Findings and recommendations

4.5.1 Findings: Future Support

1. The donor community will continue to be involved in the tertiary (including the non-classified) road sector for many years to come. Donors tend to support contractor development and the execution of road works, but the support is unevenly spread throughout the country. Support offered by DFID in Zambézia and planned by NORAD in Cabo Delgado is, in general, appropriate for developing small-scale private sector operators.

2. The DER is the appropriate framework for supporting donors and the provinces, and for co-ordinating assistance, but DER is an emergent institution, where some foundation has been laid through the Project.

3. The DEPs will remain being the road managers for the tertiary road network. The DEPs are, however, weak and their position has become even more vulnerable through the recent road sector reform. The future of the DEPs must be viewed as uncertain, and any future assistance will therefore have to be carefully assessed with the parties concerned.

4. The successor of ROCS (Estradas3), which will likely be a 10 year road sector programme, is delayed, and will not be finally formulated until well into 2001.

5. The Project comes to an end at the end of 2000. Asdi has indicated its willingness to provide support to the FRP also after the end of 2000.

6. The Road Sector Reform implies that after the end of 2000 it would be inappropriate to use ANE as a vehicle to support private sector (consultants and contractors) development. This also applies to the state-owned entities, including the school in Chimoio.

7. The MOPH is considering the establishment of a separate unit to be responsible for the preparation and management of the reform of the road sector, including with respect to the parastatals, and contractor and consultant development.

4.5.2 Recommendations: Future Support

1. Donors (Asdi) should provide (new) support to DER to allow it to grow and to handle programming of support to tertiary roads. This support should be phased in by January 2001 to allow for continuity and to capitalise on the outputs of the current Project.

2. The support should be small – it should focus on providing capacity – in view of the current uncertainties with respect to the DEPs and the programme for the next ten years.

3. The core of the support would involve about 5 persons for a period of three years to be based at DER, but would also provide outreach capacity to the provinces and the DEPs.

4. Donors (Asdi) should provide support to a proposed new unit in the MOPH to assist with driving the road sector reform forward, as soon as a decision has been made to establish this unit, provided it is given adequate authority. The envisaged support would comprise 1 to 2 TA staff and funds for studies, seminars and training.

5. The Estradas3/ROADS3 framework will be the most appropriate framework also for developing, programming and co-ordinating other forms of support to the tertiary roads sector. There is a need for ANE, Asdi and UNDP to promote further support to the tertiary road sector, including the proper co-ordination of such support, within the Estradas3 framework.

Annex 1: Programme, Itinerary and Roads Visited

19 March 2000 (Sunday)
15:00 Nils Bruzelius (Asdi consultant) arrives in Maputo

20 March 2000 (Monday)
08:00 Meeting I with FRP Team
10:30 Meeting I with UNDP (Ms. Dahpne Casey and Ms. Mariam Pangah)
14:30 Meeting I with Asdi (Mr. C-G Svensson)

21 March 2000 (Tuesday)
11:00 Meeting I with DER at ANE (Eng. Atanasio)
15:00 Meeting II with FRP Team
16:00 Meeting with DFID (Ms. Compton and Mr. Wray)

22 March 2000 (Wednesday)
09:30 Meeting I with Road Fund at ANE HQ (Eng. Pereira)
11:00 Meeting at DER on Decentralization Study (Mr. Helling)

23 March 2000 (Thursday)
09:30 Meeting with NORAD (Mr. Eriksen)
14:30 Meeting with DEN (Mr. van Niekerk, Mr. Fernandez, Mr. Lear)
16:00 Meeting III with FRP Team

24 March 2000 (Friday)
09:00 Meeting with Mr. Rocha Lobo (GOM Consultant) and Ms Thompson (UNDP Consultant) and Ms. Pereira (UNDP Consultant)
11:00 Meeting II with UNDP (Mr. Van der Ree)
14:15 Meeting with Irish Aid (Mr. Empey)
15:00 Meeting II with Asdi (Mr. Werner)
16:30 Meeting III with FRP Team

25 March 2000 (Saturday)
08:00 Document review

26 March 2000 (Sunday)
08:00 Document review

27 March 2000 (Monday)
09:00 USAID (Mr. Santos)

28 March 2000 (Tuesday)
10:00 Interviews with TA-staff and counterparts by Mr. Bruzelius
17:00 Mr. Bruzelius departs for Namibia

29 March 2000 (Wednesday)
15.30 Mr. Bentall travels from UK

30 March 2000 (Thursday)

10.00 Mr. Bruzelius returns from Namibia
14:30 Mr. Bentall (UNDP consultant) arrives in Maputo. Mr. Lobo, Ms. Pereira and Ms. Thompson join the team
14:30 Meeting with Chairman of ANE Board (Mr. Fragoso)
16:00 First meeting with all members of Final Evaluation Team (Team)

31 March 2000 (Friday)

07:00 Team (minus Mr. Bruzelius and Ms. Thompson) + CTA + Mr. Serage depart for Nampula
08:00 Mr. Bruzelius meets Austral re. RTTP Study (Mr. Gottwals)
11:30 Mr. Bruzelius departs for Sweden
14.30 Team meets DEP and ECMEP Nampula

1 April 2000 (Saturday)

07:00 Site visits in Nampula Province (ECMEP, DET, and DEP)

2 April 2000 (Sunday)

06:30 Site visits in Nampula Province

3 April 2000 (Monday)

08:00 Team meets DPOPH Nampula
10:00 Team departs for Mocuba by road

4 April 2000 (Tuesday)

07:00 Site visits in Zambézia (with ECMEP Director, DET & TA staff)

5 April 2000 (Wednesday)

07:00 Site visits in Zambézia Province (FRP & DFID)
14:00 Team meets ECMEP
16:00 Team meets Scott Wilson team in Mocuba

6 April 2000 (Thursday)

08:00 Team departs for Quelimane; visiting DFID site en route
14:30 Team meets DEP in Quelimane.

7 April 2000 (Friday)

14:00 Team returns to Maputo by air.

8 April 2000 (Saturday)

08:00 Reporting

9 April 2000 (Sunday)

08:00 Reporting
15:00 Mr. Bruzelius returns from Sweden

10 April 2000 (Monday)

08:00 Meeting with DER/CMU staff and counterparts
14.00 Team meeting

11 April 2000 (Tuesday)

09:00 Meeting with Mr. Tomé (EU-financed consultant in ANE)
10:30 Meeting with Head of Investment Division and Accountant/Cooperante in ANE (Bruzelius)
10:30 Meeting with Contractors Association (EMPREMO)(Mr. Bentall)
14.00 Meeting with DER/CMU staff

12 April 2000 (Wednesday)

08.00 Meeting with Mr. Strange-Hansen, Danida (Mr. Bruzelius)
08.00 Meeting with DER/CMU staff (Mr. Bentall)
14:30 Meeting with World Bank res.rep., Mr. Coates
16:00 Meeting with Dr. Venica, Director, Economics Department, MOPH.

13 April 2000 (Thursday)

08.00 Reporting

14 April 2000 (Friday)

08.15 Meeting with Asdi (Mr. Bruzelius)
14.00 Team meeting
17.00 Ms. Thompson (UNDP consultants) complete their tasks.

15 April 2000 (Saturday)

08.00 Reporting

16 April 2000 (Sunday)

08.00 Reporting

19 April 2000 (Monday)

09.00 De-briefing at UNDP with UNDP, Asdi, MINEC and ANE.
14.00 Meeting with Noel Cook (EU-financed consultant; NGO Unit)
15.00 Meeting with Mr. Pereira, Road Fund, ANE

18 April 2000 (Tuesday)

08.30 De-briefing at ANE with DER and CMU
11:00 Ms. Pereira and Mr. Roach Lobo complete their tasks
15.00 Mr. Bentall departs from Maputo
18.00 De-briefing with Chairman of ANE.

19 April 2000 (Wednesday)

11.00 Mr. Bruzelius hands over draft final report to Asdi and UNDP.
15.00 Mr. Bruzelius departs from Maputo.

Roads Visited

Nampula Province:

ER 572	Meconlj – Corane	(Rehabilitation)
ER 510	Rapale – Mecubúri	(Completed 1996 – under maintenance and spot improvement)
EN241	Nacala Velha – Memba	(Routine Maintenance)
ER 567/ER514	Cruzens – Iticuli – N Velha	(Routine Maintenance)
EN 235	Napneme – Moussuril – Chocas Mar	(Routine Maintenance)
NC	Cruz EN 232 – Chuinga	(Routine Maintenance)
NC	Murrapule – Chuinja	(Routine Maintenance)

Zambézia Province

ER 480	Mulevala – Inturro	(Routine Maintence)
EN 104	Vacha – Rio Ligonhe	(Rehabilitation
ER 481	Mária – Mulevala – Morua	(Full Gravelling)
ER 481	Mulevala – Cruz EN 104, DFID	(Routine Maintenance)
ER 484	Inage – Rio Ligonhe	(Routine Maintenance)
ER 485	Cruz ER 471 – Nante, DFID	

Annex 2: List of main contacts

1. Government of Mozambique

1.1 Ministério das Obras Publicas e Habitacao (MOPH

Dr Venica	Director, Economic Directorate

1.2 Administracao Nacional de Estradas (ANE)

Mr. Carlos Fragoso	Presidente
Mr. Fransisco Pereira	Vice-presidente
Mr. Atanasio J. Mugunhe	Director, DER
Mr. O. Machachene	Director, Investment Department
Mr. Joao S. Montumbene	Fundo de Estradas
Mr. Jorge Muonima	Co-ordinator FRP
Mr. Inácio Chiculo	Counterpart to Mechanical Advisor
Mr. Adelino Serage	Counterpart, RTA (S)
Mr. Vasco Machava	Counterpart, Manager, Administration
Mr. Rui Sera	Studies and Project Department
Mr. Michael Lear	Consultant
Mr. Peter van Niekerk	Consultant

1.3 Nampula Province

Mr. X X	Acting Director, DPOPH
Mr. André Chongo	Chief of DEP
Mr. V. Spassov	Advisor, DEP
Mr. Manuel Andrade	Director, ECMEP
Mr. Tomas Justino Mario	Head of DET
Mr. Carlitos Daniel	Encarregado, ECMEP

1.4 Zambézia Province

Mr. Santos Alberto Manuel	Director, DPOPH
Mr. Carlos Bráz	Chief of DEP
Mr. Joao Armando	Director, ECMEP
Mr. Walter de Almeida	Head of DET
Mr. Mariono Leal (Cooperante)	Mechanical Foreman
Mr. Regério Castro (Cooperante)	Advisor, DET
Mr. X.X	SWK, DFID Project
Mr. James Agingu	SWK, DFID Project
Mr Suleman e Guanissa	Encarregados, ECMEP

2. FRP core management unit (CMU)

M. James Markland	Chief Technical Advisor
Ms.Karin Andersson	Regional Technical Advisor (South)
Mr. Edward Greenhalf	Regional Technical Advisor (Central)
Mr. K.H. Myaing	Regional Technical Advisor (North)
Mr. Tin Htut	Mechanical Advisor
Mr. Dave Jennings	Training Advisor
Mr. Krishna Rauhunath	Manager, Administration
Mrs. Angelica Aguliera	Consultant for Gender Issues

3. United nations development programme (UNDP)

Ms. Daphne Casey,	Deptuty Res. Representative
Mrs. Mariam Pangah	Assistant Resident Representative
Mr. Peter van der Ree	Programme Officer
Ms. Kristin Wambold-Liebling	UNCDF, Programme Manager

4. Swedish International Development Cooperation Agency (Asdi)

Mr. Carl-Gustav Svensson	Resident Representative
Mr. Gösta Werner	Programme Officer; Maputo
Mr. Anders Kreitz	Programme Officer, Stockholm

5. World bank

Mr. James Coates	Resident Representative

6. International Labour Organisation (ILO)

Mr. Tomas Stenstrom	Associate Expert, ASIST, Harare

7. Department for International Development (DFID)

Ms. Julia Compton	First Secretary, Maputo
Mr. Alistair Wray	Senior Engineering Adviser, Harare

8. Norwegian Agency for Development Cooperation (NORAD)

Mr. Jan Eriksen	Adviser

9. Irish Aid

Mr. Patrick Empey	First Secretary

10. DANIDA

Mr. Jörgen Strange-Hansen	Project Officer

11. EU

Mr. Joao R. Tomé	Technical Assistant
Mr. Noel Cook	Technical Assistant

12. USAID

Mr. Luis Santos	Project Officer

13. Austral Consultoria e Projetos, Lda.

Mr. Jeremy Gottwals	Socio-Economist

14. EMPREMO (Mozambican Contractors Association)

Victor Mujuaburre
José Mendes
Paulino Camela

Annex 3: List of main references

1. Project Documents

SIDA/MOZ-DNEP	"Proposal for Swedish Support to the Road Sector in Mocambique 1997–2001", 1996, Maputo.
UNDP	"MOZ/96/013, Management Assistance to Labour Based Tertiary Roads Programme"

2. Evaluation Reports

UNDP/ILO	"Evaluation of the Feeder Roads Programme", 1994, Geneva.
WFP	"Management Review cum Appraisal Mission: MOZ 4720 Assistance to Feeder Roads Reconstruction Programme", 1996, Rome.
UNCDF	"Summary of Project Evaluation. MOZ/89/C02: Road Rehabilitation in the province of Nampula.", 1997, New York.
DNEP/UNDP/Asdi/WFP	"Feeder Roads Programme; Mid-Term Project Evaluation", Final Report, Maputo, June 1998

3. Progress Reports etc

DNEP	Roads and Coastal Shipping Projects; Mid Term Review Report, September 1996, Maputo.
FRP/ILO	Feeder Roads Programme: Annual Progress Report 1994, February 1995, Maputo.
FRP/ILO	Feeder Roads Programme: Annual Progress Report 1996, February 1997, Maputo.
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DNEP	Annual Asdi Consultations, April 1997, Maputo.
FRP/ILO	FRP Annual Report, Training, January–December 1997, 1998, Maputo.
FRP/ILO	Briefing Notes, Prepared for Evaluation Team, 1998, Maputo.

DNEP — Minutes of
1. Annual Donor Agency/Government Review Meetings, 1996, 1997, 1998 and 1999
2. The Multi-Partite Review Meeting, 1996, 1997, 1998 and 1999
3. Bi-Annual FRP Steering Committee Meetings, 1996, 1997, and 1998

DNEP/Asdi — Agreed Minutes of
1. Annual Asdi Consultations, 1997
2. Bi-annual Asdi/DNEP meetings, 1997, 1998 and 1999

4. Other References

ANE/DER — "ESTRADAS3; Regional Roads Component", February 2000, Maputo

Austral — "Baseline Data Monitoring 1999 - Draft Final Report, USAID – Mozambique, Rural Access Project", (95-005/656-003), USAID, Maputo. March 2000

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DNEP/DFID — "Annual Report of the Social Impact Study, Feeder Roads Project, Zambezia Province", 1997, Mocuba.

DNEP — "Manutencao de Estradas e Pontes; Plano de Accao para 1998", November 1997, Maputo.

DNEP — "Programa de Rehabilitacao e Manutencao de Estradas (PRME) 1994–2000; Plano do Ano de 1998", January 1998, Maputo.

DNEP — "Política de Estradas", March 1998, Maputo.

DNEP — "ROCS-3; Funding Agency's Summary Report", May 24, Maputo.

DNEP — "Upgrading/Design of a Highway Network Management System" MMS Draft User Manual (R3M) HNMS Unit Costs Module, January 1997.

DNEP — "Equipment Evaluation", Final Report, July 1997.

DNEP — "Technical Assistance to the Department of Roads and Bridges; Extension 01/09 1997-31/08 1998 (TA to DEPS), Draft Final Report, August 1998.

Economist — "Country Profile 1997 - 98: Mozambique", 1997, London.

Forum Mulher — "Participação da Mulher no Programa de Reabilitação de Estradas Rurais em Moçambique, PNUD, 1996, Maputo.

GOM/WFP et al. "Vulnerability Assessments for Mozambique 1997/98", 1998, Maputo.

GOM "The Road Policy", Minister's Council Resolution No 50/98 of 28 July, Maputo, 1998

GOM "The Road Administration System", Decree 14/99 of 27 April, Maputo, 1999

GOM "The Fundamental Statute of the National Road Administration", Decree 15/99 of 27 April, Maputo 1999

Helling, Louis "The Policy and Instiutional Framework for Decentralized Planning and Management of Small-Scale Public Infrastructure Investment for Rural Development in Mozambique, Maputo, February 2000.

I.N.Estatistica "II Recenseamento Geral: Resultados Preliminares." (Preliminary results of 1997 Census), 1997, Maputo.

Kittelsen, T.C. "Equal Access?" (Gender analysis of IBIS roads project in Zambezia). IBIS, 1997, Maputo.

KPMG Peat Marwick "Conversion of the ECMEP's into Legally Autonomous Entities", Final Report (3 vols.), March 1996, Maputo.

Labour Law 1985 Lei No 8/85 of December 14 1988, Maputo.

Min. of Agriculture "Quente-Quente No 148, 21.04 1998" – Weekly information on agricultural commodity prices, 1998,. Maputo.

MOPH "Regulamento Interno da Administracao Nacional de Estradas", 23 December 1999, Maputo.

NCG "Institutional Study for National Directorate of Roads and Bridges", Vols. A–C, April 1997 and Vol. D, November 1997, Maputo

O'Sullivan & Graham "Consultancy Services for the Equipment Pool Formation Study Stage 1", September 1996, Reading, UK.

Shone M. "Towards the Development of Operational Guidelines for the Use of Food Aid in Rehabilitation. A Case Study of Food for Work in Mozambique", ILO/WFP, 1997, Geneva.

Silva T. & Maman A. "Participacao da Mulher no Programa de Reabilitacao de Estradas Rurais em Mocambique", UNDP, 1996, Maputo.

De Vletter F. "Employment Intensive Public Works Programmes in Post-conflict Countries: The Case Study of Mozambique".ILO, 1997, Geneva.

WFP "Plan of Operations: Assistance to Feeder Roads Reconstruction Programme, Project MOZ 4720", 1993, Maputo.

WFP — "Country Programmes. Mozambique 1998–2001", 1997, Rome.

Åkesson, G. — "Um Estudo sobre o impacto sócio-económico do Programa de Reabilitação de Estradas Distritais – Feeder Roads Programme, Moçambique: Relatórios de Fase I e II do estudo no distrito de Mecubúri, Nampula", DNEP / Asdi 1995 e 1996.

UNESCO/ILO — "Employment and Sustainable Livelihood", Country Review for Mozambique, February 1997.

Annex 4: Logical Framework Analysis

Overleaf is the Logical Framework Analysis of the UNDP Project Document (3 pages). This framework has been expanded here to include three items related to equipment which are included in the Logical Framework Analysis of the Asdi Project Document:

1. "Equipment availability after scrapping rehabilitation and replacement exercise during 1997 to be sustained to at least 75%"
2. "Equipment utilisation to be at least 50%
3. "Goods procurement lead time from purchase request to delivery at warehouse not to exceed 3 months excluding international shipping."

These three items have been under Objective 2 and under Success Criteria and enter as items 2.4, 2.5. and 2.6 respectively

OBJECTIVES, OUTPUTS AND ACTIVITIES

OBJECTIVES	SUCCESS CRITERIA	OUTPUTS	ACTIVITIES
1. Strengthening DNEP institutional capacity through RET to manage tertiary road rehabilitation and maintenance	1.1 Policies and procedures in place nationally to permit continuation of activities by RET/DNEP	1.1.1 Policies and procedures introduced nationally and at regional/provincial level for overall management of the tertiary road network including rehabilitation and maintenance	1.1.1.1 Continue development of policies and procedures for a standardised approach to tertiary road rehabilitation and maintenance including programming, reporting and budget control
	1.2 All tasks executed by national staff	1.1.2 Completion of training and technology transfer to counterpart staff to all TA positions and phased assumption of responsibility for task execution	1.1.1.2 Preparation of reports as required by this project document or individual donors
			1.1.1.3 Organisation and execution of Steering Committee meetings, Annual GOM/Donor reveiws and Multi-partite Reviews as specified
			1.1.1.4 Update the needs assessment for training requirements and within the context of the DNEP Training Action Plan develop specific course curriculum for RET, ECMEPs/DETs and developing local contractors and carry out focused regional/provincial vocational, technical, managerial, administrative and commercial training as relevant to labour based operations
			1.1.1.5 Develop capacity for training private contractors in labour based methods including pilot projects and work sites
			1.1.1.6 Prepare tenders, evaluate proposals and assist in procurement of services, equipment, tools and spares in accordance with the DNEP and funding agency standing orders

2. ECMEP/DET capacity to carry out labour based works while undergoing transformation into commercial entities and development of national labour-only contractors,subcontractors for road rehabilitation and maintenance	2.1 2263 km of feeder roads rehabilitated by labour based methods nationwide in the period 1997-1999	2.1.1 Labour based road maintenance undertaken by ECMEPs/DETs or contractors	2.1.1.1 Support to execution of activities of road rehabilitation and maintenance in ECMEPs/DETs
	2.2 Labour based maintenance systems in place on 5000km of tertiary gravel and earth roads	2.1.2 ECMEPs/DETs and developing contractors with technical and managerial capacity to operate in a commercial environment on labour based construction activities	2.1.1.2 Training and support to managerial and technical activities of ECMEPs/DETs and developing contractors
	2.3 All tasks executed by national staff	2.1.3 Maintainable tertiary roads kept at an agreed level of service	2.1.1.3 Define and test different labour based routine maintenance systems on rehabilitated tertiary roads as appropriate for different geographical, social and demographic conditions
		2.1.4 Provincial/regional capacity for training private contractors in labour based methods	2.1.1.4 Establish regional capacity for training in labour based methods for ECMEPs/DETs and developing contractors
3. Injection of cash into rural areas by means of employment of the greatest number of casual workers commensurate with efficient labour based construction practice	3.1 Increased commercial activity in defined area of the roads to be rehabilitated and maintained (with reference to collection of base line data for comparison purposes)	3.1.1 Payments on a monthly basis to suppliers of materials and to workers or contractors for certified works	3.1.1.1 Timely payment of workers salaries in accordance with nationally agreed wage levels (including food basket as agreed)
	3.2 2000 person days of generated employment per km of rehabilitated road (FG), 1500 person days (SI)		3.1.1.2 Timely payment of contractors certificates
	3.2 75 person days of generated employment per km per annum on routine road maintenance		
4. Creation of a pool of relevant marketable skills in rural areas which will be available for subsequent employment in road maintenance and construction of agricultural or public works	4.1 Continuation of labour based construction techniques in the areas of project activity in such fields as road maintenance, agricultural works or continued activity by contractors	4.1.1 Verifiable numbers of employed workers with requisite skills	4.1.1.1 On job training in relevant skills including literacy and numeracy as necessary, technical, artesanal and supervisory skills
	4.2 Existence of labour-only contractors in continued trading		

5. Concentration of direct benefit upon the rural disadvantaged by means of direct employment	5.1 Employment of specified percentages of disadvantaged groups (eg women, landless, deslocados, desmobilisados)	5.1.1 Workforce consisting partially of disadvantaged groups constituting a specified percentage of the whole for rehabilitation and maintenance works undertaken by direct labour or contractor	5.1.1.1 Selection of underprivileged persons by identification of such groups and positive discrimination and by contractual incentives in the case of contractors
			5.1.1.2 Development of contract conditions requiring that specified targets for underprivileged groups be attained by means of incentives, penalty clauses and possible adjustment of rates and targets to accommodate variations in output that may occur as a result
			5.1.1.3 Involvement of local and traditional authorities in the selection process after explanation and sensitisation to issue
			5.1.1.4 Creation of conditions of work which permit realistic participation of such groups eg task work, specific working hours

Annex 5: Budgets and expenditures

This Annex contains the following documentation:

A5:1 The Original Asdi Budget as presented in the Asdi Project Document

A5:2 The Asdi Budget Revision No.2 which has now been accepted by Asdi, UNDP and GOM. This also shows actual expenditure during the period 1997–2000.

A5:3 The Original UNDP Budget as presented in the UNDP Project Document

A5:4 UNDP Budget revision H, which also shows actual expenditure during the period 1997–2000.

A5:5 Final budget revision for the UNDP project, which has been accepted by UNDP and GOM.

ASDI CONTRIBUTION - BUDGET SEK x1'000

		1997	1998	1999	Subtotal 97-99	2000	2001	TOTAL 97-2001
01	FRP Contribution							
001	Technical Assistance							
001.1	Cooperantes	4502	4728	4655	13885	3586	2398	19869
001.2	Associate Experts	67	70	74	211			211
001.3	TA to CMU	7510	5409	5467	18386	6331	6648	31365
001	Subtotal	12079	10207	10196	35047	9917	9046	51445
002	Misc.Operating Costs							
002.1	Tools	550	583	617	1750	650	670	3070
002.2	Spares/Tyres	2680	2848	3015	8543	3149	3517	15209
002.3	Training	121	121	121	363	63		426
002	Subtotal	3351	3552	3753	10656	3862	4187	18705
003	FRP Local Costs	11545	14618	16601	42764	16441	16875	76080
01	Subtotal	26975	28377	30550	88467	30220	30108	146230
02	Equipment & Materials							
001	Brigade Equipment	14740			14740			14740
002	Transport Cooperantes/Maint	2747	335	134	3216	134	134	3484
003	Bridge Repair Unit	1340	134	134	1608	134	134	1876
02	Subtotal	18827	469	268	19564	268	268	20100
03	Studies & Follow Up	4818	4234	4903	13955	4690	5025	23670
	TOTAL	50620	33080	35721	119421	35178	35401	190000

Asdi Contribution - Budget '000 SEK
Proposed Budget Revision No. 2

Based on SEK/USD ROE of
8.4 -1999
8.6 -2000

		1997	1998	1999	Subtotal 97-99	2000 Brought Fwd	2000 New Funds	TOTAL 97-2000	Budrev.1 97-2000	Budrev.2 97-2000
01	**FRP Contribution**									
001	*Technical Assistance*									
001.1	Cooperantes	1 200.0	3 494.1	5 780.1	10 474.2	0.0	4 334.4	14 808.6	14 868.0	14 808.6
001.2	Associate Experts	75.0	37.3	0.0	112.3	0.0	0.0	112.3	106.0	112.3
001.3	TA to CMU	9 757.5	6 552.9	1 000.0	17 310.4	2 919.6	11 807.1	32 037.1	24 717.0	32 037.1
001	Subtotal	11 032.5	10 084.3	6 780.1	27 896.9	2 919.6	16 141.5	46 958.1	39 691.0	46 958.1
002	*Misc.Operating Costs*									
002.1	Tools	300.0	529.7	454.4	1 284.0	0.0	665.6	1 949.7	2 091.0	1 949.7
002.2	Spares/Tyres	750.0	291.2	0.0	1 041.2	0.0	4 083.3	5 124.5	6 863.0	5 124.5
002.3	Training	75.0	256.7	0.0	331.7	0.0	0.0	331.7	545.0	331.7
002.4	Gender activities	0.0	0.0	120.1	120.1	0.0	400.0	520.1	0.0	520.1
002.5	English tuition	0.0	0.0	0.0	0.0	0.0	252.0	252.0	0.0	252.0
002	Subtotal	1 125.0	1 077.6	574.5	2 777.1	0.0	5 400.9	8 178.0	9 499.0	8 178.0
003	*FRP Local Costs*									
003	FRP Local Costs	3 225.0	4 244.0	20 769.7	28 238.7	16 570.4	14 557.8	59 366.9	55 614.0	59 366.9
01	Subtotal	15 382.5	15 405.8	28 124.3	58 912.7	19 490.0	36 100.3	114 503.0	104 804.0	114 503.0
02	**Equipment & Materials**									
001	*Brigade Equipment*									
001.1	Equipment	0.0	682.4	15 341.2	16 023.5	0.0	0.0	16 023.5	28 389.0	16 023.5
001.2	MF rehabilitation	0.0	1 372.5	1 372.0	2 744.5	1 238.5	0.0	4 043.0	0.0	4 043.0
001.3	Other rehabilitation	0.0	0.0	454.4	454.4	2 088.0	0.0	2 542.4	0.0	2 542.4
002	Transport Cooperantes/N	0.0	905.5	189.1	1 094.6	0.0	134.0	1 228.6	2 627.0	1 228.6
003	Bridge Repair Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	134.0	0.0
004	Construction Materials	0.0	117.9	0.0	117.9	327.6	0.0	445.5	0.0	445.5
02	Subtotal	0.0	3 078.3	17 356.8	20 435.1	3 714.1	134.0	24 283.2	31 150.0	24 283.2
03	**Studies & Follow Up**									
03	Studies & Follow Up	353.3	522.1	357.9	1 233.3	679.4	13 900.0	15 812.8	18 645.0	15 812.8
	TOTAL	15 735.8	19 006.3	45 839.0	80 581.1	23 883.5	50 134.3	154 598.9	154 599.0	154 598.9

10/02/00

	TOTAL - Rev. 1	22 818.0	64 564.0	32 039.0	119 421.0	35 178.0	154 599.0

Notes:

On a year by year basis:

1 1997 expenditure reduced in relation to Budrev.1 due to reductions in cooperante, local cost and studies and follow-up

2 1998 expenditure reduced in relation to Budrev.1 due to reductions in cooperante, procurement-related, local cost and studies and follow-up

3 1999 expenditure increased in relation to Budrev.1 due to rescheduling of procurement and local cost payments

4 2000 expenditure broken down into previously agreed funding carried forward from 1999, and new funding request within the 1997-2000 total funding provision

5 1997-2000 total expenditure retained at 154.6 MSEK

On a budget line basis:

6 Existing Budget Lines for training and equipment broken down to facilitate budget monitoring

7 Significant reductions in expenditure in BLs for transport for cooperantes and equipment purchase and rehabilitation

8 Significant increases in expenditure in BLs for TA to CMU, local costs and training/gender

PROJECT BUDGET COVERING UNDP CONTRIBUTIONS

2

Country : Republic of Mozambique
Project Number: MOZ/91/013
Project Title : Management Assistance to Labour Based Tertiary Records Programme

BUDGET LINE	PROJECT COMPONENT	W/M	1997	AOS	W/M	1998	AOS	W/M	1999	AOS	W/M	2000	AOS	W/M	TOTAL	AOS
	PERSONNEL															
11.01	CTA	12.0	178,200	16,038	12.0	186,100	16,749	12.0	194,600	17,514	6.0	99,000	8,982	42.0	658,700	59,283
11.02	Mechanical Advisor	12.0	142,800	12,780	12.0	148,400	13,356	12.0	154,900	13,941				36.0	446,200	40,077
11.03	Training Advisor	12.0	145,600	13,104	12.0	151,500	13,635	12.0	157,100	14,139				36.0	454,200	40,878
11.04	Regional Technical Advisor - Maputo	12.0	148,300	13,347	12.0	156,500	14,085	12.0	164,000	14,832				36.0	469,600	42,264
11.05	Regional Technical Advisor - Nampula	12.0	128,600	11,574	12.0	134,500	12,105	12.0	140,400	12,636				36.0	403,500	36,315
11.06	Regional Technical Advisor - Beira	12.0	144,600	13,014	12.0	150,400	13,536	12.0	157,200	14,148				36.0	452,200	40,698
11.88	Consultants		190,800	17,188		55,000	4,950		50,000	4,500					295,800	26,550
11.99	Total International Experts	72.0	1,077,300	96,957	72.0	982,400	88,416	72.0	1,019,000	91,710	6.0	99,000	8,982	222.0	3,178,500	286,065
13.01	Administrative Support	60.0	20,000	2,200	60.0	20,000	2,200	60.0	20,000	2,200	24.0	15,125	1,664	204.0	75,125	8,264
13.99	Total Administrative Support	60.0	20,000	2,200	60.0	20,000	2,200	60.0	20,000	2,200	24.0	15,125	1,664	204.0	75,125	8,264
14.01	Ass.Experts/UNVs	18.0	68,700	6,663	36.0	127,100	11,439	36.0	132,900	11,961	18.0	69,400	6,246	108.0	398,100	35,109
14.02	UNVs to MOZ/89/C02 & MOZ/89/C04	36.0	121,300	10,917	30.0	105,900	9,531							66.0	227,200	20,448
14.99	Total UNVs	54.0	182,000	16,380	66.0	233,000	20,970	36.0	132,900	11,961	18.0	69,400	6,246	174.0	617,300	55,557
15.01	Travel by Experts		110,000	9,900		110,000	9,900		110,000	9,900		15,000	1,350		345,000	31,050
15.99	Total Travel Costs		110,000	9,900		110,000	9,900		110,000	9,900		15,000	1,350		345,000	31,050
16.01	Mission Costs		5,000	450		35,000	3,150		20,000	1,800		5,000	450		65,000	5,850
16.99	Total mission Costs		5,000	450		35,000	3,150		20,000	1,800		5,000	450		65,000	5,850
19	TOTAL PROJECT PERSONNEL	186.0	1,394,300	125,487	198.0	1,380,400	124,236	168.0	1,301,900	117,171	48.0	284,525	18,389	600.0	4,280,925	385,283
21	SUBCONTRACTS															
21.01	Cooperatns to MOZ/89/C02 and MOZ/89/C0	120.0	420,000	46,200	96.0	336,000	36,960							216.0	756,000	83,160
21.02	Administration Manager	12.0	42,000	4,620	12.0	42,000	4,620	12.0	42,000	4,620	3.0	10,500	1,155	39.0	136,500	15,015
21.99	SUBCONTRACTS, Sub-Total	132.0	462,000	50,820	108.0	378,000	41,580	12.0	42,000	4,620	3.0	10,500	1,155	255.0	892,500	98,175
1																
29	TOTAL SUBCONTRACTS	132.0	462,000	50,820	108.0	378,000	41,580	12.0	42,000	4,620	3.0	10,500	1,155	255.0	892,500	98,175
30	TRAINING															
31.01	Fellowships		21,000	2,520		21,000	2,520		21,000	2,520					63,000	7,560
31.99	Total Fellowships		21,000	2,520		21,000	2,520		21,000	2,520					63,000	7,560
32.01	Seminars		10,000	2,100		10,000	2,100		10,000	2,100					30,000	6,300
32.99	Total Seminars		10,000	2,100		10,000	2,100		10,000	2,100					30,000	6,300
33.01	In Service Training		95,000	19,950		95,000	19,950		95,000	19,950					285,000	59,850
33.99	Total In Service Training		95,000	19,950		95,000	19,950		95,000	19,950					285,000	59,850
39	TOTAL TRAINING		126,000	26,460		126,000	26,460		126,000	26,460					378,000	79,380
40	EQUIPMENT															
45.01	Operation & maint. of project equipment		40,000	2,400		40,000	2,400		40,000	2,400		20,000	1,200		140,000	8,400
45.02	Local Procurement/Equip support(brigades)		108,000	6,000											108,000	6,000
45.99	Total Local Procurement		148,000	8,400		40,000	2,400		40,000	2,400		20,000	1,200		248,000	14,400
47.01	Equipment		572,272	57,227		42,783	4,278		42,522	4,252		22,500	2,250		680,077	68,008
47.99	Total International Procurement		572,272	57,227		42,783	4,278		42,522	4,252		22,500	2,250		680,077	68,008
49	TOTAL EQUIPMENT		712,272	65,627		82,783	6,678		82,522	6,652		42,500	3,450		928,077	82,408
50	MISCELLANEOUS															
51.01	Miscellaneous		50,000			50,000			50,000			25,000			175,000	
51.99	Total Miscellaneous		50,000			50,000			50,000			25,000			175,000	
52.01	Reporting Costs		5,000			15,000			5,000			5,000			30,000	
52.99	Total Reporting Costs		5,000			15,000			5,000			5,000			30,000	
53.04	Field Administrative Costs		33,629			24,218			24,479			4,376			86,700	
59	TOTAL MISCELLANEOUS		55,000			65,000			55,000			30,000			205,000	
99	PROJECT GRAND TOTAL	318.0	2,703,201	268,394	306.0	2,056,401	198,954	180.0	1,631,901	154,983	51.0	291,701	22,994	855.0	6,763,202	645,246
100	COST SHARING		1,128,950			807,250			815,950			145,850			2,098,800	
103.01	Cost Sharing SIDA		1,128,950			807,250			815,950			145,850			2,098,800	
999	NET UNDP CONTRIBUTION		1,662,251	268,394		1,249,151	198,954		815,951	154,983		145,851	22,994		3,873,202	645,246

UNDP Cost Monitoring

Project Budget Monitoring
Country: MOZAMBIQUE
Project Number: MOZ/98/013
Budget Revision: H
Project Title: Management Assistance to Labour Based Tertiary Roads Programme

Current Year 1999
Month Number 12
ending 31-dez

BUDGET LINE	PROJECT COMPONENT	Overall Planned Expenditure - Budrev "H"					Current Year Expenditure to end of month 12		
		1997	1998	1999	2000	TOTAL	Planned Year	Planned Month	Actual
10	*PROJECT PERSONNEL*								
11.01	CTA	147 737	29 295	150 000	52 500	379 532	150 000	150 000	11 440
11.02	Mechanical Advisor	8 611	129 199	135 000	42 292	315 102	135 000	135 000	113 113
11.03	Training Advisor	116 644	138 450	155 000	56 875	466 969	155 000	155 000	139 162
11.04	Regional Technical Advisor - Maputo	124 218	127 628	130 000	39 375	421 221	130 000	130 000	127 766
11.05	Regional Technical Advisor - Nampula	107 318	121 717	130 000	39 375	398 410	130 000	130 000	121 099
11.06	Regional Technical Advisor - Beira	121 625	140 767	145 000	46 667	454 059	145 000	145 000	138 745
11.08	Consultants	57 995	30 783	15 000	10 000	113 778	15 000	15 000	128 887
11.99	Total International Experts	684 148	717 839	860 000	287 084	2 549 071	860 000	860 000	780 212
13.01	Administrative Support	5 100	4 200	5 000	2 500	16 800	5 000	5 000	4 800
13.99	Total Administrative Support	5 100	4 200	5 000	2 500	16 800	5 000	5 000	4 800
14.01	Ass. Experts/UNVs	0	81 887	110 000	54 000	245 887	110 000	110 000	85 962
14.02	UNVs to MOZ/98/C02 & MOZ/98/C04	0	17 220	22 000	0	39 220	22 000	22 000	22 782
14.99	Total UNVs	0	99 107	132 000	54 000	285 107	132 000	132 000	108 745
15.01	Travel by Experts	15 761	41 401	62 000	20 000	139 162	62 000	62 000	98 139
15.99	Total Travel Costs	15 761	41 401	62 000	20 000	139 162	62 000	62 000	98 139
16.01	Mission Costs	0	6 742	35 000	15 000	56 742	35 000	35 000	17 892
16.99	Total mission Costs	0	6 742	35 000	15 000	56 742	35 000	35 000	17 892
19	TOTAL PROJECT PERSONNEL	705 009	869 289	1 094 000	378 584	3 046 882	1 094 000	1 094 000	1 009 787
21	*SUBCONTRACTS*								
21.01	Cooperants to MOZ/98/C02 and C04	243 478	229 776	80 000	0	553 254	80 000	80 000	53 083
21.02	Administration Manager	0	0	50 000	13 750	63 750	50 000	50 000	99 832
21.99	SUBCONTRACTS, Sub-Total	243 478	229 776	130 000	13 750	617 004	130 000	130 000	152 915
29	TOTAL SUBCONTRACTS	243 478	229 776	130 000	13 750	617 004	130 000	130 000	152 915
30	*TRAINING*								
31.01	Fellowships	14 936	16 384	40 000	13 000	84 320	40 000	40 000	17 653
31.99	Total Fellowships	14 936	16 384	40 000	13 000	84 320	40 000	40 000	17 653
32.01	Seminars	4 365	8 703	70 000	35 000	118 068	70 000	70 000	24 491
32.99	Total Seminars	4 365	8 703	70 000	35 000	118 068	70 000	70 000	24 491
33.01	In Service Training	44 988	99 347	15 000	5 000	164 335	15 000	15 000	59 722
33.99	Total In Service Training	44 988	99 347	15 000	5 000	164 335	15 000	15 000	59 722
39	TOTAL TRAINING	64 289	124 434	125 000	53 000	366 723	125 000	125 000	101 866
40	*EQUIPMENT*								
45.01	Operations & maint. Of project equipment	2 341	23 688	45 000	20 000	91 029	45 000	45 000	36 070
45.02	Local Procurement/Equip support (brigades)	0	0	36 000	0	36 000	36 000	36 000	22 595
45.03	Operation & Maintenance	0	0	45 000	12 541	57 541	45 000	45 000	0
45.04	International Procurement of equipment			90 000	0	90 000	90 000	90 000	0
45.99	Total Local Procurement	2 341	23 688	216 000	32 541	276 570	216 000	216 000	58 665
46.01	International Procurement (< 70,000 USD)	219 565	0	0	0	219 565	0	0	0
46.99	Total International Procurement < 70k	219 565	0	0	0	219 565	0	0	0
47.01	International Procurement (> 70,000 USD)	177 234	43 961	0	0	221 195	0	0	0
47.99	Total International Procurement > 70k	177 234	43 961	0	0	221 195	0	0	0
49	TOTAL	399 140	67 649	216 000	32 541	717 330	216 000	216 000	58 665
50	*MISCELLANEOUS*								
51.01	Miscellaneous	0	34 672	0	0	34 672	0	0	32 466
51.99	Total Miscellaneous	0	34 672	0	0	34 672	0	0	32 466
52.01	Reporting Costs	0	9 080	5 000	17 000	31 080	5 000	5 000	0
52.99	Total Reporting Costs	0	9 080	5 000	17 000	31 080	5 000	5 000	0
53.01	Sundries	39 992	25 048	0	0	65 040	0	0	0
53.99	Total Sundries	39 992	25 048	0	0	65 040	0	0	0
59	TOTAL MISCELLANEOUS	39 992	68 800	5 000	17 000	130 792	5 000	5 000	32 466
99	PROJECT GRAND TOTAL	1 451 908	1 359 948	1 572 000	494 875	4 878 731	1 572 000	1 572 000	1 355 780

Project Budget Monitoring
Country: MOZAMBIQUE
Project Number: MOZ/96/013
Budget Revision: F - Draft 11
Project Title: Management Assistance to Labour Based Tertiary Roads Programme

Current Year 2000
Month Number 2
ending 29-feb

BUDGET LINE	PROJECT COMPONENT	Overall Planned Expenditure - Budrev I					Current Year Expenditure to end of month 2		
		1997	1998	1999	2000	TOTAL	Planned Year	Planned Month	Actual
10	PROJECT PERSONNEL								
11.01	CTA	147 737	29 295	150 000	190 000	517 032	190 000	31 667	16 519
11.02	Mechanical Advisor	5 611	129 199	135 000	145 001	417 811	145 001	24 167	20 064
11.03	Training Advisor	116 644	138 450	155 000	195 000	605 094	195 000	32 500	50 048
11.04	Regional Technical Advisor - Maputo	124 218	127 628	130 000	135 000	516 846	135 000	22 500	0
11.05	Regional Technical Advisor - Nampula	107 318	121 717	130 000	135 000	494 035	135 000	22 500	20 831
11.06	Regional Technical Advisor - Beira	121 625	140 767	145 000	160 001	567 393	160 001	26 667	24 219
11.08	Consultants	57 995	30 783	15 000	40 000	143 778	40 000	6 667	22 695
11.99	Total International Experts	684 148	717 839	860 000	1 000 002	3 261 969	1 000 002	166 667	154 494
13.01	Administrative Support	5 100	4 200	5 000	6 500	20 800	6 500	1 083	900
13.99	Total Administrative Support	5 100	4 200	5 000	6 500	20 800	6 500	1 083	900
14.01	Ass. Experts/UNVs	0	61 887	110 000	216 000	407 887	216 000	36 000	6 714
14.02	UNVs to MOZ/89/C02 & MOZ/89/C04	0	17 220	22 000	0	39 220	0	0	0
14.99	Total UNVs	0	99 107	132 000	216 000	447 107	216 000	36 000	6 714
15.01	Travel by Experts	15 761	41 401	62 000	65 000	184 162	65 000	11 429	2 345
15.99	Total Travel Costs	15 761	41 401	62 000	65 000	184 162	65 000	11 429	2 345
16.01	Mission Costs	0	6 742	35 000	35 000	76 742	35 000	5 833	0
16.99	Total mission Costs	0	6 742	35 000	35 000	76 742	35 000	5 833	0
19	TOTAL PROJECT PERSONNEL	706 009	869 289	1 084 000	1 322 502	3 990 800	1 322 502	221 012	164 454
21	SUBCONTRACTS								
21.01	Coopemts to MOZ/89/C02 and C04	243 478	229 776	80 000	0	553 254	0	0	0
21.02	Administration Manager	0	0	50 000	55 000	105 000	55 000	9 167	0
21.99	SUBCONTRACTS, Sub-Total	243 478	229 776	130 000	55 000	658 254	55 000	9 167	0
29	TOTAL SUBCONTRACTS	243 478	229 776	130 000	55 000	658 254	55 000	9 167	0
30	TRAINING								
31.01	Fellowships	14 936	16 384	40 000	35 000	106 320	35 000	5 833	0
31.99	Total Fellowships	14 936	16 384	40 000	35 000	106 320	35 000	5 833	0
32.01	Seminars	4 365	8 703	70 000	120 000	203 068	120 000	20 000	2 183
32.99	Total Seminars	4 365	8 703	70 000	120 000	203 068	120 000	20 000	2 183
33.01	In Service Training	44 988	99 347	15 000	15 000	174 335	15 000	2 500	964
33.99	Total In Service Training	44 988	99 347	15 000	15 000	174 335	15 000	2 500	964
39	TOTAL TRAINING	64 289	124 434	125 000	170 000	483 723	170 000	28 333	3 147
40	EQUIPMENT								
45.01	Operations & maint. Of project equipment	2 341	23 688	45 000	45 000	116 029	45 000	7 500	5 998
45.02	Local Procurement/Equip support (brigades)	0	0	38 000	25 000	63 000	25 000	4 167	0
45.03	Operation & Maintenance	0	0	45 000	71 000	116 000			
45.04	International Procurement of equipment			90 000	0	90 000			
45.99	Total Local Procurement	2 341	23 688	218 000	141 000	385 029	70 000	11 667	5 998
46.01	International Procurement (< 70,000 USD)	219 585	0	0	0	219 585	0	0	0
46.99	Total International Procurement < 70k	219 585	0	0	0	219 585	0	0	0
47.01	International Procurement (> 70,000 USD)	177 234	43 961	0	0	221 195	0	0	0
47.99	Total International Procurement > 70k	177 234	43 961	0	0	221 195	0	0	0
49	TOTAL	399 140	67 649	218 000	141 000	825 789	70 000	11 667	5 998
50	MISCELLANEOUS								
51.01	Miscellaneous	0	34 672	0	0	34 672	0	0	2 918
51.99	Total Miscellaneous	0	34 672	0	0	34 672	0	0	2 918
52.01	Reporting Costs	0	9 080	5 000	15 000	29 080	15 000	2 500	0
52.99	Total Reporting Costs	0	9 080	5 000	15 000	29 080	15 000	2 500	0
53.01	Sundries	39 992	25 048	0	0	65 040	0	0	0
53.99	Total Sundries	39 992	25 048	0	0	65 040	0	0	0
59	TOTAL MISCELLANEOUS	39 992	68 800	5 000	15 000	128 792	15 000	2 500	2 918
99	PROJECT GRAND TOTAL	1 451 908	1 359 948	1 572 000	1 703 502	6 087 358	1 632 502	272 679	176 516

Annex 6: Outputs 1997–2000

This annex contains tables showing following outputs for the period 1997–2000:

A6:1:1 FRP Brigades Operational December 1997 (1 p.)
A6:1:2 FRP Brigades Operational December 1998 (1 p.)
A6:1:3 FRP Brigades Operational December 1999 (1 p.) (to be added later)
A6:2:1 Rehabilitation Outputs Against Targets January–December 1997 (2 p.)
A6:2:2 Rehabilitation Outputs Against Targets January–December 1998 (2 p.)
A6:2:3 Rehabilitation Outputs Against Targets January–December 1999 (3 p.)
A6:3:1 Rehabilitation Outputs 1992–1999 (1 p.)
A6:4:1 Employment Generation and Labour Force 1997 (2 p.)
A6:4:2 Employment Generation and Labour Force 1998 (2 p.)
A6:4:3 Employment Generation and Labour Force – Rehabilitation 1999 (2 p.)
A6:4:3 Employment Generation and Labour Force – Periodic Maintenance 1999 (2 p.)
A6:5:1 Routine Maintenance Outputs January–December 1997 (1 p.)
A6:5:2 Routine Maintenance Outputs January–December 1998 (1 p.)
A6:5:3 Routine Maintenance Outputs Against Targets January–December 1999 (3 p.)
A6:6:1 Rehabilitation and Maintenance Plan January–December 1997 (3 p.) (to be added later)
A6:6:2 Rehabilitation and Maintenance Plan January–December 1998 (3 p.)
A6:6:3 Rehabilitation and Maintenance Plan January–December 1999 (3 p.)
A6:6:4 Rehabilitation and Maintenance Plan January–December 2000 (3 p.) (to be added later)

FRP Brigades Operational
December 1997

PROVINCE	DISTRICT	ROAD	DONOR	COMMENTS
MAPUTO	Marracuene	ER 564 Michafutene - Vundica	Asdi	FG
	Magude	ER 405 Magude - Motaze	Asdi	FG
GAZA	Xai Xai	EN 207 Chongoene - Manjacaze	UNDP	PM
	Manjacaze	ER 207 Manjacaze - Chidenguele	Asdi	FG
	Guija	ER 208 Guija - Macarretane	Asdi	FG
INHAMBANE	Morrumbene	ER 546 Morrumbene - Sitila	Asdi	FG
	Massinga	ER 422 Massinga - Pomene	UNDP	FG
SOFALA	Buzi	ER427 Buzi - Machanga	EU	FG
MANICA	Manica	ER 438 Manica - Cruz ER 439	KfW	FG
NAMPULA	Murrupula	ER 542 Murrupula - Chalaua	Asdi	FG
	Nacala Velha	ER 514 Minguri - Itoculu	Asdi	FG
	Monapo	EN 236 Monapo Boila	UNCDF	FG, mech. brig.
	Angoche	EN 260 Angoche - Boila	UNCDF	FG
	Angoche	EN 260 Boila - Moma	UNCDF	FG
NIASSA	Cuamba	ER 556 Cuamba - Etatara	Asdi	FG, equip. ECMEP
	Muoco	ER NC Cruz EN248 -Muoco -Revia C.	SDC	SI
	Lago	ER 249 Maniambo - Metangulo	Asdi	FG
CABO DELGADO	Mueda	ER 509M Nairoto - Mueda	Ch Council	FG
	Mueda	ER 509N Mueda - Negomane	EU	SI
	Miudumbe	ER 530 Mueda - Miudumbe - Xitaxi	EU	SI
	Mueda	ER 531 Mueda - Nangade	GOM	FG
ZAMBEZIA	Quelimane	EN 224 Quelimane - Chinde	Asdi	FG
	Mocuba	EN 230 Mugeba - Mocubela	Asdi	FG, 2 brigades
	Gurue	ER 231 Gurue - Lioma	UNCDF	FG
	Lioma	ER 231 Lioma - Mutuali	UNCDF	FG
	Mocuba/Morumbala	ER 472 Alto Benfica - Derre (CEPOL)	DfID	SI
	Lugela	ER 448 Liciro - Morire (EREPTZ)	DfID	SI
	Ile	ER 482 Nipiodi - Ile (ENAMIZ)	DfID	SI
	Ile	ER 487 Mugulama - Ile (CBC)	DfID	SI
	Mocuba	ER 227 Chingoma - Mocuba (RETAF)	DfID	FG
	Mocuba/Maganja	ER 479 Mocuba - Maganja (CAME)	DfID	SI
	Mocuba/Maganja	ER 479 Mocuba - Maganja (ECOR, PACON)	DfID	SI, training site, 2 new contractors

FULL GRAVELING BRIGADES	23
SPOT IMPROVEMENT BRIGADES	10
PERIODIC MAINTENANCE BRIGADES	1
TOTAL OPERATIONAL BRIGADES	34

FRP Brigades Operational

December 1998

PROVINCE	DISTRICT	ROAD	DONOR	COMMENTS
MAPUTO	Matola / Moamba	EN 262 Socimol - Moamba	Asdi	FG
GAZA	Manjacaze	EN 208 Manjacaze - Jantigue	UNDP	PM
	Guija	ER 405 Guija - Fr c / Maputo	Asdi / WFP	FG
	Xai Xai	ER 410 Chicumbane - Lumane	Asdi	PM
	Massangena	ER 412 Mavaila - Massangena	Asdi	PG, no equip.
INHAMBANE	Homoine	ER 419 Homoine - Mocodoene	Asdi	FG
	Morrumbene	ER 546 Morrumbene - Sitila	UNDP	FG
SOFALA	Buzi	ER427 Buzi - Estaquinha	EU	FG
	Buzi	ER427 Estaquinha - Cruz EN 1	EU	PG
MANICA	Manica	ER 438 Manica - Cruz ER 439	KfW	PG
NAMPULA	Mogincual	EN 240 Liupo - Mogincual (UNCDF)	UNCDF	FG, mech. brig.
	Nacala Velha	EN 241 Nacala Velha - Memba	Asdi/ECMEP	PM
	Mecuburi	ER 510 Rapale - Mecuburi	Asdi/ECMEP	PM
	Nacala Velha	ER 514 Minguri - Itoculu	Asdi	FG
	Murrupula	ER 542 Murrupula - Iuluti - Chalaua	Asdi	FG
NIASSA	Lichinga	ER 537 Mussa - Muembe	Asdi	PM
	Lichinga	ER 571 Lumbi - Chala	SDC	PG
	Muoco	ER NC Cruz EN248 - Muoco - Revia C.	Asdi	PG
CABO DELGADO	Montepuez	EN 242 Montepuez - Balama	Asdi/CC	PM
	Montepuez	ER 509S Montepuez - Namuno	Asdi	PM
	Mueda	ER 509M Nairoto - Mueda	EU	FG
	Negomane	ER 509N Mueda - Negomane	GOM	PG
ZAMBEZIA	Quelimane	EN 224 Quelimane - Chinde	Asdi	PG
	Gurue	EN 231 Gurue - Lioma - Mutuali	UNCDF	FG, mech. brig.
	Maganja da Costa	ER 480 Mulevala - Morrua	Asdi	FG
	Lioma	NC Lioma - Mepina	Asdi	FG
	Mopeia	EN 225 EN 1 - Campo (RETAF)	DfID	PG
	Lugela	ER 448 Liciro - Morire (EREPTZ)	DfID	PG
	Mocuba	ER 472 Alto Benfica - Derre (CEPOL)	DfID	PG
	Mocuba/Maganja	ER 479 Mocuba - Maganja (PACON)	DfID	PG
	Mocuba/Maganja	ER 479 Mocuba - Maganja (CAME)	DfID	PG
	Ilé	ER 480 Mária - Mulevala (CBC)	DfID	PG
	Mucubela	ER 485 Mucubela - Bajone (EMAMIZ)	DfID	PG
	Lugela	ER 492 Munhamade - Namarroi (ECOR)	DfID	PG

BRIGADE TYPE	1997 FIGURES	1998 FIGURES
Full Graveling Brigades	23	12
Partial Graveling Brigades	10	15
Periodic Maintenance Brigades	1	7
Total Operational Brigades	34	34

Rehabilitation Outputs Against Targets

January - December 1997

PROVINCE	DISTRICT	ROAD		OUTPUTS KM	PLAN KM	% TARGET
MAPUTO	Marracuene	ER 564 Michafutane - Vundica	FG	18.7	22	85
	Magude	ER 405 Magude - Motaze	FG	20.5	17	121
GAZA	Xai Xai	EN 207 Chongoene - Manjacaze	PM	36.1	20	180
	Manjacaze	EN 207 Manjacaze - Chidenguele	FG	22.2	20	111
	Guija	EN 208 Guija - Macarretane	FG	14.6	10	146
INHAMBANE	Morrumbene	ER 546 Morrumbene - Sitila	FG	29.3	30	98
	Massinga	ER 422 Massinga - Pomene	FG	25.0	23	109
SOFALA	Buzi	ER428 Buzi - Machanga	FG	13	5	260
MANICA	Sussundenga	ER 570 Cadeado - Rotanda	FG	9.40	10	94
	Manica	ER 543 Cruz EN6 - Tsetsera	SI	-	6	-
	Manica	ER 438 Manica - Cruz ER 439	SI	5.0	10	50
NAMPULA	Murrupula	ER 542 Murrupula - Iuluti	FG	28.0	35	80
	Mecuburi	ER 510 Rapale - Mecuburi	FG	-	12	-
	Nacala Velha	ER 514 Minguri - Itoculu	FG	17.0	35	49
	Monapo	ER 499 Naguema - Lunga/moto	FG	8.0	25	32
	Monapo	EN 236 Monapo - Boila	FG	39.0	39	100
	Angoche	EN 260 Angoche - Boila	FG	9.0	9	100
	Angoche	EN 260 Boila - Moma	FG	46.0	35	131
	Mogincual	EN 240 Liupo - Mogincual	FG	-	10	-
NIASSA	Cuamba	ER 556 Cuamba - Etatara	FG	25.0	25	100
	Sanga	ER 539 Unango - Mucaloge	FG	18.0	15	120
	Muoco	ER NC Cruz EN248 - Muoco	SI	36.0	50	72
	Lago	ER 249 Maniamba - Metangulo	FG	29.9	30	100

PROVINCE	DISTRICT	ROAD		OUTPUTS KM	PLAN KM	% TARGET
CABO DELGADO	Mueda	ER 509M Mueda - Nairoto	FG	26.0	57	46
	Mueda	ER 509N Mueda - Negomane	SI	31.0	35	89
	Miudumbe	ER 530 Mueda - Miudumbe - Xitaxi	SI	10.0	20	50
	Mueda	ER 531 Mueda - Nangade	FG	8.0	17	47
ZAMBEZIA	Quelimane	EN 224 Quelimane - Chinde	FG	20.0	13	154
	Mocuba	EN 230 Mugeba - Mocubela	FG	46.0	40	115
	Gurue	ER 231 Gurue - Lioma - Mutuali	FG	42.0	60	70
	Mocuba	ER 472 Alto Benfica - Derre (CEPOL)	SI	28.0	42	67
	Ile	ER 482 Nipiodi - Ile (ENAMIZ)	SI	34.0	7	486
	Ile	ER 487 Mugulama - Ile (CBC)	SI	35.0	40	88
	Mocuba/Maganja	ER 479 Mocuba - Maganja (CAME)	SI	)31.0	) 37	84
	Mocuba/maganja	ER 479 Mocuba - Maganja (ECOR, PACON)	SI	)	)	
		ER 227 Chingoma - Dugudela (RETAF)	FG	12.0	14	86
	Mocuba	ER 448 Liciro - Morire (EREPTZ)	SI	6.0	0	600
	Lugela	ER 485 Mucubela - Bajone (EMAMIZ)	SI	4.0	0	400
		EN 104 Mocuba - Chingoma (CAME)	FG	14.0	14	100
TOTALS	FG			540.6	594	91
	SI			220.0	275	80
	REHAB			760.6	869	88
	PM			36.1	20	180

Rehabilitation and Periodic Maint ance Ou uts Against Targets

January - December 1998

FG - Full Graveling PG - Partial Graveling PM - Periodic Maintenance

PROVINCE	DISTRICT	ROAD		OUTPUT KM	PLAN KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
MAPUTO	Matola, Moamba	EN 262 Socimol - Moamba	FG	14.7	35.0	42	42	18 882
GAZA	Xai Xai	EN 207 Chonguene - Manjacaze	PM	3.1	3.1		100	5 709
	Manjacaze	EN 208 Manjacaze - Jantigue	PM	9.0	9.0		100	3 458
	Guija	ER 405 Guija - Fr c / Maputo	FG	4.4	35.0		13	9 309
	Xai Xai	ER 410 Chicumbane - Lumane	PM	21.0	17.0		124	6 846
	Massangena	ER 412 Maxaila - Massangena	PG	18.0	48.0		38	3 781
	Manjacaze	NC Manjacaze - Macuacua	PM	12.0	0	60	-	-
INHAMBANE	Inharrine	ER 414 Chongola - Závora	FG	17.0	17.0		100	13 143
	Homoine	ER 419 Homoine - Mocodoene	FG	6.0	6.0		100	7 334
	Morrumbene	ER 546 Morrumbene - Sitila	FG	32.8	25.0	116	131	8 794
SOFALA	Buzi	ER427 Buzi - Estaquinha	FG	12.0	25.0		48	) 18 303
	Buzi	ER427 Estaquinha - Cruz EN 1	PG	24.0	25.0	72	96	)
MANICA	Manica	ER 438 Manica - Cruz ER 439	PG	10.6	13.0	81	81	6 885
NAMPULA	Mogincual	EN 240 Liupo - Mogincual (UNCDF)	FG	54.0	54.0		100	-
	Nacala Velha	EN 241 Nacala Velha - Memba	PM	11.1	10.0		110	8 819
	Monapo	ER 499 Naguema - Lunga / Motomonho	PG	10.0	15.0		67	10 972
	Mecuburi	ER 510 Rapale - Mecuburi	PM	15.8	15.0		105	8 998
	Nacala Velha	ER 514 Minguri - Itoculu	FG	17.6	25.0		70	9 125
	Murrupula	ER 542 Murrupula - Iuluti - Chalaua	FG	27.5	25.0	94	110	8 566
NIASSA	Lichinga	ER 537 Mussa - Muembe	PM	12.1	15.0		81	7 002
	Lichinga	ER 571 Lumbi - Chala	PG	19.2	25.0		77	13 470
	Muoco	ER NC Cruz EN248 - Muoco - Revia Comercial	PG	14.0	50.0	50	28	9 135

PROVINCE	DISTRICT	ROAD		OUTPUT KM	PLAN KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
CABO DELGADO	Balama	EN 242 Montepuez - Balama	PM	9.1	15.0		60	12 861
	Montepuez	ER 509 Montepuez - Namuno	PM	9.7	15.0		65	15 768
	Mueda	ER 509M Mueda - Nairoto	FG	27.1	30.0		90	6 348
	Negomane	ER 509N Mueda - Negomane	PG)	14.6	40.0		37	) 14 399
			PM)	0.5	0		-	)
	Muidumbe	ER 530 Mueda - Xitaxi	PG	10.0	10.0		100	16 812
	Mueda	ER 531 Mueda - Nangade	FG	11.2	25	61	45	13 028
ZAMBEZIA	Quelimane	EN 224 Quelimane - Chinde	PG	20.0	30.0		67	10 345
	Mocuba	EN 230 Mugeba - Mocubela	FG	20.5	29.0		71	-
	Gurue	EN 231 Gurue- Mutuali (UNCDF)	FG	60.0	60.0		100	-
	Maganja da Costa	ER 480 Mulevala - Morrua	FG	18.5	25.0		74	9 660
	Lioma	NC Lioma - Mepina	FG	26.1	20.0	88	131	6 117
	Mocuba	EN 104 Mocuba - Chingoma (CAME)	FG	1.2	)			*17 826*
	Mopeia	EN 225 EN 1 - Campo (RETAF)	PG	14.2	)			*8 323*
	Mocuba	EN 227 Chingoma - Dugudela (RETAF)	FG	11.8	)			*22 798*
	Lugela	ER 448 Liciro - Morire (EREPTZ)	PG	19.0	)			*9 170*
	Mocuba	ER 472 Alto Benfica - Derre (CEPOL)	PG	19.5	)			*10 903*
	Mocuba/Maganja	ER 479 Mocuba - Maganja (PACON)	PG	55.5	)			*11 547*
	Ilé	ER 480 Mária - Mulevala (CBC)	PG	9.0	) 200			) *6 311*
	Ilé	ER 481 Nampevo - Mulevala (CBC)	PG	28.0	)			)
	Ilé	ER 482 Nipiodi - Ilé (ENAMIZ)	PG	1.0	)			*6 467*
	Mucubela	ER 485 Mucubela - Bajone (EMAMIZ)	PG	22.0	)			-
	Maganja	ER 486 Maganja (EMAMIZ)	PG	1.0	)			*13 119*
	Namarroi	ER 487 Mugulama - Ilé (CBC)	PG	3.0	)			*6 819*
	Lugela	ER 492 M.made - Namarroi (ECOR)	PG	13.5	)	99		*14 382*
TOTALS	FG			362	436		83	
	PG			326	499		65	
	REHAB			688	935		74	
	PM			103	99		104	

Average Costs:-	**ECMEP:-**	FG	9 988	***DfID:-***	FG *22 333*
(USD / km)	(no plant ownership	PG	11 836	*(including plant hire costs)*	PG *9 857*
	costs included)	Rehabilitation	10 718		Rehabilitation *10 775*
		PM	8 731		

Rehabilitation Outputs Against Targets

January - December 1999

FG - Full Graveling PG - Partial Graveling

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH KM		OUTPUT KM	PLAN KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
MAPUTO	Matola	EN262 Socimol - Moamba	39,9	FG	19,7	20		99	9 704
	Magude	ER 407 Magude/Mapulanguene	105	SI	5,5	-	126	-	2 477
GAZA	Guija	ER405 Guijá/Fr C/Maputo	33	FG	13,6	23		59	7 477
	Massangena	ER412 Machaila - Massangena	88,2	PG	28	30	78	93	6 510
INHAMBANE	Massinga	ER422 Massinga/Pomene	52	FG	0	6	0	0	-
SOFALA	Buzi	ER427 Buzi/Cruz EN1	79	PG	17,5	40		44	34 928
	Chemba	ER445 Chemba - Chiramba	52,2	PG	4	50	24	8	85 656
MANICA	Manica	ER438 Cruz ER439/Penhalonga	22,2	PG	2	10		20	18 655
	Manica	ER439 Manica/Cruz ER438	56	PG	7	0	90	-	20 405
TETE	Mutarara	ER452 Dôa/Ancuaze (WV)	25	PG	3	0		-	
	Mutarara	NC Doa - Chicula (WV)	19	FG	18	18	117	100	
CABO DELGADO	Mueda	ER509 Mueda/Negomano*	185	PG	33,6	35		96	4 399
	Montepuez	ER509 Montepuez-Nairoto	66	PG	38,3	35		109	4 468
	Montepuez	ER509 Nairoto -Chapa - Mueda	147,8	PG	33,5	30	105	112	5 867
NIASSA	Chiconone	ER569 Muembe/Chiconone	28,5	PG	35	35		100	4 259
	Lichinga	ER571 Lumbe/Chala	42	FG	21,8	25		87	4 176
	Macaloge	NC 903 Macaloge/Matchedje	75	PG	12	0		-	12 268
	Muoco	NC 911 Cr EN248/Muoco/Rev. Com.	141	PG	44,6	30		149	5 214
	Maua	NC 912 Cr 248/Nipepe	108	FG	6,8	0	134	-	8 151

Rehabilitation Outputs Against Targets

January - December 1999

FG - Full Graveling PG - Partial Graveling

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH KM		OUTPUT KM	PLAN KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
ZAMBEZIA	Mopeia	EN 225 EN1 - Campo (DFID)	27,4	PG	26,8	45,6		59	3 737
	Morrumbala	ER228 Morrumbala - Zero(WV)	44,1	PG	8,8	0		–	14 430
	Namarroi	EN233 Ile - Namarroi (DFID)*	51,4	FG	22	0		–	4 579
	Morrumbala	ER448 Morire - Liciro(DFID)*	101	PG	8,4	6		140	14 288
	Mocuba	ER472 Alto Benfica - Derre(DFID)*	54,7	PG	9,5	19		50	8 645
	Milange	ER474 Chilomo/Milange (DFID)	94,9	PG	38,5	0		–	2 530
	Mocuba	ER479 Vila Maganja/Murraba(Mocuba)(DFID)	89	PG	4,5	8		56	13 095
	Ile	ER480 Maria - Mulevala	35,8	PG	18	24		75	8 152
	Maganja da Costa	ER480 Mulevala - Morrua	53,9	FG	35	37		95	5 001
	Gile	ER480 Morrua - Uape (DFID)	36,3	FG	45	45		100	
	Ile	ER481 Mulevala - Nampevo (DFID)	32,1	FG	6,3	38		17	5 880
	Gile	ER 483 Moneia - Mamala (WV)	38	PG	15	32		47	7 200
	Alto Molocue	ER484 Inago - Rio Ligonha	25,5	FG	18,5	20		93	8 186
	Mocubela	ER485 Mocubela/Bajone (DFID)*	41,2	PG	14,5	28		52	5 312
	Maganja da Costa	ER486 Mabala/Vila Maganja (DFID)	27,2	PG	4	5		80	4 672
	Ile	ER487 Ile/Mugulama(DFID)*	44,1	PG	1	2		50	5 478
	Gile	ER491 Cruz Mamala/Alto Ligonha(WV)	80	PG	10	34		29	14 761
	Lugela	ER492 Munhamade/Lipale(DFID)*	82,4	PG	31,3	42		75	6 680
	Mocuba	NC Sisal Bridge (DFID)	19,3	PG	4	0		–	
	Morrumbala	NC Sabe - Chimuara (WV)	24	PG	9,3	0		–	9 998
	Morrumbala	NC Morrumbala - Megaza(WV)	43	PG	4,3	0		–	4 085
	Morrumbala	NC Sapemo - Muandiua - Chire(WV)	83	PG	45	45	88	100	3 140

Rehabilitation Outputs Against Targets

January - December 1999

FG - Full Graveling PG - Partial Graveling

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH KM		OUTPUT KM	PLAN KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
NAMPULA	Mossuril	EN235 Naguema - Mossuril	21	FG	33	21		157	5 436
	Muecate	EN237 Nacavala - Muecate (WV)	14,1	PG	6	0		_	5 537
	Murrupula	ER502 Luluti-Chalaua**	35	PG	12,6	35		36	10 884
	Muecate	ER509 Muecate/Imala(WV)	37,9	PG	19	0		_	11 369
	Monapo	ER514 Netia - Fr. Muecate(Itoculo)	39,5	FG	0	30		0	-
	Nacala Velha	ER514 Minguri-Itoculo-cruz EN8	56,8	FG	23,7	16		148	9 119
	Moma	ER552 Cruz EN223/EN260/Chalaua	85,8	FG	10,2	20		51	5 628
	Meconta	ER572 Cruz EN240/ER572/Meconta	53,5	PG	17	20		85	4 697
	Murrupula	NC Kazuzu - Chinga(WV)	31	PG	2	0		_	5 957
	Murrupula	NC Chinga - Ribaue(WV)	45	FG	45	42		107	4 338
	Murrupula	NC Chinga - Murrupula(WV)	42	PG	14	0		_	8 877
	Muecate	NC Muecate - Muculuene(WV)	26	PG	15	0		_	4 984
	Muecate	NC Muecate - Mademo(WV)	14	PG	14	0		_	5 985
	Muecate	NC Muecate - Napala(WV)	23	PG	14	0	123	_	8 829
TOTALS	FG				318,6	325		98	77 674
	PG				630,5	677		93	398 427
	REHAB				949,1	1 002		95	476 101

* Os dados incluem Manutencao de Rotina
** Inclui dados da ER542

Periodic Maintenance Outputs Against Targets

Table 5

January - December 1999

ER - Emergency Repair PM - Periodic Maintenance

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH		OUTPUT (KM)	PLAN	% TARGET		COST/KM
							O/ALL	PER SITE	
MAPUTO	Magude	ER405 Magude/Motaze	41	PM	3,6	10		36	13 260
	Marracuene	ER564 Michafutene/Vundiça	41	PM	7,7	25		31	10 082
	Boane	NC Boane/Mahubo	14	PM	3,3	5		66	5 301
	Boane	NC Boane/Belulane	13	PM	0	3	34	0	1 133
GAZA	Manjacaze	EN208 Jantigue - Chidenguele	55,8	PM	5	5		100	4 625
	Xai-Xai	ER410 Chicumbane/Nhabanga	44	PM	19	19		100	3 843
	Manjacaze	ER411 Manjacaze-Machulane	54	PM	10	10		100	4 441
	Xai-Xai	NC EN1/206 Via J. Nherere	20	PM	18	20		90	5 665
	Manjacaze	NC Manjacaze/Macuacua	35	PM	17	23	90	74	6 265
INHAMBANE	Inharrime	ER414 Inharime/Praia de Závora	17	ER	9	18		50	3 201
	Morrumbene	ER416 Maxixe - Mocoduene	23,5	ER	10	0		-	6 153
	Morrumbene	ER416 Mocoduene - Mavume	77,8	ER	20	0		-	3 285
	Homoine	ER418 Homoíne/Pembe	33	PM	24,7	33		75	7 829
	Massinga	ER422 Massinga/Pomene	52	PM	0	8		0	-
	Massinga	ER422 Massinga/Pomene	52	ER	30	30		100	3 190
	Morrumbene	ER546 Morrumbene/Sitila	76,4	ER	4	4		100	6 041
	Homoine	NC Homoine - Mbenhane - Pembe	36	PM	26	36		72	6 051
	Homoine	NC Homoíne/Fanha Fanha	15	PM	15	15		100	5 637
	Homoine	NC Chidjinguir/Mubalo	25	ER	10,5	18		58	2 853
	Morrumbene	NC Morrumbene/Mocodoene	25	ER	10	10		100	5 574
	Morrumbene	NC Morrumbene/Mocodoene	25	PM	0	25	81	0	-
SOFALA	Dondo	NC Dondo/Madruzi	24	PM	22	13	169	169	6 052
MANICA	Manica	ER550 Manica/Cruz EN6(Machipanda)	31	PM	10	5		200	2 596
	Sussundenga	ER570 Cruz ER543(Cadeado)/Cruz ER441	31	PM	10	5	200	200	2 469

Periodic Maintenance Outputs Against Targets

Table 5

January - December 1999

ER - Emergency Repair PM - Periodic Maintenance

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH		OUTPUT (KM)	PLAN	% TARGET		COST/KM
							O/ALL	PER SITE	
ZAMBEZIA	Namarroi	EN233 Ile - Namarroi (DFID)	51,4	PM	0	4		0	-
	Namacurra	ER471 Namacura/Macuze	49	PM	30	35	77	86	6 412
NAMPULA	Nacala Velha	EN241 Nacala Velha - Memba*	48,9	PM	15	15		100	2 437
	Mecuburi	ER510 Rapale/Mecuburi*	57	PM	7,4	15		49	2 617
	Murrupula	ER542 Murrupula-Luluti**	62,9	PM	3,2	0	85	-	-
CABO	Balama	EN242 Montepuez - Balama*	55,9	PM	3	0		-	3 891
DELGADO	Montepuez	ER509 Montepuez/Namuno	60	PM	7	15		-	3 459
	Mueda	ER530 Mueda/Muidumbe/Xitaxi*	70	PM	0,8	0		-	1 239
	Mueda	ER531 Namaua/Nangade*	68	PM	1,3	35	24	4	3 886
NIASSA	Lichinga	ER537 Muembe/Mussa	35,8	PM	16,3	35		47	2 416
	Lichinga	ER554 Lichinga/Meponda*	60	PM	8,7	0	71	-	2 244
TOTALS	PM				284,0	414,0		69	5 200
	ER				93,5	80,0		117	3 867
	TOTAL				377,5	494,0		76	4 867

* Data includes Routine Maintenance

** Costs included in ER502

Average costs per km, Periodic Maintenance:-

Emergency Repair	5 200 USD / km
Periodic Maintenance	3 867 USD / km
Average	4 867 USD / km

Rehabilitation Outputs 1992 - 1998

PROVINCE	1998			1997			1996			1995			1994			1993			1992			TOTAL		
	FG	PG	TOT	FG	PG	TOT	FG	PG	TOT	FG	PG	TOT	FG	PG	TOT	FG	PG	TOT	FG	PG	TOT	FG	PG	TOT
MAPUTO	15		15	39		39.2	38.1		38.1	27.8		27.8	17		17			0			0	122	0	122
GAZA	4	18	22	37		36.8	54.9		54.9	32.7		32.7	37.7		37.7	33.1		33.1	53		53.3	249	0	249
INHAMBANE	56		56	54		54.3	54		54	39.6		39.6	38.9		38.9	32.1		32.1	37		37.3	256	0	256
SOFALA	12	24	36	13		13	12.5		12.5	2	28	30	14.5	0.5	15	12		12	1		1	55	29	84
MANICA		11	11	9.4	5	14.4	3.4	17.5	20.9	48.9		48.9	17.5	27.8	45.3	43	108	151	43		43	166	153	324
NAMPULA	99	10	109	147		147	153.3		153.3	104.3		104.3	48.6		48.6	22.3	65	87.3	4		4	480	65	545
NIASSA		33	33	73	36	109	24.8	50	74.8	19	62.6	81.6	1.9	33.5	35.4	12	40	52	60		60	191	222	413
CABO DELGADO	38	25	63	34	41	75	25.6	77.7	103.3	19.4	78.3	97.7	13.5	82.5	96	50.3	12	62.3	9		9	152	292	443
ZAMBEZIA	138	206	344	134	138	272	60	15	75	24.6		24.6	8		8			0			0	227	153	380
TOTAL	362	326	688	541	220	761	427	160	587	318	169	487	198	144	342	205	225	430	208	0	208	2259	1248	3507

Employment Generation and Labour Force

January - December 1997

PROVINCE	DISTRICT	ROAD	DONOR		AVE NO MEN	AVE NO WOMEN	AVE % WOMEN	% TARGET BRIGADE OF 200 WORKERS	TOTAL WK DAYS	OUTPUT KM	WORK DAYS KM
MAPUTO	Marracuene	ER 564 Michafutane - Vundica	Asdi	FG	66	18	21	42	10101	18.7	540
	Magude	ER 405 Magude - Motaze	Asdi	FG	126	28	18	77	23389	20.5	1141
GAZA	Xai Xai	EN 207 Chongoene - Manjacaze	UNDP	PM	137	41	23	89	24451	36.1	677
	Manjacaze	EN 207 Manjacaze - Chidenguele	Asdi	FG	163	20	11	92	25351	22.2	1142
	Guija	EN 208 Guija - Macarretane	Asdi	FG	119	16	12	68	12372	14.6	847
INHAMBANE	Morrumbene	ER 546 Morrumbene - Sitila	Asdi	FG	157	46	22	102	24480	29.3	835
	Massinga	ER 422 Massinga - Pomene	UNDP	FG	140	20	12	80	15177	25.0	607
SOFALA	Buzi	ER428 Buzi - Machanga	EEC	FG	162	26	14	94	34451	13	2650
MANICA	Sussundenga	ER 570 Cadeado - Rotanda	KfW	FG	67	6	8	37	8354	9.4	889
	Manica	ER 543 Cruz EN6 - Tsetsera	KfW	SI	-	-	-	-	-	-	-
	Manica	ER 438 Manica - Cruz ER 439	KfW	SI	74	7	9	41	10436	5.0	2087
NAMPULA	Murrupula	ER 542 Murrupula - Iuluti	Asdi	FG	192	31	14	112	52206	28	1865
	Mecuburi	ER 510 Rapale - Mecuburi	Asdi	FG	-	-	-	-	-	-	-
	Nacala Velha	ER 514 Minguri - Itoculu	Asdi	FG	181	23	11	102	44931	17	2463
	Monapo	ER 499 Naguema - Lunga/Moto.	Asdi	FG	46	0	0	23	4226	8	528
	Monapo	EN 236 Monapo - Boila	UNCDF	FG	182	2	1	92	35328	39	906
	Angoche	EN 260 Angoche - Boila	UNCDF	FG	) 202	) 30	) 13	) 116	) 44946	55	817
	Angoche	EN 260 Boila - Moma	UNCDF	FG	)	) -	)	)	)		
	Mogincual	EN 240 Liupo - Mogincual	UNCDF	FG	-	-	-	-	-	-	-
NIASSA	Cuamba	ER 556 Cuamba - Etatara	Asdi	FG	127	7	5	67	23463	25	939
	Sanga	ER 539 Unango - Mucaloge	SDC	FG	64	4	6	34	11862	18	659
	Muoco	ER NC Cruz EN248 - Muoco	Asdi	SI	125	12	9	69	20081	36	558
	Lago	ER 249 Maniamba - Metangulo	Asdi	FG	171	14	8	93	29066	29.9	972

PROVINCE	DISTRICT	ROAD	DONOR		AVE NO MEN	AVE NO WOMEN	AVE % OMEN	% TARGET GADE OF 200 WORKERS	TOTAL WK DAYS	OUTPUT KM	WORK DAYS /KM
CABO DELGADO	Mueda	ER 509M Nairoto - Mueda	Ch Council	FG	177	29	14	103	46042	26	1771
	Mueda	ER 509N Mueda - Negomane	EU	SI	164	15	8	90	42303	31	1365
	Miudumbe	ER 530 Mueda - Miudumbe - Xitaxi	EU	SI	71	10	12	41	18571	10	1857
	Mueda	ER 531 Mueda - Nangade	GOM	FG	79	15	16	47	18460	8	2308
ZAMBEZIA	Quelimane	EN 224 Quelimane - Chinde	Asdi	FG	103	16	14	60	29497	20	1475
	Mocuba	EN 230 km 45 - Mocubela	Asdi	FG	248	20	7	134	65920	46	2404
	Memba	EN 230 Tuco - km 45	Asdi	FG	166	18	10	92	44646		
	Namacurra	ER 485 Maganja - Namacurra	Asdi	FG	-	-	-	-	-	-	-
	Maganja da Costa	ER 471 Namacurra - Macuze	Asdi	FG	-	-	-	-	-	-	-
	Gurue	ER 231 Gurue - Lioma	UNCDF	FG	176	20	10	98	29400	42	1214
	Lioma	ER 231 Lioma - Mutuali	UNCDF	FG	124	20	14	72	21600		
	Mocuba/Morrumbala	ER 472 Alto Benfica - Derre (CEPOL)	DfID	SI							
	Ile	ER 482 Nipiodi - Ile (ENAMIZ)	DfID	SI							
	Ile	ER 487 Mugulama - Ile (CBC)	DfID	SI							
	Mocuba/Maganja	ER 479 Mocuba - Maganja (ECOR,	DfID	SI	155	21	12	88	212155	164	1294
	Mocuba	PACON)									
	Mocuba	ER 448 Liciro - Morire (EREPTZ)	DfID	SI							
		ER 227 Chengoma - Dugudela (RETAF)	DfID	FG							
		ER 104 Chengoma - Mocuba (CAME)	DfID	FG							
TOTALS	FG				3240	427	12	80	655268	540.6	1273
	SI				1520	187	11	78	303546	220.0	1234
	REHABILITATION				4760	614	11	79	958814	760.6	1261
	PM				137	41	23	89	24451	36.1	677
	RM				(624)	(20)	3	-	115920	-	

Workforce Summary

TYPE OF WORK	WORKFORCE -	MEN	WOMEN	MEN + WOMEN	% OF WOMEN EMPLOYED
FULL GRAVELLING		3240	427	3667	11.6
SPOT IMPROVEMENT		1520	187	1707	11.0
PERIODIC MAINTENANCE		137	41	178	23.0
TOTAL - BRIGADES		4897	655	5552	11.8
ROUTINE MAINTENANCE		(624)	(20)	(644)	3.0
TOTAL - REHAB. + MAINTENANCE		5521	675	6196	10.9

Employment Generation and Labc . Force

January - December 1998

PROVINCE	DISTRICT	ROAD		AVE NO OF MEN	AVE NO OF WOMEN	AVE % WOMEN	TOTAL WORKDAYS	OUTPUT KM	WORKDAYS PER KM
MAPUTO	Matola / Moamba	EN 262 Socimol - Moamba	FG	224	56	20	38 397	14.7	2 612
GAZA	Xai Xai	EN 207 Chonguene - Manjacaze	PM	163	20	11	2 367	3.1	764
	Manjacaze	EN 208 Manjacaze - Jantigue	PM	57	17	23	10 653	9.0	1 184
	Guija	ER 405 Guija - Fr c / Maputo	FG	170	19	10	17 336	4.4	3 940
	Xai Xai	ER 410 Chicumbane - Lumane	PM	135	27	17	24 158	21.0	1 150
	Massangena	ER 412 Maxaila - Massangena	PG	106	21	17	10 464	18.0	581
	Manjacaze	NC Manjacaze - Macuacua	PM	16	0	0	3 590	12.0	299
INHAMBANE	Inharrine	ER 414 Chongola - Závora	FG	153	33	18	25 543	17.0	1 502
	Homoine	ER 419 Homoine - Mocodoene	FG	105	43	29	5 514	6.0	919
	Morrumbene	ER 546 Morrumbene - Sitila	FG	196	59	23	37 097	32.8	1 131
SOFALA	Buzi	ER427 Buzi - Cruz EN 1	FG	202	42	17	59 069	36.0	1 640
MANICA	Manica	ER 438 Manica - Cruz ER 439	PG	81	8	9	21 724	10.6	2 049
NAMPULA	Mogincual	EN 240 Liupo - Mogincual (UNCDF)	FG	158	24	13	29 429	54.0	545
	Nacala Velha	EN 241 Nacala Velha - Memba	PM	38	2	4	9 224	11.1	831
	Mecuburi	ER 510 Rapale - Mecuburi	PM	38	1	3	9 616	15.8	609
	Nacala Velha	ER 514 Minguri - Itoculu	FG	136	37	21	38 610	17.6	2 194
	Murrupula	ER 542 Murrupula - Iuluti - Chalaua	FG	235	46	16	68 526	27.5	2 492
CABO DELGADO	Balama	EN 242 Montepuez - Balama	PM	40	2	5	9 612	9.1	1 056
	Montepuez	ER 509 Montepuez - Namuno	PM	38	1	2	9 230	9.7	952
	Mueda	ER 509M Mueda - Nairoto	FG	178	25	12	44 498	27.1	1 642
	Negomane	ER 509N Mueda - Negomane	PG	150	26	15	38 969	15.1	2 581
	Muidumbe	ER 530 Mueda - Xitaxi	PG	70	13	16	21 008	10.0	2 101
	Mueda	ER 531 Mueda - Nangade	PG	75	16	17	22 356	11.2	1 996
NIASSA	Lichinga	ER 537 Mussa - Muembe	PM	105	9	8	10 404	12.1	860
	Lichinga	ER 571 Lumbi - Chala	PG	183	17	8	31 333	19.2	1 632
	Muoco	ER NC Cruz EN248 - Muoco - Revia Comercial	PG	179	20	10	26 568	14.0	1 898

PROVINCE	DISTRICT	ROAD		AVE NO OF MEN	AVE NO OF WOMEN	AVE % WOMEN	TOTAL WORKDAYS	OUTPUT KM	WORKDAYS PER KM
ZAMBEZIA	Quelimane	EN 224 Quelimane - Chinde	PG	126	20	14	35 601	20.0	1 780
	Mocuba	EN 231 Gurue - Mutuali (UNCDF)	FG	313	25	7	70 898	60.0	1 182
	Gurue	ER 480 Mulevala - Morrua	FG	157	41	21	36 575	18.5	1 977
	Maganja da Costa	NC Lioma - Mepina	FG	154	42	21	36 308	26.1	1 391
	Lioma	EN 104 Mocuba - Chingoma (CAME)	FG	)	)	)	)	)	)
	Mocuba	EN 225 EN 1 - Campo (RETAF)	PG	)	)	)	)	)	)
	Mopeia	EN 227 Chingoma - Dugudela (RETAF)	FG	)	)	)	)	)	)
	Mocuba	ER 448 Liciro - Morire (EREPTZ)	PG	)	)	)	)	)	)
	Lugela	ER 472 Alto Benfica - Derre (CEPOL)	PG	)	)	)	)	)	)
	Mocuba	ER 479 Mocuba - Maganja (PACON)	PG	) 235	) 32	) 12	) 412 529	) 198.7	) 2 076
	Mocuba/Maganja	ER 480 Mária - Mulevala (CBC)	PG	)	)	)	)	)	)
	Ilé	ER 481 Nampevo - Mulevala (CBC)	PG	)	)	)	)	)	)
	Ilé	ER 482 Nipiodi - Ilé (ENAMIZ)	PG	)	)	)	)	)	)
	Ilé	ER 485 Mucubela - Bajone (EMAMIZ)	PG	)	)	)	)	)	)
	Mucubela	ER 486 Maganja (EMAMIZ)	PG	)	)	)	)	)	)
	Maganja	ER 487 Mugulama - Ilé (CBC)	PG	)	)	)	)	)	)
	Namarroi	ER 492 Munhamade - Namarroi (ECOR)	PG	)	)	)	)	)	)
	Lugela								
TOTALS	FG			2 253	466	17	471 087	362	1 301
	PG			3 020	430	12	667 520	326	2 048
	REHABILITATION			5 273	896	15	1 138 607	688	1 655
	PM			629	80	11	88 854	99	897
	RM			*892*	*57*	*6*	*189 747*	-	-
	TOTAL			6 794	1 033	13	1 417 208	-	-

Workforce Summary

TYPE OF WORK	WORKFORCE -	MEN	WOMEN	MEN + WOMEN	% OF WOMEN EMPLOYED
FULL GRAVELLING		2 253	466	2 719	17
PARTIAL GRAVELLING		3 020	430	3 450	12
TOTAL - REHABILITATION BRIGADES		5 273	896	6 169	15
PERIODIC MAINTENANCE		629	80	709	11
ROUTINE MAINTENANCE		*892*	*57*	*949*	*6*
TOTAL - REHAB. + MAINTENANCE		6 794	1 033	7 827	13

Employment Generation and Labour Force - REHABILITATION

January - December 1999

PROVINCE	REGIONAL ROAD		LENGTH OF ROAD KM	AVE NO OF MEN	AVE NO OF WOMEN	AVE % WOMEN	TOTAL WORKDAYS	WORKDAYS PER KM
MAPUTO	EN262 Socimol - Moamba	FG	19,7	156	54	26	44 998	2 284
	ER 407 Magude/Mapulanguene	SI	5,5	48	6	11	2 200	400
GAZA	ER405 Guijá/Fr C/Maputo	FG	13,6	129	25	16	25 652	1 886
	ER412 Machaila - Massangena	PG	28	129	33	20	18 624	665
INHAMBANE	ER422 Massinga/Pomene	FG						
SOFALA	ER427 Buzi/Cruz EN1	PG	17,5	196	32	14	54 600	3 120
	ER445 Chemba - Chiramba	PG	4	121	38	24	18 849	4 712
MANICA	ER438 Cruz ER439/Penhalonga	PG	2	129	15	10	15 538	7 769
	ER439 Manica/Cruz ER438	PG	7	135	25	16	17 624	2 518
TETE	ER452 Dôa/Ancuaze (WV)	PG	3					
	NC Doa - Chicula (WV)	FG	18					
CABO DELGADO	ER509 Mueda/Negomano*	PG	33,6	125	30	19	37 354	1 112
	ER509 Montepuez-Nairoto	PG	38,3	182	24	12	48 439	1 265
	ER509 Nairoto -Chapa - Mueda	PG	33,5	160	32	17	37 326	1 114
NIASSA	ER569 Muembe/Chiconone	PG	35	74	12	14	12 592	360
	ER571 Lumbe/Chala	FG	21,8	63	8	11	13 096	601
	NC 903 Macaloge/Matchedje	PG	12	222	37	14	11 052	921
	NC 911 Cr EN248/Muoco/Rev. Com.	PG	44,6	157	15	9	35 616	799
	NC 912 Cr 248/Nipepe	FG	6,8	137	13	9	6 042	889

Employment Generation and Labour Force - REHABILITATION

January - December 1999

PROVINCE	REGIONAL ROAD		LENGTH OF ROAD	AVE NO OF MEN	AVE NO OF WOMAN	AVE % OF WOMAN	TOTAL WORKDAYS	WORKDAYS PER KM
ZAMBEZIA	RETAF	PG	19	227	28	11	38 744	2 039
	CAME	FG	26				17 820	685
	EREPTZ	PG	8	13	0	0	17 494	2 187
	CEPOL	PG	49	67	21	24	32 334	660
	CBC	PG	60	85	15	15	18 770	313
	PACON	PG	15	50	1	2	23 305	1 554
	EMAMIZ	PG	19	79	11	12	27 223	1 433
	ECOR	PG	20	77	24	24	23 706	1 185
	ER480 Maria - Mulevala	PG	18	115	31	21	16 385	910
	ER480 Mulevala - Morrua	FG	35	126	43	25	28 846	824
	ER480 Morrua - Uape (DFID)	FG						
	ER 483 Moneia - Mamala (WV)	PG	15					
	ER484 Inago - Rio Ligonha	FG	18,5	152	46	23	24 419	1 320
NAMPULA	EN235 Naguema - Mossuril	FG	33	48	6	11	13 525	410
	EN237 Nacavala - Muecate (WV)	PG	6					
	ER502 Luluti-Chalaua**	PG	12,6	130	29	18	2 983	237
	ER509 Muecate/Imala(WV)	PG	19					
	ER514 Netia - Fr. Muecate(Itoculo)	FG						
	ER514 Minguri-Itoculo-cruz EN8	FG	23,7	111	35	24	35 203	1 485
	ER544 Cruz Napera - Cava (SCF)	FG	?	?	?	?	?	?
	ER552 Cruz EN223/EN260/Chalaua	FG	10,2	139	44	24	22 088	2 165
	ER572 Cruz EN240/ER572/Meconta	PG	17	128	24	16	17 527	1 031
TOTALS	FG		226,3	1 061	274	21	231 689	12 550
	PG		541,6	2 649	483	15	528 285	36 303
	REHAB		767,9	3 710	757	17	759 974	48 852

*** Os dados incluem Manutencao de Rotina**

**** Inclui dados da ER542**

Employment Generation and Labour Force **Table 7**

Periodic Maintenance

January - December 1999

ER - Emergency Repair PM - Periodic Maintenance

PROVINCE	DISTRICT	REGIONAL ROAD		OUTPUT (KM)	AVE WORKFORCE	NO OF MEN	NO OF WOMEN	AVE % WOMEN	TOTAL WORKDAYS	WORKDAYS PER KM
MAPUTO	Magude	ER405 Magude/Motaze	PM	3,6	20	19	1	5	3 665	1 018
	Marracuene	ER564 Michafutene/Vundiça	PM	7,7	31	18	13	42	7 366	957
	Boane	NC Boane/Mahubo	PM	3,3	11	11	0	0	2 585	783
	Boane	NC Boane/Belulane	PM	0	14	14	0	0	3 587	-
GAZA	Manjacaze	EN208 Jantigue - Chidenguele	PM	5	68	60	8	12	2 149	430
	Xai-Xai	ER410 Chicumbane/Nhabanga	PM	19	192	156	36	19	22 123	1 164
	Manjacaze	ER411 Manjacaze-Machulane	PM	10	229	195	34	15	17 622	1 762
	Xai-Xai	NC EN1/206 Via J. Nherere	PM	18	130	116	14	11	15 094	839
	Manjacaze	NC Manjacaze/Macuacua	PM	17	188	159	29	15	19 904	1 171
INHAMBANE	Inharrime	ER414 Inharime/Praia de Závora	ER	9	109	87	22	20	8 671	963
	Morrumbene	ER416 Maxixe - Mocoduene	ER	10	93	70	23	25	7 796	780
	Morrumbene	ER416 Mocoduene - Mavume	ER	20	54	46	8	15	4 278	214
	Homoine	ER418 Homoine/Pembe	PM	24,7	118	89	29	25	20 392	826
	Massinga	ER422 Massinga/Pomene	ER	30	108	89	19	18	10 155	339
	Morrumbene	ER546 Morrumbene/Sitila	ER	4	23	21	2	9	1 626	407
	Homoine	NC Homoine - Mbenhane - Pembe	PM	26	133	103	30	23	19 261	741
	Homoine	NC Homoine/Fanha Fanha	PM	15	118	88	30	25	5 054	337
	Homoine	NC Chidjinguir/Mubalo	ER	10,5	57	49	8	14	6 398	609
	Morrumbene	NC Morrumbene/Mocodoene	ER	10	153	120	33	22	11 953	1 195
SOFALA	Dondo	NC Dondo/Madruze	PM	22	68	55	13	19	12 212	555

Employment Generation and Labour Force Table 7

Rehabilitation

January - December 1999

PROVINCE	REGIONAL ROAD		OUTPUT KM	AVE WORK FORCE	NO OF MEN	NO OF WOMEN	AVE % WOMEN	TOTAL WORKDAYS	WORKDAYS PER KM
MAPUTO	EN262 Socimol - Moamba	FG	19,7	210	156	54	26	44 998	2 284
	ER 407 Magude/Mapulanguene	SI	5,5	54	48	6	11	2 200	400
GAZA	ER405 Guijá/Fr C/Maputo	FG	13,6	154	129	25	16	25 652	1 886
	ER412 Machaila - Massangena	PG	28	162	129	33	20	18 624	665
SOFALA	ER427 Buzi/Cruz EN1	PG	17,5	228	196	32	14	54 600	3 120
	ER445 Chemba - Chiramba	PG	4	159	121	38	24	18 849	4 712
MANICA	ER438 Cruz ER439/Penhalonga	PG	2	144	129	15	10	15 538	7 769
	ER439 Manica/Cruz ER438	PG	7	160	135	25	16	17 624	2 518
CABO DELGADO	ER509 Mueda/Negomano*	PG	33,6	155	125	30	19	37 354	1 112
	ER509 Montepuez-Nairoto	PG	38,3	206	182	24	12	48 439	1 265
	ER509 Nairoto -Chapa - Mueda	PG	33,5	192	160	32	17	37 326	1 114
NIASSA	ER569 Muembe/Chiconone	PG	35	86	74	12	14	12 592	360
	ER571 Lumbe/Chala	FG	21,8	71	63	8	11	13 096	601
	NC 903 Macaloge/Matchedje	PG	12	259	222	37	14	11 052	921
	NC 911 Cr EN248/Muoco/Rev. Com.	PG	44,6	172	157	15	9	35 616	799
	NC 912 Cr 248/Nipepe	FG	6,8	150	137	13	9	6 042	889
ZAMBEZIA	RETAF #	PG	26,8	255	227	28	11	38 744	2 039
	CAME #	FG	22	0				17 820	685
	EREPTZ #	PG	8,4	13	13	0	0	17 494	2 187
	CEPOL #	PG	9,5	88	67	21	24	32 334	660
	CBC #	PG	38,5	100	85	15	15	18 770	313
	PACON #	PG	4,5	51	50	1	2	23 305	1 554
	EMAMIZ #	PG	14,5	90	79	11	12	27 223	1 433
	ECOR #	PG	31,3	101	77	24	24	23 706	1 185
	ER480 Maria - Mulevala	PG	18	146	115	31	21	16 385	910
	ER480 Mulevala - Morrua	FG	35	169	126	43	25	28 846	824
	ER484 Inago - Rio Ligonha	FG	18,5	198	152	46	23	24 419	1 320

Routine Maintenance Outputs

January - December 1997

PROVINCE	DISTRICT	ROAD	LENGTH MAINT'ED KM	NO OF WORKERS	COMMENTS
MAPUTO	Boane	NC Cruz EN2 (km25) - Mahubo	17	7	*Maint by rehab brigade
	Boane	NC EN2 Boane - Belulane	7	3	
	Marracuene	ER 564 Michfutene - Vundica	25	*10	
	Magude	ER 405 Magude - Motaze	24	*10	
GAZA	Xai Xai	NC EN1/206 via J.Nyere	20	8	*Maint by rehab brigade
	Xai Xai	ER 410 Chicumbane - Lumane	34	14	
	Xai Xai	ER 568 EN1 - Praia de Chonguene	17	7	
	Manjacaze	ER 411 Manjacaze - Machulane	54	22	**Gang maint
	Manjacaze	EN 207 Manjacaze - Chidenguele	11	*5	
	Guija	EN 208 Guija - Macarretane	20	*5	
	Manjacaze	ER 207 Manjacaze - Chonguene	35	8	
	Manjacaze	NC Manjacaze - Macuacua	12	**14	
INHAMBANE	Homoine	ER 419 Pembe - Mbenhane - Homoine	36	15	*Maint by rehab brigade
	Homoine	ER 418 Homoine - Pembe	23	9	
	Homoine	NC Homoine - Fanha Fanha	15	6	
	Homoine	NC Chindjinguir - Mubalo	25	10	
	Morrumbene	NC Morrumbene - Mocoduene	25	10	
	Morrumbene	ER 416 Maxixe - Mocoduene - Guiane	79	32	
	Massinga	ER 422 Massinga - Pomene	27	*11	
SOFALA	Dondo	NC Dondo - Mandruze	24	10	*Maint by rehab brigade
	Buzi	ER 428 Buzi - Machanga	18	*7	
MANICA	Manica	ER 550 Machipanda - Manica	20	8	*Maint by rehab brigade
	Manica	ER 543 EN6 - Tsetsera	79	32	
	Sussundenga	ER 992 Sussundenga - Cadeado	40	16	
	Manica	ER 436 Cr EN6 (Manica) - Cr ER 543	47	19	
	Sussundenga	ER 570 Cadeado - Rotanda	26	*10	
NAMPULA	Mecuburi	ER 510 Rapale - Mecuburi	57	23	* Maint by rehab brigade
	Nacala Velha	EN241 Nacala Velha - Memba	50	23	
	Murrupula	ER 542 Murrupula - Inhuti	19	*8	
	Monapo	EN 236 Monapo - Boila	117	-	Emergency repair only
	Angoche	EN260 Boila - Moma	48	-	
NIASSA	Lichinga	ER 554 Lichinga - Meponda	63	**33	
	Unango	ER 535 Unango - Mucaloge	50	**20	**Gang maint
	Lichinga	ER 556 Congerenge - Mitande	10	** 5	
	Lichinga	ER 537 Mussa - Muembe	35	**23	
	Cuamba	ER 556 Cuamba - Etatara	54	**22	
CABO DELGADO	Montepuez	ER 509 Montepuez -Namuno	60	28	
	Mindumbe	ER 530 Mueda - Muidumbe	50	*20	
	Mueda	ER 509 Nairoto - Mueda	21	*8	*Maint by rehab brigade
	Mueda	ER 531 Mueda - Nangade	51	*20	
	Negomane	ER 509 Mueda - Negomane	92	*37	
	Balama	EN 242 Montepuez - Balama	58	28	
ZAMBEZIA	Maganja	ER 485 Maganja - Nante	30	12	*Maint by rehab brigade
	Namacurra	ER 471 Namacurra - Macuze	47	19	
	Mocuba	ER 230 Mugeba - Mocubela	16	*7	
TOTALS			1678	644	

Total number of workdays generated by routine maintenance estimated as 115,920.

Routine Maintenance Outputs

January - December 1998

PROVINCE	DISTRICT	ROAD	LENGTH MAINTAINED KM	TOTAL WORK-DAYS	COST/KM USD AV.	COST/KM USD ROAD
MAPUTO	Magude	ER 405 Magude - Motaze	41	3 368		733
	Marracuene	ER 564 Michfutene - Vundica	20	3 034		828
	Boane	NC Cruz EN2 (km25) - Mahubo	15	1 977		470
	Boane	NC EN2 Boane - Belulane	13	1 834	660	390
GAZA	Manjacaze	ER 207 Manjacaze - Chonguene	35	3 485		702
	Manjacaze	EN 207 Manjacaze - Chidenguele	35	5 137		726
	Guija	EN 208 Guija - Macarretane	25	1 752		448
	Xai Xai	ER 410 Chicumbane - Lumane	20	4 221		1 681
	Manjacaze	ER 411 Manjacaze - Machulane	54	5 234		389
	Xai Xai	ER 568 EN1 - Praia de Chonguene	17	3 368		894
	Xai Xai	NC EN1/206 via J.Nyere	20	3 758		2 033
	Manjacaze	NC Manjacaze - Macuacua	23	*1 840*	833	*
INHAMBANE	Morrumbene	ER 416 Maxixe - Guiane	105	6 548		818
	Homoine	ER 418 Homoine - Pembe	33	1 517		607
	Massinga	ER 422 Massinga - Pomene	46	1 990		1 213
	Morumbene	ER 546 Morrumbene - Sitila	29	1 637		773
	Homoine	NC Homoine - Fanha Fanha	15	898		619
	Homoine	NC Pembe - Mbenhane - Homoine	36	2 251		654
	Homoine	NC Chindjinguir - Mubalo	25	1 547		478
	Morrumbene	NC Morrumbene - Mocoduene	25	2 103	801	900
SOFALA	Dondo	NC Dondo - Mandruze	22	*1 760*	1 456	1 456
MANICA	Manica	ER 436 Cr EN6 - Cr ER 543	47	*3 760*		284
	Manica	ER 543 EN6 - Tsetsera	74	*5 920*		268
	Manica	ER 550 Machipanda - Manica	21	*1 680*		331
	Sussundenga	ER 570 Cadeado - Rotanda	30	*2 400*		420
	Sussundenga	ER 992 Sussundenga - Cadeado	45	*3 600*	287	211
NAMPULA	Nacala Velha	EN 241 Nacala Velha - Memba	39	*3 120*		*
	Monapo	ER 499 Nanguema - Lunga / Motom.	15	*1 200*		*
	Mecuburi	ER 510 Rapale - Mecuburi	41	*3 280*		*
	Nacala Velha	ER 514 Minguri - Itoculo	14	*1 120*		*
	Murrupula	ER 542 Murrupula - Iuluti	43	*3 440*		*
NIASSA	Lago	EN 249 Maniamba - Metangula	30	2 884		2 594
	Lichinga	ER 537 Mussa - Muembe	13	*1 040*		*
	Unango	ER 539 Unango - Mucaloge	50	4 786		1 565
	Lichinga	ER 554 Lichinga - Meponda	63	4 050		1 865
	Cuamba	ER 556 Cuamba - Etatara	54	9 699		1 452
	Lichinga	ER 566 Congerenge - Mitande	10	2 429		2 378
	Muoco	NC Cruz EN248 - Revia Comercial	36	*2 880*	1 815	*
CABO DELGADO	Balama	EN 242 Montepuez - Balama	49	*3 920*		*
	Montepuez	ER 509 Montepuez -Namuno	50	*4 000*		*
	Mueda	ER 509 Nairoto - Mueda	42	*3 360*		*
	Negomane	ER 509 Mueda - Negomane	123	*9 840*		*
	Miudumbe	ER 530 Mueda - Muidumbe	67	*5 360*		*
	Mueda	ER 531 Mueda - Nangade	75	*6 000*		*

PROVINCE	DISTRICT	ROAD	LENGTH MAINTAINED KM	TOTAL WORK-DAYS	COST/KM USD
ZAMBEZIA	Mocuba	EN 104 Mocuba - Chingoma	14	*1 120*	-
	Mocuba	EN 227 Chingoma - Dugudela	13	*1 040*	-
	Lugela	EN 229 Mocuba - Cha -Madal	100	*8 000*	-
	Lugela	EN 229 Cha Madal - Liciro	40	*3 200*	-
	Mocuba	EN 230 Mugeba - Mocubela	89	*7 120*	397
	Gurue	EN 231 Gurue - Mutuali	42	*3 360*	-
	Lugela	ER 448 Liciro - Morire	6	*480*	-
	Namacurra	ER 471 Namacurra - Macuze	45	*3 600*	565
	Mocuba	ER 472 Alto Benfica - Maticula	29	*2 320*	-
	Mocuba	ER 479 Mocuba - Maquia	31	*2 480*	-
	Ilé	ER 482 Nipiodi - Ilé	33	*2 640*	-
	Maganja	ER 485 Maganja - Nante	28	*2 240*	357
	Mucubela	ER 485 Mucubela - Bajone	4	*320*	-
	Namarroi	ER 487 Mugulama - Ilé	35	*2 800*	437 -
TOTALS			2 194	189 747	840

ROUTINE MAINTENANCE OUTPUTS AGAINST TARGETS

January - December 1999

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH KM	OUTPUT KM	PLANO KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
MAPUTO	Matola	EN262 Socimol - Moamba	39,9	12	20		60	598
	Magude	ER405 Magude/Motaze	41	36,4	31		117	334
	Marracuene	ER564 Michafutene/Vundiça	41	16	16		100	76
	Marracuene	NC Boane/Mahubo	14	11,3	9		126	0
	Marracuene	NC Boane/Belulane	13	13	10	103	130	51
GAZA	Manjacaze	EN207 Manjacaze - Chongoene	37,9	38	38		100	513
	Guija	EN208 Guija - Macarretane	20,7	25	25		100	82
	Manjacaze	EN208 Jantigue - Chidenguele	55,8	49	49		100	272
	Guija	ER405 Guijá/Fr C/Maputo	33	10	12		83	26
	Xai-Xai	ER410 Chicumbane/Nhabanga	44	25	25		100	310
	Manjacaze	ER411 Manjacaze-Machulane	54	44	44		100	345
	Manjacaze	ER412 Machaila - Massangena	88,2	18	18		100	390
	Xai-Xai	ER568 EN1/Pr. de Chongoene	17	17	17		100	236
	Manjacaze	NC Manjacaze/Macuacua	35	10	12		83	421
	Xai-Xai	NC Xai-Xai/Nhacutse	25	25	0		--	0
	Xai-Xai	NC Xai-Xai/Chilaulene	18	18	18	108	100	0
INHAMBANE	Inharrime	ER414 Inharime/Praia de Závora	17	17	17		100	345
	Morrumbene	ER416 Maxixe - Mocoduene	23,5	22,3	25		89	424
	Morrumbene	ER416 Mocoduene - Mavume	77,8	80	80		100	324
	Morrumbene	ER416 Mavume - Funhalouro	41,6	42	42		100	395
	Morrumbene	ER419 Homoíne - Mocoduene	2,3	4	6		67	592
	Massinga	ER422 Massinga/Pomene	52	39,2	36		109	296
	Morrumbene	ER546 Morrumbene/Sitila	76,4	59	62		95	416
	Homoine	NC Chidjinguir/Mubalo	25	25	25	98	100	372

ROUTINE MAINTENANCE OUTPUTS AGAINST TARGETS

January - December 1999

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH (KM)	OUTPUT KM	PLANO KM	% TARGET		COST/KM USD
						O/ALL	PER SITE	
SOFALA	Buzi	ER427 Buzi/Cruz EN1	79	28	43		65	315
	Dondo	NC Dondo/Madruze	24	22	7	100	314	
MANICA	Manica	ER436 Cruz EN6/Cruz ER543(Cadeado)	47	47	47		100	343
	Manica	ER438 Cruz ER439/Penhalonga	22,2	12	13		92	372
	Sussundenga	ER543 Cruz EN6/Tsetsera	74	74	76		97	428
	Manica	ER550 Manica/Cruz EN6(Machipanda)	31	12	19		63	560
	Sussundenga	ER570 Cruz ER543(Cadeado)/Cruz ER441	31	20	26		77	453
	Sussundenga	NC Sussundenga/Cadeado	45	45	40		113	319
	Catandica	NC Honde/Panze	15	0	15		0	0
	Catandica	NC Catandica/Cagore	20	0	20	82	0	0
ZAMBEZIA	Quelimane	EN224 Quelimane - Chinde	85,4	39	0		–	263
	Lugela	EN229 Mocuba - Cha Madal (IBIS)	105,9	100	0		–	186
	Mocuba	ER230 Mugeba - Mocubela	94	50	0		–	564
	Namacurra	ER471 Namacura/Macuze	49	16	7		229	296
	Ile	ER480 Mulevala - Morrua	53,9	18	0		–	271
	Ile	ER481 Mulevala - Mutarau	32,1	0	35		0	0
	Maganja da Costa	ER485 Nante - Maganja	34,2	27,5	20		138	323
	Gurue	NC Lioma/Mepinha(Rio Lúrio)	25	26	25	318	104	430
NAMPULA	Mossuril	EN235 Naguema - Mossuril	21	0	57		0	0
NAMPULA	Nacala Velha	EN241 Nacala Velha - Memba*	48,9	28	50		56	699
	Monapo	ER499 Lunga/Naguena	35,3	0	35		0	0
	Mecuburi	ER510 Rapale/Mecuburi*	57	49,6	42		118	873
	Monapo	ER514 Fr. Muecate(Itoculo) - Nacala Velha(Minguri)*	56,8	42	12		350	19 960
	Murrupula	ER542 Iluluti/Murrupula**	62,9	53,8	57	88	94	54 561
CABO DELGADO	Balama	EN242 Montepuez - Balama*	55,9	43	58		74	2 365
	Montepuez	ER509 Montepuez/Namuno*	60	45	45		100	1 325
	Mueda	ER509 Mueda/Negomano*	185	70	150		47	1 139
	Montepuez	ER509 Montepuez-Nairoto	66	0	33		0	0
	Montepuez	ER509 Nairoto - Chapa - Mueda*	147,8	69	105		66	686
	Namuno	ER509 Namuno/Machoca(Rio Lúrio)	60	42	42		100	599
	Mueda	ER530 Mueda/Muidumbe/Xitaxi*	70	41	41		100	2 173
	Mueda	ER531 Namaua/Nangade*	68	74	39		190	1 307
	Montepuez	NC Cruz ER509/Mirate	23,4	23	23	76	100	967

*** Os dados incluem Reabilitacao e/ou Manutencao periodica**

**** Os Dados desta estrada foram adicionados aos da ER502**

ROUTINE MAINTENANCE OUTPUTS AGAINST TARGETS

January - December 1999

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH (KM)	OUTPUT KM	PLANO KM	% TARGET O/ALL	% TARGET PER SITE	COST/KM USD
NIASSA	Metangula	EN 249 Maniamba - Metangula	25,9	30	30		100	1 062
	Lichinga	ER537 Muembe/Mussa*	35,8	18,7	0		_	890
	Unango	ER539 Unango/Macalogue	50	30	30		100	974
	Lichinga	ER554 Lichinga/Meponda*	60	28,9	33		88	1 550
	Cuamba	ER556 Etatara/Cuamba	55,7	54	54		100	812
	Lichinga	ER566 Congerenge/Mitande	10	10	10		100	1 226
	Lichinga	ER571 Lumbe/Chala	42	0	18		0	0
	Muoco	NC 911 Cr EN248/Muoco/Rev. Com.	141	0	21	88	0	0
TOTALS				1 944,70	2 015		97	105 109

*** Os dados incluem Reabilitacao e/ou Manutencao periodica**

TERTIARY ROAD PROGRAMME : REHABILITATION (FG & SI) & MAINTENANCE

PROVINCE	DISTRICT	ROAD	1997 km	1998 km	1999 km	2000 km	2001 km	TOTAL REHAB	TOTAL MAINT
MAPUTO	BOANE	NC Boane - Mahubo		18	18	18	18		18
	BOANE	NC Boane - Belulane		10	10	10	10		10
	MARRACUENE	ER564 Michafutene - Vundica	20	47	47	47	47	20	47
	MAGUDE	ER405 Magude - Fr.Gaza	21	41	41	41	41	21	41
GAZA	XAI XAI	NC EN1/206 via J.Nyere		18	18	18	18		18
	XAI XAI	ER410 Chicumbane - Nhabanga		26	26	26	26		26
	XAI XAI	ER568 EN1 - Praia do Xai Xai	10	10	10	10	10		10
	MANJAKAZE	ER411 Manjakaze - Machulane		45	45	45	45		45
	MANJAKAZE	Unallocated	20	7	27	27	27	27	27
	MANJAKAZE	NC Manjakaze - Macuacua		30	30	30	30		30
	CHOKWE	EN208 Guija - Macarretane	4	24	24	24	24	4	24
INHAMBANE	HOMOINE	NC Pembe - Mbenhane		10	10	10	10		10
	HOMOINE	ER418 Homoine - Pembe		33	33	33	33		33
	HOMOINE	NC Homoine - Mbenhane		30	30	30	30		30
	MORRUMBENE	ER416 Mocodoene - Maxixe		25	25	25	25		25
	MORRUMBENE	Unallocated	20	20	20	20	20	20	20
	MORRUMBENE	ER416 Mocodoene - Mavume		60	60	60	60		60
	MASSINGA	ER422 EN1 - Praia do Pomene	20	7	52	52	52	27	52

TABLE 10A

SOFALA	DONDO	NC Dondo - Madruze		60	60	60	60		60
	BUZI	ER248 Bandua - Cruzeiro	20	20	140	140	140	40	140
MANICA	MANICA	ER543 Chicamba - Tsetsera							
	MANICA	Uallocated	9					9	
	MANICA	ER543 Cru.EN3 - Chicamba							
	MANICA	ER436 Zovue - Cadeado							
	SUSSUNDENGA	NC Sussundenga - Cadeado							
	SUSSUNDENGA	Unallocated	7					7	
	SUSSUNDENGA	EN216 Sussundenga - Dombe							
	SUSSUNDENGA	NC Mpongo - Dacata							
ZAMBEZIA	MAGANJA DA COSTA	ER 485 Maganja da Costa - Namacurra	20	42	42	42	42	20	42
	NAMACURRA	ER471 Namacurra - Macuze	27	15	62	62	62	35	62
	MOCUBA	EN230 Mugeba - Mocubela	20	20	20	60	60	60	60
	GURUE	EN231 Gurue - Lioma	29	29	58	58	58	58	58
	LIOMA	EN231 Lioma - Mutuali	31	31	62	62	62	62	62
		ODA Various	200	200	200	200	55	855	855
NAMPULA	MECUBURI	ER510 Rapale - Mecuburi		55	55	55	55		55
	NACALA VELHA	EN241 Nacala Velha - Memba	25	10	60	60	60	35	60
	MURRUPULA	ER542 Murrupula - Luluti	20	20	62	62	62	40	62
	MONAPO	EN236 Monapo - Boila	65	52	157	157	157	117	157
	ANGOCHE	EN265 Boila - Moma	40	39	119	119	119	79	119
	MOGINCUAL	EN240 Liupo - Mogincual		39	39	39	39	39	39

TABLE 10B

	ANGOCHE	ER496 Estrada Costeira	20	11	31	31	31	31	31
NAMPULA	ANGOCHE	ER558 Larde	20	11	31	31	31	31	31
	MOMA	ER498 Aube	40	22	62	62	62	62	62
CABO DELGADO	MONTEPUEZ	ER509 Montepuez - Namuno	60	60	60	60	60		60
	MUEDA I	ER509 Nairoto - Mueda	10	60	60	60	60	10	60
	MUEDA II	ER531 Mueda - Nangade	11	68	68	68	68	11	68
	NEGOMANE	ER509 Mueda - Negomane	40	40	19	164	164	99	164
	MUIDUMBE	ER530 Mueda - Muidumbe	78	78	78	78	78		78
	BALAMA	EN242 Montepuez - Balama		60	60	60	60		60
NIASSA	CUAMBA	ER556 Cuamba - Etatara	9	58	58	58	58	9	58
	LICHINGA	ER537 Mussa - Muembe		40	40	40	40		40
	LICHINGA	ER554 Lichinga - Mponda	59	59	59	59	59		59
	LICHINGA	ER571 Lumbi - Chala		37	37	37	37		37
	UNANGO	ER539 Unango - Macologe	29	29	29	29	29		29
	LICHINGA	ER556 EN8 - Mitande	10	10	10	10	10		10
COMMITTED REHAB			763	573	239	200	55		
UNCOMMITTED REHAB				177	511	550	695		
TOTAL REHAB			763	750	750	750	750		
COMMITTED MAINT			1009	1913	2875	3099	3099		
UNCOMMITTED MAINT			0	87	125	901	1901		
TOTAL MAINTENANCE			1009	2000	3000	4000	5000		

TABLE 10C

Rehabilitation and Maintenance Plan

January - December 1998

PROVINCE	DISTRICT	ROAD	TOTAL ROAD LENGTH KM		REHAB. KM	PERIODIC MAINT. KM	ROUTINE MAINT. KM
MAPUTO	Boane	NC Cruz EN2 (km25) - Mahubo	17	FG			17
	Boane	NC EN2 Boane - Belulane	11	FG			7
	Marracuene	ER 564 Michfutene - Vundica	47	FG			41
	Magude	ER 405 Magude - Motaze	41	FG			41
	Matola	ER 282 Socimol - Moamba	40	FG	35		-
GAZA	Xai Xai	NC EN1/206 via J.Nyere	20	FG			20
	Xai Xai	ER 410 Chicumbane - Lumane	51	FG/PM	17		51
	Xai Xai	ER 568 EN1 - Praia de Chonguene	17	FG			17
	Manjacaze	ER 411 Manjacaze - Machulane	54	FG			54
	Manjacaze	EN 207 Manjacaze - Chidenguele	35	FG			35
	Guija	EN 208 Guija - Macarretane	25	FG			25
	Manjacaze	ER 207 Manjacaze - Chonguene	38	FG			38
	Manjacaze	NC Manjacaze - Macuacua	35	FG			35
	Manjacaze	EN 208 Manjacaze - Jantigue	22	FG/PM		22	22
	Guija	ER 405 Guija - Fr c/Maputo	35	FG	35		-
	Massangena	ER 412 Machaila - Massangena	82	SI	48		-
	Xai Xai	NC Xai Xai - Nhacutse	25	FG/PM	25		-
	Xai Xai	NC Xai Xai - Chilaulane	18	FG/PM	18		-
INHAMBANE	Homoine	ER 419 Pembe - Mbenhane - Homoine	36	FG			36
	Homoine	ER 418 Homoine - Pembe	33	FG	6		33
	Homoine	NC Homoine - Fanha Fanha	15	FG			15
	Homoine	NC Chindjinguir - Mubalo	25	FG			25
	Morrumbene	NC Morrumbene - Mocoduene	25	FG			25
	Morrumbene	ER 416 Maxixe - Mocoduene - Guiane	79	FG			79
	Massinga	ER 422 Massinga - Pomene	52	FG			46
	Morrumbene	ER 546 Morrumbene - Sitila	64	FG	25		29
	Inharrime	ER 414 Chongola - Zavora	17	FG	17		-
SOFALA	Dondo	NC Dondo - Mandruze	24	FG			24
	Buzi	ER 428 Buzi - Machanga	50	FG			50
	Buzi	ER 427 Buzu - Cr EN1	70	SI	50		-

PROVINCE	DISTRICT	ROAD	TOTAL ROAD LENGTH KM		REHAB KM	PERIODIC MAINT. KM	ROUTINE MAINT. KM
MANICA	Manica	ER 550 Machipanda - Manica	20	FG			20
	Manica	ER 543 EN6 - Tsetsera	79	SI			79
	Sussundenga	ER 992 Sussundenga - Cadeado	40	FG			40
	Manica	ER 436 Cr EN6 (Manica) - Cr ER 543	47	FG			47
	Sussundenga	ER 570 Cadeado - Rotanda	36	FG			36
	Manica	ER 438 Manica - Cr ER 439	18	SI	13		18
NAMPULA	Mecuburi	ER 510 Rapale - Mecuburi	57	FG/PM		15	57
	Nacala Velha	EN241 Nacala Velha - Memba	50	FG			50
	Murrupula	ER 542 Murrupula - Iuluti - Chalaua	92	FG	25		47
	Nacala Velha	ER 514 Minguri - Itoculo	42	FG	25		17
	Monapo	ER 499 Naguema - Lunga	30	FG	15		8
	Monapo	EN 236 Monapo - Boila	156	FG			156
	Angoche	EN 260 Angoche - Boila	9	FG			9
	Angoche	EN260 Boila - Moma	118	FG			94
	Mogincual	EN 240 Liupo - Mogincual	60	FG	60		-
NIASSA	Lichinga	ER 554 Lichinga - Meponda	63	FG			63
	Unango	ER 539 Unango - Mucaloge	50	FG			50
	Lichinga	ER 556 Congerenge - Mitande	10	FG			10
	Lichinga	ER 537 Mussa - Muembe	35	FG/PM		15	35
	Cuamba	ER 556 Cuamba - Etatara	54	FG			54
	Lichinga	ER 571 Lumbi - Chala	43	FG	25		-
	Muoco	NC Cr EN248 - Muoco - Revial Comercial	141	SI	50		36
	Lago	EN 249 Maniamba - Metangula	30	FG			30
CABO DELGADO	Montepuez	ER 509 Montepuez -Namuno	60	FG/PM		15	60
	Miudumbe	ER 530 Mueda - Muidumbe - Xitaxi	70	SI	10		60
	Mueda	ER 509M Nairoto - Mueda	148	FG	30		47
	Mueda	ER 531 Mueda - Nangade	74	FG	25		59
	Negomane	ER 509N Mueda - Negomane	185	SI	40		123
	Balama	EN 242 Montepuez - Balama	58	FG/PM		15	58

PROVINCE	DISTRICT	ROAD	TOTAL ROAD LENGTH KM		REHAB. KM	PERIODIC MAINT. KM	ROUTINE MAINT. KM
ZAMBEZIA	Maganja da Costa	ER 485 Maganja - Nante	30	FG			30
	Namacurra	ER 471 Namacurra - Macuze	47	FG			47
	Mocuba	ER 230 Mugeba - Mocubela	93	FG	29		62
	Quelimane	EN 224 Quelimane - Chinde	110	FG	30		20
	Maganja da Costa	ER 480 Mulevala - Morua	54	FG	25		-
	Lioma	NC Lioma - Mepina	40	FG	20		-
	Gurue	EN 231 Gurue - Lioma - Mutuali	102	FG	60		40
	Lugela	EN 229 Mocuba - Cha Madal (IBIS)	104	FG			104
	Lugela	EN 250 Liciro - Cha Madal (IBIS)	46	FG			46
	Namarroi	EN 233 Ile - Namarroi (IBIS)*	55	FG			55
	Namarroi	ER 494 Namarroi - Gurue (IBIS)*	72	FG			72
	Alto Molocue	EN 104 Vacha - Inago (IBIS)*	39	FG			39
	Alto Molocue	ER 493 Cr ER484 - Gurue (IBIS)*	73	FG			73
	Mocuba	EN 104 Mocuba - Chingoma (DfID)*	)	FG	)		)
	Mocuba	ER 227 Chingoma - Namanvira (DfID)*	)	FG	)		)
	Mocuba	ER 472 Alto Benfica - Derre (DfID)*	)	SI	)		)
	Lugela	ER 448 Liciro - Morire (DfID)*	)	SI	)		)
	Ile	ER 482 Nipiodi - Ile (DfID)*	)	SI	)		)
	Ile	ER 487 Mugulama - Ile (DfID)*	)760	SI	)200		)164
	Mocuba	ER 479 Mocuba - Maganja (DfID)*	)	SI	)		)
	Mucubela	ER 485 Mucubela - Bajone (DfID)*	)	SI	)		)
	Namarroi	ER 492 Munhamade - Namarroi (DfID)*	)	SI	)		)
	Ile	ER 480 Mugeba - Mulevala (DfID)*	)	SI	)		)
		Other DfID roads*	)	SI	)		)
TOTALS					547 FG 411 SI	82	2832

Rehabilitation and Maintenance Plan

January - December 1999

PROVINCE	DISTRICT	ROAD	TOTAL ROAD LENGTH /KM		REHAB /KM	PERIODIC MAINT. /KM	ROUTINE MAINT. /KM
MAPUTO	Boane	NC Cruz EN2 (km25) - Mahubo	14	FG		5	9
	Boane	NC EN2 Boane - Belulane	13	FG		3	10
	Matola	EN 262 Socimol - Moamba	40	FG	20		20
	Magude	ER 405 Magude - Motaze	41	FG		10	31
	Marracuene	ER 564 Michfutene - Vundica	40	FG		25	16
GAZA	Xai Xai	NC EN1/206 via J.Nycre	20	FG		20	
	Xai Xai	NC Xai Xai - Nhacutse	25	FG/PM			
	Xai Xai	NC Xai Xai - Chilaulane	18	FG			18
	Manjacaze	NC Manjacaze - Macuacua	35	FG		23	12
	Manjacaze	EN 207 Manjacaze - Chonguene	38	FG			38
	Guija	EN 208 Guija - Macarretane	25	FG			25
	Manjacaze	EN 208 Jantigue - Chidenguele	54	FG		5	49
	Guija	ER 405 Guija - Fr c/Maputo	33	FG	21		12
	Xai Xai	ER 410 Chicumbane - Nhabanga	43	FG/PM		19	25
	Manjacaze	ER 411 Manjacaze - Machulane - Chic.	54	FG		10	44
	Massangena	ER 412 Machaila - Massangena	48	PG	30		18
	Xai Xai	ER 568 EN1 - Praia de Chonguene	17	FG			17
INHAMBANE	Homoine	NC Homoine - Fanha Fanha	15	FG		15	
	Homoine	NC Homoine - Mbemhane - Pembe	36	FG		36	
	Morrumbene	NC Morrumbene - Mocoduene	25	FG		25	
	Homoine	NC Chinginguire - Mubalo	25	FG			25
	Inharrime	ER 414 Chongola - Zavora	17	FG			17
	Morrumbene	ER 416 Maxixe - Mocoduene	25	FG			25
	Morrumbene	ER 416 Mavume - Funhalouro	42	FG			42
	Morrumbene	ER 416 Mocodoene - Mavume	80	FG			80
	Homoine	ER 418 Homoine - Pembe	33	FG		33	
	Homoine	ER 419 Homoine - Mocodoene	6	FG			6
	Massinga	ER 422 Massinga - Pomene	52	FG	6	8	36
	Morrumbene	ER 546 Morrumbene - Sitila	62	FG			62

PROVINCE	DISTRICT	ROAD	TOTAL ROAD LENGTH /KM		REHAP /KM	PERIODIC MAINT. /KM	ROUTINE MAINT. /KM
SOFALA	Dondo	NC Dondo - Mandruze	20	FG		13	7
	Buzi	ER 427 Buzu - Cr EN1	73	PG	30		43
	Buzi	ER 428 Buzi - Machanga	62	FG		30	
	Chemba	ER 445 Chemba - Chiramba	50	FG	50		
MANICA	Catandica	NC Honde - Panze	15	FG			15
	Catandica	NC Catandica - Cagore	20	FG			20
	Sussundenga	NC Cadeado - Sussundenga	40	FG			40
	Manica	ER 436 Cr EN6 (Manica) - Cr ER 543	47	FG			47
	Manica	ER 438 Manica - Cr ER 439	23	FG	10		13
	Sussundenga	ER 543 EN6 - Tsetsera	76	PG			76
	Manica	ER 550 Machipanda - Manica	24	FG		5	19
	Sussundenga	ER 570 Cadeado - Rotanda	31	FG		5	26
NAMPULA	Mossuril	EN 235 Naguema - Mossuril	21	FG/PM	21		57
	Nacala Velha	EN 241 Nacala Velha - Memba	50	FG		15	50
	Monapo	ER 499 Naguema - Lunga	35	FG			35
	Namitil	ER 502 Luluti - Chalaua	35	FG	35		
	Mecuburi	ER 510 Rapale - Mecuburi	57	FG		15	42
	Nacala Velha	ER 514 Minguri - Itoculo	42	FG	30		12
	Murrupula	ER 542 Murrupula - Iuluti - Chalaua	57	FG			57
CABO DELGADO	Montepuez	NC Crz ER 509 - Mirate	23	FG			23
	Balama	EN 242 Montepuez - Balama	58	FG			58
	Montepuez	ER 509 Montepuez -Namuno	60	FG			45
	Mueda	ER 509 Nairoto - Murite	69	FG			69
	Mueda	ER 509 Murite - Mueda	66	FG	30		36
	Mueda	ER 509 N Nampugale - Negomane	115	FG	35		80
	Montepuez	ER 509 Montepuez - Nairoto	68	FG	35		33
	Namuno	ER 509 Namuno - Machoca	42	FG			42
	Montepuez	ER 524 Montepuez - Namuno	60	FG		15	
	Miudumbe	ER 530 Mueda - Muidumbe	41	FG			41
	Mueda	ER 531 Namaua - Nangade	74	FG		35	39
	Negomane	ER 509N Mueda - Negomane	70	FG			70

PROVINCE	DISTRICT	ROAD	TOTAL ROAD LENGTH /KM		REHAB /KM	PERIODIC MAINT. /KM	ROUTINE MAINT. /KM
NIASSA	Muoco	NC Cr EN248 - Muoco - Revial Comercial	141	FG	30		21
	Metangula	EN 249 Maniamba - Metangula	30	FG			30
	Lichinga	ER 537 Mussa - Muembe	35	FG		35	
	Unango	ER 539 Unango - Mucaloge	50	FG/PM			30
	Lichinga	ER 554 Lichinga - Meponda	63	FG			33
	Cuamba	ER 556 Cuamba - Etatara	54	FG			54
	Lichinga	ER 566 Congerenge - Mitande	10	PG			10
	Lichinga	ER 569 Muembe - Chiconono	35	FG	35		
	Lichinga	ER 571 Lumbi - Chala	43	FG	25		18
ZAMBEZIA	Lioma	NC Lioma - Rio Lúrio	25	FG			25
	Lioma	NC Lioma - Mepina	40	FG			
	Mocuba	EN 104 Mocuba - Chingoma (DFID)*	)	PG			
	Alto Molocue	EN 104 Vacha - Inago (IBIS)*	39	FG			
	Quelimane	EN 224 Quelimane - Chinde	110	FG			
	Alto Molocue	ER 227 Chingoma - Namanvira (DFID)*	)	PG			
	Lugela	EN 229 Mocuba - Cha Madal (IBIS)	104	FG			
	Mocuba	ER 230 Mugeba - Mocubela	93	FG			
	Gurue	EN 231 Gurue - Lioma - Mutuali	102	FG			
	Namarroi	EN 233 Ile - Namarroi (IBIS)*	55	FG			
	Lugela	ER 448 Liciro - Morire (DFID)*	)	PG			
	Lugela	EN 250 Liciro - Cha Madal (IBIS)	46	FG			
	Namacurra	ER 471 Namacurra - Macuze	42	FG		35	7
	Mocuba	ER 472 Alto Benfica - Derre (DFID)*	)	PG			
	Mocuba	ER 479 Mocuba - Maganja (DFID)*	)	PG			
	Ile	ER 480 Mugeba - Mulevala (DFID)*	)	PG			
	Maganja da Costa	ER 480 Mulevala - Morrua	35	FG			
	Gilé	ER 480 Murrua - Uape	37	FG	37		
	Ile	ER 481 Mulevala - Mutarau	35	FG	38		35
	Ile	ER 482 Nipiodi - Ile (DFID)*	)	PG			
	Alto Molocue	ER 484 Inago - Rio Ligonha	20	FG	20		
	Maganja da Costa	ER 485 Maganja - Nante	20	FG			20
	Mucubela	ER 485 Mucubela - Bajone (DFID)*	)	PG			
	Ile	ER 487 Mugulama - Ile (DFID)*	)	PG			
	Namarroi	ER 492 Munhamade - Namarroi (DFID)*	)	PG			
	Mocuba	ER 493 Cr ER484 - Gurue (IBIS)*	73	FG			
	Namarroi	ER 494 Namarroi - Gurue (IBIS)*	72	FG			
		Other DFID roads*					
TOTALS					538	440	2015

REHABILITATION AND MAINTENANCE PLAN

Table 9

January - December 2000

FG - FULL GRAVELING PG - PARTIAL GRAVELING
PM - PERIODIC MAINTENANCE RM - ROUTINE MAINTENANCE

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH (KM)		REHA (KM)	PM (KM)	RM (KM)
MAPUTO	Matola	EN262 Socimol - Moamba	39,9	FG	10		30
	Magude	ER405 Magude/Motaze	41	PM		12	28
	Magude	ER 407 Magude/Mapulanguene	105	SI	90		
	Marracuene	ER564 Michafutene/Vundiça	41	PM		15	25
	Boane	NC Boane/Mahubo	14	PM		5	9,6
	Boane	NC Boane/Belulane	13	PM		13	0
GAZA	Manjacaze	EN207 Manjacaze - Chongoene	37,9	PM		8	30
	Guija	EN208 Guija - Macarretane	20,7	PM		25	
	Manjacaze	EN208 Jantigue - Chidenguele	55,8	RM			54
	Guija	ER405 Guijá/Fr C/Maputo	33	FG	15		18
	Xai-Xai	ER410 Chicumbane/Nhabanga	44	RM			44
	Manjacaze	ER411 Manjacaze-Machulane	54	PM		13	41
	Massangena	ER412 Machaila - Massangena	88,2	PG	30		46
	Xai-Xai	ER568 EN1/Pr. de Chongoene	17	RM			17
	Xai-Xai	NC EN1/206 Via J. Nherere	20	PM		2	18
	Manjacaze	NC Manjacaze/Macuacua	35	PM		4	27
	Xai-Xai	NC Xai-Xai/Nhacutse	25	PM		10	15
	Xai-Xai	NC Xai-Xai/Chilaulene	18	PM		5	13
INHAMBANE	Inharrime	ER414 Inharime/Praia de Závora	17	PM		1	16
	Morrumbene	ER416 Maxixe - Mocoduene	23,5	PM		22,3	
	Morrumbene	ER416 Mocoduene - Mavume	77,8	RM			80
	Morrumbene	ER416 Mavume - Funhalouro	41,6	RM			42
	Homoine	ER418 Homoine/Pembe	33	RM			24,7
	Homoine	ER419 Homoine - Mocoduene	2,3	RM			4
	Homoine	ER422 Massinga/Pomene	52	PM		15	24,2
	Morrumbene	ER546 Morrumbene/Sitila	76,4	RM			59
	Homoine	NC Homoine - Mbenhane - Pembe	36	RM			36
	Homoine	NC Homoine/Fanha Fanha	15	RM			15
	Homoine	NC Chidjinguir/Mubalo	25	PM		15	10
	Morrumbene	NC Morrumbene/Mocodoene	25	PM		10	15
SOFALA	Buzi	ER427 Buzi/Cruz EN1	79	PG	22		45
	Chemba	ER445 Chemba - Chiramba	52,2	PG	30		
	Dondo	NC Dondo/Madruze	24	RM			20

REHABILITATION AND MAINTENANCE PLAN

January - December 1999

FG - FULL GRAVELING PG - PARTIAL GRAVELING
PM - PERIODIC MAINTENANCE RM - ROUTINE MAINTENANCE

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH (KM)		REHA (KM)	PM (KM)	RM (KM)
	Manica	ER436 Cruz EN6/Cruz ER543(Cadeado)	47	RM			47
MANICA	Manica	ER438 Cruz ER439/Penhalonga	22,2	PG	12		23
	Manica	ER439 Manica/Cruz ER438	56	FG	45		
	Sussundenga	ER543 Cruz EN6/Tsetsera	74	PM		10	66
	Manica	ER550 Manica/Cruz EN6(Machipanda)	31	RM			24
	Sussundenga	ER570 Cruz ER543(Cadeado)/Cruz ER441	31	RM			31
	Sussundenga	NC Sussundenga/Cadeado	45	RM			45
TETE	Mutarara	NC Doa - Chicula	19	PG	1		
ZAMBEZIA	Alto Molocue	EN104 Vacha - Inago (IBIS)	40,7	FG	40		
	Quelimane	EN224 Quelimane - Chinde	85,4	RM			39
	Morrumbala	ER228 Morrumbala - Zero(WV)	44,1	PG	27		
	Lugela	EN229 Mocuba - Cha Madal (IBIS)	105,9	RM			100
	Mocuba	ER230 Mugeba - Mocubela	94	PM		20	30
	Lugela	EN250 Liciro - Cha Madal (IBIS)	38	RM			46
	Namacurra	ER471 Namacura/Macuze	49	RM			46
	Morrumbala	ER477 Pinda/Morrumbala(WV)	30	FG	30		
	Ile	ER480 Maria - Mulevala(DFID)	35,8	PG		18	18
	Maganja da Costa	ER480 Mulevala - Morrua	53,9	RM			53
	Ile	ER481 Moneia/Tebo(Mulavala)	42,9	FG	42		
	Alto Molocue	ER484 Inago - Rio Ligonha	25,5	RM			18,5
	Maganja da Costa	ER485 Nante - Maganja	34,2	PM		6	22
	Gurue	NC Lioma/Mepinha(Rio Lúrio)	25	RM			26
	Namacurra	NC Cruz EN7 - Marrongane	30	FG	30		
	Morrumbala	NC Morrumbala - Sapemo (WV)	22	FG	22		
	Morrumbala	NC Impissa - Nintulo - Megaza (WV)	52	FG	46		
	Morrumbala	NC Morrumbala - Megaza(WV)	43	PG	14		
	Morrumbala	NC Sapemo - Muandiua - Chire(WV)	83	PG	38		
	Maganja da Costa	NC Bala - Gentivo (ADRA)	32	FG	27		
	Bajone	NC Mirrabiua - Missal (ADRA)	40	PG	12		
	Bajone	NC Bajone - Missal (ADRA)	40	PG	25		
	Mocubela	NC Muzo - Maneia (ADRA)	30	FG	30		
	Mocubela	NC Mocubela - Macarua (ADRA)	7	FG	7		
	Mocubela	NC Ginama - Locossa (ADRA)	15	FG	15		
	Mocubela	NC Maneia - Macuva (ADRA)	25	FG	25		
	Mocubela	NC Engive - Cariua (ADRA)	17	FG	17		

REHABILITATION AND MAINTENANCE PLAN

January - December 1999

FG - FULL GRAVELING PG - PARTIAL GRAVELING
PM - PERIODIC MAINTENANCE RM - ROUTINE MAINTENANCE

PROVINCE	DISTRICT	REGIONAL ROAD	TOTAL ROAD LENGTH (KM)		REHA (KM)	PM (KM)	RM (KM)
NAMPULA	Mossuril	EN235 Naguema - Mossuril - Choca	33	RM			33
	Nacala Velha	EN241 Nacala Velha - Memba	48,9	PM		10	33
	Murrupula	ER502 Luluti-Chalaua	35	G*	10		35
	Mecuburi	ER510 Rapale/Mecuburi	57	PM		15	42
	Nacala Velha	ER514 Minguri-Itoculo-cruz EN8	56,8	G*	8		58
	Nacaroa	ER516 Imala - Nacaroa (WV)	50,2	FG	51		
	Memba	ER516 Cruz Nacaroa - Memba(WV)	25,8	FG	25		
	Murrupula	ER542 Murrupula-Luluti	62,9	PM		10	47
	Namapa	ER544 Alua/Cruz EN241/ER544(SCF)	107	PG	17		
	Moma	ER552 Cruz EN223/EN260/Chalaua	85,8	PG	35		
	Meconta	ER572 Cruz EN240/ER572/Meconta	53,5	PG		36	
	Murrupula	NC Chinga - Ribaue(WV)	45	PG	4		
	Nacaroa	NC Imala - Napala - Namialo(WV)	65	FG	65		
	Balama	EN242 Montepuez - Balama	55,9	PM		15	43
CABO	Montepuez	ER509 Montepuez/Namuno	60	PM		15	45
DELGADO	Mueda	ER509 Mueda/Negomano	175	PG/PM	5	10	160
	Montepuez	ER509 Montepuez-Nairoto	66	FG	30		38
	Montepuez	ER509 Nairoto -Chapa - Mueda	147,8	FG	10		125
	Namuno	ER509 Namuno/Machoca(Rio Lúrio)	60	RM			42
	Mueda	ER530 Mueda/Muidumbe/Xitaxi	70	RM			41
	Mueda	ER531 Namaua/Nangade	68	PM		10	64
	Montepuez	Cruz ER509/Mirate	23,4	PM		10	13
	Metangula	EN 249 Maniamba - Metangula	25,9	PM		10	20
	Marrupa	ER535 Marrupa/Mecula	133,9	FG	35		
NIASSA	Lichinga	ER537 Muembe/Mussa	35,8	PM		10	25
	Metangula	ER538 Cruz EN249/Lupilichi	155,7	FG	30		
	Unango	ER539 Unango/Macalogue	50	RM			30
	Lichinga	ER554 Lichinga/Meponda	60	PM		15	17,6
	Cuamba	ER556 Etatara/Cuamba	55,7	RM			54
	Lichinga	ER566 Congerenge/Mitande	10	RM			10
	Chiconone	ER569 Muembe/Chiconone	28,5	RM			35
	Lichinga	ER571 Lumbe/Chala	42	G*	5		43
	Macaloge	NC 903 Macaloge/Matchedje	75	PG		15	
	Muoco	NC 911 Cr EN248/Muoco/Rev. Com.	141	PG	35		86
	Maua	NC 912 Cr 248/Nipepe	108	FG	54		
TOTALS					1121	410,3	2580,6

Annex 7: Training Evaluation

7.1 Overview

Over the period of the Project there has been a continuous input of training based at the CFE in Chimoio made up of extensive sessions there and follow-up supervisory periods on sites in the Provinces. Assistance was also given in this area to other projects such as the DFID funded contractor training project in Zambézia.

It should be noted that under the terms of the Project document almost all this training effort has been concentrated in the ECMEPs/DETs from the Chef of the DET down to the site supervisors.

The training has been essentially practical, focussing on the technical and organisational needs of the activities of labour-based construction brigades under basically force account arrangements. There was little input to the management of the ECMEPs, which have been moving towards a private sector position over the course of the Project and thus requiring different components of business management training. It is reasonable to conclude that ECMEP Directors are not therefore necessarily all fully aware, or convinced, of the characteristics of labour-based construction and this has led to observed problems on these sites e.g. lack of essential hand tools and setting out aids and equipment.

The Project also had no part in the training of the supervisory side of the construction operations, that is the DEP staff, since this was part of another programme, and even now consultants in each province have training contracts for DEP staff. Contact with these operations revealed that their main target is the fiscais rather than DEP management but it is noted that the experience of these consultants in labour-based works is limited. Added to the fact that many of the fiscais have a lower basic education level than would be desirable, it is concluded that the level of supervision competence will not match the experience of the DET staff. In such a case contract supervision can never be fully effective since a "supervisor" should ideally have greater experience than the "supervised".

The final report of the first consultants providing TA to the DEP was frank in its assessment of the training programme indicating the problems mentioned above and the fact that several chefs of DEPs were technicians rather than engineers of experience. It needs to be remembered that some provinces in Mozambique are larger than some countries and managing a road network of such an area requires an engineer of the highest qualification and experience possible. In the current situation it is not possible for such DEP staff to give the relatively inexperienced fiscais the support which is required to ensure proper management of the ECMEPs/DETs.

It has been the case that the minimum stated education requirements to CFE courses have not been met (due to back of available candidates) and therefore some training is attempting to raise people beyond their potential which is neither beneficial for the individual nor the organisation.

7.2 Regional Training Advisers

To boost the follow-up of CFE training three Regional Training and Maintenance Advisors (RTMAs) have been posted to the provinces to continue the regular mentoring of trainees so that their theoretical knowledge is turned into practical reality. These RTMAs have conducted additional site training sessions for groups from various provinces. One area of concern was the lack of use of setting out aids, ditch templates, camber boards etc which were not being used on sites despite

being taught at the CFE. Chefs of DETs had been unable to convince their ECMEP Directors of the importance of such items for labour-based works.

7.3 Institutional Reforms

The situation has now changed with the institutional reforms in place whereby the CFE is being established as a self-funding centre no longer part of ANE (formerly DNEP) structure. However no increase in the staffing levels has been achieved and the capacity at CFE remains basically to do well what it has been doing with its established courses. The project TA at CFE has contributed considerably to the production of course content and materials which now cover the labour-based technology extensively. To succeed as a commercial organisation will require a different approach with a customer oriented service (e.g. few contractors would send supervisors on a 15 week course costing USD 8 per day) More involvement of the Contractors Association (EMPREMO) combined perhaps with a training levy would be one way forward in guiding the CFE into providing a service to fit the perceived needs of contractor (and consultants) in the increasingly privatised environment.

It should also be noted that ANE is specifically not involved in contractor training any longer, and the responsibility for contractor development now rests with a section of the Ministry of Public Works.

The training section of ANE has been asked to prepare a training programme for the staff of the organisation and this is seen as a considerate task for which continued TA would be a valuable support but preferably not in the piecemeal approach which has led to the situation described above.

7.4 Achievements

In summary the Project training inputs have

- Achieved the target numbers within the narrow application allowed
- Achieved effectiveness as regards people knowing what they should do (but not necessarily having the means to do it). But there have been gaps in other areas
- Highlighted problems when systems/procedures used in training are not those used on the sites (e.g. bills of quality not reflecting each of the site construction activities.)

The training materials/course notes, etc., need to become part of the institutional assets of both CFE and the DER to avoid the common situation of many projects where carefully developed material is lost (or forgotten) after the project closes and TA staff depart.

7.5 Technology Transfer Programme

The technology transfer programme, which aims to assess the progress of the counterpart staff towards gaining knowledge and experience for their executive positions, was established to run for a short period (about 2 years). Quarterly reports were required in order to keep on initial close assessment of progress under various parameters on scale of 1–5. It was project specific and was not set out in the form that longer term human resource development system would necessarily follow. These initial objectives were sound but over time the procedure has become more institutionalised with the scale moving to 1–10, but the reporting period remaining quarterly. Numerically this entails around 40 reports every quarter for which the few TA advisers are responsible. The original principle of the method was that counterparts themselves would be interactive in the

process and equally responsible for identifying their own needs, but in practice it became more important for the TA staff in demonstrating their role in the technology transfer process. Also with the amount of information being gathered the analysis of the data at headquarters has become a huge task and it is not obvious that much use is made of it. As with many ideas the original intentions have been rather lost and the exercise may be seen more as a response to a World Bank requirement than a useful tool for the future of ANE. Once initial knowledge has been transferred to a person it takes a longer period for the necessary experience to be added and such assessments need not be at more than annual intervals.

What is also often misunderstood in the counterpart relationship is that staff are not expected to be able to do what the TA adviser does (since there may be years of experience gap between them). The objective is that the counterpart gains sufficient knowledge and experience to perform the tasks assigned to the line position within the organisation.

7.6 Training Adviser

The position and role of the training advisor within the new ANE structure is difficult to identify. He is part of the FRP technical team which is now established in the DER but since ANE has no further responsibility for contractor (ECMEP/DET) training and Chimoio CFE has been separated from ANE he has no specific position. ANE itself has a training section under the Directorate of Administration for the human resource development of its own staff. The advisor is located at present in this section (no office in DER being available) but it is certainly not clear as to his role for the remainder of the project and a future position cannot be readily identified at this stage. This would need to be part of the radical rethink of future support which is being suggested in other parts of the report.

The overall statistics for the numbers trained and courses conducted are given below.

FEEDER ROADS PROGRAMME
Staff Trained 1992–1999

Person-weeks of Training

	1992	1993	1994	1995	1996	1997	1998	1999
DEP Eng.								5
Technicians				14	62	42	84	50
Fiscais								58
Contractors						26	16	4
Contractors' Admin. Staff						14	36	0
Foremen				76	75	12	52	157
Tractor Mechanics				52	84	36	88	
Maintenance Supervisors						222	360	244
Rehabilitation Supervisors	280	392	546	210	406	308	330	465
Total	**280**	**392**	**546**	**352**	**627**	**660**	**966**	**983**

Annex 8: Technical Evaluation

8.1 Mid-term Evaluation Report

In Annex IX.2 of the report of the Mid-term Evaluation, the team engineer tabulates his assessment of the road rehabilitation and maintenance works being carried out under the project. The current assessment is based on this tabulation and in general the remarks made at that time (2 years ago) can be confirmed by current observation. Overall the technical quality of the work is good – some is excellent – but as always there are areas for improvement. It remains a fact that labour-based works are very supervision intensive with attention to detail being always paramount. What is also clear is that works organisation (and therefore achieved quality) is dependent upon the individual site foreman rather than on DET management since the sites are widely spread, the geographical areas are very large, and the supervisory visits although regular cannot be frequent. The TA advisers themselves are responsible for three provinces each so time spent at each site is naturally limited. The situation has been eased by the arrival of the Regional Training Advisers who themselves travel extensively to give on-site and formalised training on the practical aspects of the technology. Also many of the Chef of DETs have attended the training courses in Kisii (Kenya) and so have a good knowledge of what is required.

8.2 Technical Assessment

Work Organisation: The basics are understood but the performance varies between sites. One new site was exceptionally well organised and already employing 150 labourers (including 50 women) as well as building a well laid out camp. The next site showed confusion with a gravelling operation confined to a length adjacent to a quarry, too many workers and machines in a confined space. If the evaluation team had not been there it would be interesting to know if the Chef of DET and/or the adviser would have managed to put things right. This highlights the need for experience to go with knowledge.

Setting out: On several sites the basic setting out aids were not evident (on others they were proudly displayed). The gravelling operation described had no setting out of any kind (all that was required were a few pegs and a measuring tape). It was stated that Chefs of DETs are unable to acquire these aids from the ECMEP Directors. It should also be noted that setting out was also totally absent on one ECMEP site were heavy equipment was being used. It is not something only applicable to labour-based construction.

Side Drains: Dimensions of side drains varied between the two Provinces visited, in Zambézia they are wider and deeper (with obvious benefits) than in Nampula. In principle the more material that is used to build up the road formation the better the water shedding characteristic of the road and the longer its life. Too many road formations are too low.

Spreading: The practice of piling up excavated material before spreading (often with a towed grader) remains. This is largely dictated by the compaction which is done by towed dead-weight (originally vibrating) rollers which require longer lengths of operation to be effective. Not only does the piled material lose valuable moisture before spreading but the grader cannot ensure the accuracy of the spread layer and dead-weight compaction is less reliable. The use of the new pedestrian vibrating rollers together with manual spreading and proper setting out is strongly recommended.

Camber: There still persists the misunderstanding that the camber on gravel roads should be different dependent upon the technology used. The specification should not vary since the camber is created to allow water to be shed effectively. Gravel thickness and compaction standard also do not vary so the choice of technology does not affect the requirement. Five percent is the recommended minimum standard for gravel roads and to achieve this (by which ever technology) an initial 7% at construction stage is usually set. Setting out is required to attain this (again for *both* technologies).

Outlet Drains: It is not always clear that these drains lead downhill away from the road (more obviously not where a motor grader has been used) and particular attention is always needed in this area.

Scour Checks: The provision (and quality) of these is very variable with spacing (where they exist) also very random. The design needs considerable improvement as many were seen to be damaged (and not being repaired). They are also obviously omitted from ditches cut by machine (because machine maintenance would then be very difficult). This situation was highlighted in the previous report and is another example of where a good engineering decision should over-ride a preferred construction method. (This also applies to the shape of ditches – trapezoidal being superior in engineering terms).

Cross Drainage: Culverts and drifts appear to be mainly standardised but there was one example of an improvised culvert using one panel of an Armco pipe to form a very shallow arch supported on small abutments. Concern was expressed about potential maintenance problems. It was not clear how such innovations (always to be encouraged) are considered and approved. The DFID project in Zambézia has also improvised using Armco (which is with drawn and re-used). The previous report commented on the use of Armco.

Headwalls: Headwalls built in masonry are here (as elsewhere)

being rendered with cement mortar. The reason for this has never been clear and it always seems to be an unnecessary additional expense.

Surfacing: Subgrade soils vary and they are often difficult to work with (sand and silty sands). The importance of gravelling to protect them (and to provide for traffic) is paramount if sustainable roads are to be provided. Good gravels are also not always readily available. Some alternatives and some experimentation are being considered and, as noted in the previous report, this needs proper trials and analysis and not *ad hoc* site improvisation. ANE has a materials specialist of international reputation and the DEP soil laboratories could be used in looking for practical solutions. It is noted that some stabilisation trials will take place in the south this year. Collaboration with a DFID regional programme (with TRL) would be helpful.

As noted earlier it is preferred that surface material is spread by hand with accurate setting out and the towed grader confined to the surface finish only.

8.3 Technical Manual

The previous report noted the absence of a published technical manual for the FRP although the basic information that would be included in such a document exists in a variety of forms. this is mostly in the course notes material used at CFE and most of the trainees from those courses would have information to hand for use in their day-to-day works. However, it has been shown on similar projects elsewhere that the production of a well designed and illustrated manual bearing the official government logo not only assists greatly in the standard of the technical output of labour-based works but also establishes the technology with an official blessing. It also provides donors, consult-

ants and others with the agreed framework for any labour based interventions required under future programmes. The production of such a manual is not a part-time activity which can be added to someone's work schedule (this is why these manuals are often very slow in production). So many examples now exist from elsewhere that this exercise need not be as daunting as it may seen and the recommendation of the previous report is fully endorsed.

Consideration needs to be given to the form and content and to the target user groups. Site manuals for supervisors/inspectors, practical manuals for contracts managers, guidelines for establishing contractor development programmes, etc., are all relevant to particular user groups and it a mistake to try to produce one document as all things to all people.

Now that DER has been established as a Directorate within ANE any such document should be seen in the wider context. As noted above it is the standard of road required which is basic, the alternative technologies are only means to the same end. Therefore an overall technical manual (or one in two parts) may be the right approach in order that both technologies may stand as equally viable.

8.4 Contract Documents

Similar comments can be made about contract documents which are usually written initially with equipment-based technology in mind. Some revisions are currently being undertaken on existing documents but this is for a situation (apart from the DFID contractor project) where contracts are awarded on fixed rates without competitive bidding. This has allowed the situation, for example, where ECMEPs are using heavy machines on otherwise labour-based sites because there is nothing within their contracts to prevent them doing so. There is only an understanding that they are labour-based contracts. Other points have been noted by the Training Adviser concerning excavation to level, and the lack of scour checks could be mainly due to the fact they are not separately paid for.

The DFID project has produced some documentation through a process of evolution going from fully itemised bills of quantities to a few all inclusive items. DER needs to have a reaction and opinion to such developments since it leads to one small group of contractors understanding a particular form of contract which may not be applicable elsewhere. Since the responsibility for Regional Roads works now resides in the provinces it is critically important that DER provides the standards, the details and the documents which the provinces should use in the implementation of the works on these roads. There is likely to be a need for a major input in this area as DER establishes itself, and it will require engineers with experience together with any examples of best practice from elsewhere which is relevant.

8.5 Spot Improvements

Much attention is being increasingly given by donors, engineers and others to the inclusion of spot improvement interventions as an alternative to, or a first stage of, full scale road rehabilitation. Such programmes are already in place in many areas and one of the roads visited in Zambézia Province had been subject (under the DFID project) to spot improvement operations.

The principle is sound and it fits well into the concept of level of service maintenance works. The road in question worked well (apart from two isolated points) but, as usual in these situations, it was not always easy to see why some spots were improved and not others. Steep gradients and low areas are generally two obvious targets but in other cases some flatish lengths were gravelled and others not. Engineers admit that designing such works is not easy (two visits to the same road on

different days may result in different conclusions). Contractors also find the works difficult to plan and organise, and if they are operating under fixed (rehabilitation) rates they are losing out due to the disjointed nature of the operations.

There is a need for serious consideration of spot improvement inputs including the development of some detailed guidelines for engineers in the initial technical assessments and technicians in the implementation and supervision of works.

8.6 Maintenance

It was encouraging to observe the amount of routine maintenance which is being carried out on so many of the roads visited. The policy of putting recently rehabilitated roads under maintenance is clearly effective (which cannot be said for many countries where funds spent on "good" roads are seen as wasted and more urgently needed elsewhere). In places the length person system operates and in other places a group system is used. Noticeably almost all maintenance workers were provided with protective clothing including hard hats and goggles. However there were some obvious deficiencies for example in the tools being used (e.g. hoes for grass-cutting instead of slashers/knives), which results in more harm than good. There is the traditional pre-occupation with grass-cutting when surface repairs appear more of a priority. Ditch cleaning often results in material piled up at the ditch edge awaiting the next rain to be washed back in. It is the attention to details again which needs to be instilled into the supervisors. Lack of repair to scour checks (and the building of new ones) has already been noted. Also noted was the (very common) variable quality of machine (grader) maintenance which always relies on the skill and understanding of the individual operator. The deficiencies of most of these " heavy" maintenance works have been well rehearsed and will not be repeated, but still it is the perception of many that a motor grader can solve all maintenance problems.

8.7 Level of Service Contracts

This concept is gaining increasing popularity as a practical method of assessing, and paying for, effective routine maintenance. Previously either quantitative measurement of activities (extremely difficult and very time-consuming) or subjective monthly visual assessment by a supervisor have been the norms. Level of service aims to give an objective measurement, in the form of the average speed of a vehicle over the road, combined with some measurable parameters such as percentage of pothole area per kilometre. These contracts are in their early stages and will probably need to be refined but it is certainly an interesting development which is worth monitoring. What will be needed is an analysis of how they are operating and this is an area where the experience of the TA team might be valuable.

8.8 Conclusions

The technical expertise built up in the ECMEPs/DETs, the small contractors in maintenance (LRCI) and the larger contractors (DFID) is impressive but it is noted that the input of technical assistance to achieve such a situation has been huge. There would be concerns over sustainability in the following areas.

- Continuity of funding (operation of the Road Fund)
- Capacity of the DEPs (missed out on the training)
- Privatisation of ECMEPs/DETs (no experience in competitive bidding)
- The future roles and functions of the DEPs

- The future of labour-based brigades (DETs)
- The future of DFID contractors if they fail to acquire the equipment initially promised.
- The access of contractors to,
  - Work opportunity
  - Credit
  - Equipment

The important message is that the valuable resource, skill and experience that has been gained in this field of labour-based road construction needs to be first preserved and then further developed with contractors realising that the techniques and labour management skill have a much wider application than simply gravel roads.

Annex 9: Evaluation of Mechanical and Procurement Support

9.1 Overview

The Mechanical Adviser has been with his current counterpart for 3 years and clearly they have a good working relationship. The counterpart is a degree mechanical engineer who first joined DNEP in 1993. Between them they are responsible for supporting the mechanical maintenance of the equipment of the DET labour-based brigades which is carried out in the provinces under the supervision of the TA Mechanical Foremen and their counterparts.

Evidence from the site visits and discussions held in the two provinces visited indicated that equipment is performing generally well and the maintenance was well managed. The TA foremen conducted both on-the-job daily training and some more formal group sessions for particular problems.

The second responsibility of the headquarters team is that of the procurement of equipment and other supplies (e.g. office furniture computers, etc.).

The procurement procedures were long established under DNEP and were influenced by donor requirements also. The construction equipment appropriate for labour-based works was procured on behalf of the ECMEPs for the DET brigades.

This has been a project specific arrangement since the ECMEPs are now separate from the ANE and will (presumably) become responsible for their own procurement. It is not clear what will be the future role of the mechanical engineer.

9.2 Support to DETs

Although the mechanical maintenance support to the DETs is well managed there have been problems at the workshops since it is the ECMEP responsibility to provide the DETs with the consumables support in terms of lubricants, spare parts, etc. The Project has provided some spares from time to time and it has also paid for the major tractor rehabilitation programme. However in the long-term the ECMEPs have to be responsible for taking over all the necessary support and the impression is that several of them do not reinvest their construction profits back into the equipment. It is the labour-based equipment which tends to suffer more in this respect, although one exception to the non- investment in equipment was seen in Nampula where a programme of equipment rehabilitation is being undertaken by the new ECMEP Director.

The other area where the ECMEPs may require further input is in the real costing of equipment for construction works as most equipment has to date been provided by donors (Asdi for the light equipment and Japan for heavy machines) and contract rates (which are fixed) do not reflect the true equipment costs. This has led to ECMEPs using some heavy machines for gravel loading on labour-based sites, (there is nothing in the contracts to prevent this).

The Mid-term Evaluation noted the equipment condition statistics produced by a consultancy study and there has been an ongoing tractor (MF) rehabilitation programme since that date. This has been carried out by the supply agents but it has also involved the advisers in a great deal of time-consuming administration and organisation. With TA Mechanical Foremen in place in the Provinces the work could have been carried out in the DET workshop with the added training advantages, but the programme was already in hand before this situation had been achieved.

9.3 Procurement

A disproportionate amount of the Adviser's time is spent on procurement issues. In common with similar projects elsewhere the procurement tasks have been underestimated and this experience confirms what is already evident that procurement becomes a full time job in the initial stages of a project. In this instance,

- 194 units have been purchased under ICB at a cost of around $1.6 million
- 6 items have been purchased under International Shopping at a cost of around USD 300.000,00

The problems and inevitable delays in procurement are well known but donors continue with the same procedures which will effectively prevent recipient bodies being able to specify equipment which is tried and tested and/or which assists in standardising the equipment fleets. Suppliers promises on delivery continue to be broken apparently without sanction and local agents after sales services continues to be very variable.

The main areas of procurement delays relate to:

- Government and donor procedures, particularly International Competitive Bidding. This is always a very lengthy process.
- Preparation and agreement of equipment specifications, yet all this type of equipment has been used before and specifications should by now be standard.
- Suppliers delivery promises. Large unsold stocks do not exist and suppliers will not start to manufacture before a Letter of Credit.
- Letter of Credit procedures are cumbersome and many have to be renewed more than once.
- Shipping; includes waiting for a vessel, pre-shipment inspection (e.g. SGS) and sometimes customs interventions.
- Clearance procedures at port of delivery. The Mid-term Evaluation report suggested the use of private clearing agents. Payment of any duties and/or taxes is always a further source of delay.
- Pre-delivery inspections. Local agents should be responsible but if the original orders have not been placed through them (thereby denying them their commission) they are often reluctant to carry out this task expeditiously since it is not obvious who will pay them for it.

Some equipment for the Project has only recently been delivered (e.g. 27 Bomag pedestrian rollers) and with only 8 months remaining they will still be relatively new at the end of the Project. The future of the donated equipment (Asdi and Japanese) may need further consideration if the EC-MEPs become fully private companies.

The reason of purchasing the pedestrian rollers (and other equipment) at this late stage is not clear (they have been a priority item on almost all other labour-based construction projects). Similarly the practice of using one tractor/one trailer combination is unique to this Project and no explanation of this practice was given (expect that it has always been this way). This highlights the concern about the equipment needs assessment and the procurement scheduling which results in much (almost) new equipment remaining at the end of the Project.

If ECMEPs/DETs are to practice commercially the economics of equipment usage is a key element in profitability. Similar comments would apply to the standard of hand tools which was noted on some sites to be very variable (ECMEP Directors being unwilling to invest in good quality). In some instances workers were expected to bring their own tools to site.

9.4 Training

Training for mechanics and equipment operators has taken place at Chimoio under the Supervision of a mechanical trainer who was not part of the project, so the mechanical Adviser and his counterpart have not been involved in this formal training. On taking delivery of equipment the local agents have provided the minimum of familiarisation (which hardly amount to training) and on occasions it has not been possible for operators to attend such sessions.

Effective training has largely been given by the TA Mechanical Foremen in the provincial workshops or a day-to-day basis with additional group sessions when appropriate.

Annex 10: Socio-economic impact evaluation

Annex 10:1: Achievement of Planned Outputs

Principle objectives in terms of the Logical Framework in the UNDP Project Document included:

- Injection of cash into rural areas by means of employment of the greatest numbers of casual workers commensurate with efficient labour based construction practice.
- Creation of a pool of relevant marketable skills in rural areas which will be available for subsequent employment in road maintenance and construction of agricultural or public works.
- Concentration of direct benefit upon the rural disadvantaged by means of direct employment

A summary of activities and success criteria, expected means of verification, the resources attributed to the activities, and actually verified situation is presented below:

PROJECT SOCIAL AND GENDER ISSUES

SUCCESS CRITERIA	MEANS OF VERIFICATION	RESOURCES 1997 – 1999	OUTPUTS ACHIEVED
3.1 Increased commercial activity in defined area of influence of rehabilitated and maintained roads. 4.1 Continuation of labour based construction in areas of project activity (road maintenance, agricultural works or constructor activity. 4.2 Numbers of labour only contractors in continued operation. 5.1Employment of specified percentages of defined disadvantaged groups e.g. women (25%), landless demobilised, displaced etc. without discrimination that further disadvantages.		<u>Budgeted</u>: 1 Gender Advisor x 24 months.	· Baseline not carried out. No impact information available. · Progress reports on worker numbers regularly sent to the Gender and Social Issues Advisor by the Gender Núcleos. · Late wages reported in 1998, but improvements noted in 1999. · Formal courses have targeted 530 maintenance supervisors and 690 rehabilitation supervisors (1997/8) members of the ECMEPs. Female participants in formal training courses have risen during the project period from 1% in 1997 to 3% in 1998. · No short-term workers trained to do anything other than basic labour tasks. No monitoring of skill levels of these workers. · Retention of workers in brigades for long periods is an indicator of the value put on their skills by the contractor. · Impact on rural poverty was not as widespread as it could have been with regular local recruitment & training at quarterly intervals. · FRP only supported ECMEPs and no local contractors. · Only basic and medium level candidates recruited for formal training. · Progress reports by the Gender Advisor identified worker numbers, gender, contractual and operating conditions. Initial assessment of employment conditions not followed up by ANE / FRP. · Advisor's TOR broadened with admission of counterparts and eventual institutionalisation of section to PGA Unit by January 2000.

			· Planned inputs of the Gender and Social Issues Advisor were extended beyond initial two years. · Skills transfer to counterparts progressing well. · Little support and feedback from ANE to gender & social issues unit, resulting in lack of clarity about role of unit in 1999. · Issue of contractors contract conditions only taken up by ANE at end of 1999. · Local labour conditions and hours dealt with through installation of provincial Gender Núcleos to monitor and intervene directly. · Traditional & local authorities involved once a year by ECMEPs during annual recruitment drives. Other than this, only when necessary to augment numbers on the roads.
		Total budget (excluding TA) (USD): **$2,082,825**	Expended 1997-1999 (excluding TA) (USD): **$ 145,000**

Annex 10:2: Additional Supporting Information

Employment of Casual Workers

One of the negative aspects of semi-permanent brigades is the need to create larger roadside work camps to house the mobile brigade members. The contractor in principle should have the responsibility to provide minimum conditions of housing, sanitation and medical services. The amplification of the scale of this responsibility due to having camps in which not only ECMEP permanent staff but also the semi-permanent brigade members living far from home was an issue initially identified in 1998 for improvement during the Project. Reports indicate that the Gender Núcleos have been tasked with responding to this, although concrete outputs are not reported. By the end of 1999 plans do however indicate that identified HIV/AIDS prevention promoters will be trained to respond to some of these identified needs.

The use of semi-permanent brigades means that skilled personnel are retained and from the point of view of the brigade leaders this is more effective than hiring workers once only. Actual results of this include:

- reduced liaison with local authorities,
- less interruptions in the work schedule for recruitment along the roads,
- brigade members do not have to be trained, thereby theoretically reducing the need for close supervision, and speeding up the process of rehabilitation/maintenance.
- However, if creating adequate living conditions in larger work camps that employ semi-permanent brigades is strictly adhered to, the added financial costs of this might in practice outweigh the 'costs' of employing people locally.

Poverty reduction

The level of income measured in the FRP in relation to averages obtained through the baseline monitoring of the USAID funded Rural Access Project (by Austral; see Annex 3) provides an interesting comparison. Samples were taken in Zambézia and Sofala from 10kms either side of four targeted roads. Preliminary findings of the 1999 update of a baseline survey carried out in 1997, indicate that rural household income has dropped 27% to 195 USD/year. Reported wage income

as a percentage of this has risen overall from 2% in 1997 to 5% in 1999. This picture gives an indication of the relatively low scale of impact of the wages from road rehabilitation in terms of its broader impact in the population in general. The report notes that despite lower income levels in these areas, household's purchase of more animals, tools and basic proxies for economic status such as radios, bicycles etc. had risen. Interpretations of such findings are not possible here, and this discussion is purely illustrative, but it does underline the negative impact of the lack of baseline information in the FRP.

Food was made available by the World Food Programme to add incentive to communities to offer themselves as candidates for road rehabilitation brigades. The food was provided through various mechanisms prior to 1997, including its purchase at a subsidised price in 1995/96. After 1997 through to the end of 1998 it was provided free, as a supplement to the minimum salary provided in cash. Cessation of this support in 1998 was felt to be a loss by brigade members, particularly where its provision had tided them over when salaries were late.

The initial assessment carried out by the FRP Gender Advisor in 1998 identified similar priorities for use of wages obtained from labour on the roads. Aside from paying other people to carry out tasks at home, food, clothes and children's educational needs were the principal areas identified by women on the brigades. Examples from other projects such as the DFID/ANE Project and World Vision in Zambézia support findings that women workers prioritise improvements in their homes, the purchase of children's school materials, clothes and blankets with their salaries. Other items identified include food and assistance to other members of the home.

By retaining workers in brigades for over three months they are provided with the opportunities to better improve their lives, they become semi-skilled road workers, and they also provide new employment opportunities when they contract workers to assist in their homes.

Results of the Gender Component

Training in gender awareness has been part of the curriculum offered at CFE since 1997. Prior to the recruitment of the Gender and Social Advisor, Forum Mulher was contracted to prepare a module for the Supervisor's course, and for inclusion in other courses as necessary. Gender sensitisation was formally launched at the DNEP's Third Maintenance Seminar in 1997. Gender and social issues have become more prominent priorities of the donors since 1997. ANE has been slow to prioritise these questions, and pressure from the World Bank appears to have prompted the institutionalisation of the newly established (in January 2000) Poverty, Gender and Aids Prevention (PGA) Unit, in order to better address the approach endorsed by the proposed Estradas3 programme.

In 1997 the Annual Government/Donor Agency and Multipartite Review Meetings recommended the setting up of a Gender Forum comprising representatives of the various aid agencies, NGOs and government bodies. A Gender Support Group (Asdi, UNDP, WFP, NORAD, FRP) was set up as a first step with the task of providing an advisory panel to the FRP. This unit appears to have taken a very low-key operational role.

Gender Núcleos established in the provinces were involved in a monthly reporting system providing the number of women in the brigades, the number of dropouts and the reasons for these. Their tasks included establishment of percentages of women to be employed on brigades and reporting on progress; carrying out site visits to identify factors negatively affecting women's recruitment and working to reduce these; encouraging training of female employees to provide them with opportunities for professional development; sensitising the ECMEPs, the DEPs and contractor staff about gender issues and the need to provide employment opportunities for women. Their performance varied by province, very much dependent on the personality and acceptance of their members

locally, and the latter's initiative in carrying out tasks over and above other duties. Few participated in the recruitment procedures, despite advice to do so, due mainly to lack of access to transport. Gaza and Zambézia showed the most assiduity in this task. The dynamic leadership of the DET leader in Inhambane resulted in constantly higher proportions of women participating in the brigades (in 1999 on average 24%).

Two social science university students were appointed by ANE in 1998 as counterparts to the Gender Advisor. Working half time they have been involved in informal and formal learning and performance evaluation processes through which they have gained familiarity with the work and expectations of the role of the PGA Unit. They are enthusiastic and willing to contribute whatever necessary to ensure that ANE and the sector operators in the provinces take gender and social issues more seriously. They appear to have been well supervised and had there not been difficulties expressed by ANE concerning their accompanying the Gender Advisor to the provinces, their experiences of the whole country's sector performance would be more balanced. Feedback from ANE's training department regarding the counterparts' expressed needs for training were not heeded during the Project term.

The principle responsibility of the counterparts has been to ensure the establishment and effective operation of the provincial Núcleos. They were involved in training them, monitoring and following-up their progress through provincial visits and verifying received reports. As the capacity of the new unit has expanded, difficulties have been encountered within ANE in supporting development of the gender and social issues component of the FRP. Activity delays or cancellation of activities have been due to non-availability of funds, and delays in approvals of documents and proposals.

With the assistance of the Núcleos, province specific quotas were established in 1998 for the recruitment of women. This stipulation could have benefited greatly from encouragement from ANE and the FRP to have openly discussed the initial assessment of recruitment made by the Gender Advisor in 1998. This could have been followed up with more qualitative reporting and studies that built on the first one's findings. Indeed development of simple easy-to-collect indicators reported on by the Núcleos could have contributed to a more effective monitoring of the participation of women. For example, analysis by the PGA Unit of the records of the drop out rates and reasons given, already provided by the Núcleos, could have helped on-going strategy development with the Núcleos, and also identification of the degree of assiduity of reporting by the Núcleos. In the future the impact of the gender and social issues component could be enhanced by monitoring staffing levels of women employed in the longer term by contractors. Monitoring the numbers of women in supervisory or brigade leader positions, the numbers trained, and the numbers continuing working or readmitted on different stretches of road would assist in a better understanding of the dynamics of women's role in the sector and in the FRP.

Scope for Future Support

Pressures from the World Bank to institutionalise the PGA Unit in the year 2000, clarify its role and scope of work, and demand a broader accountability outside of just the FRP, will undoubtedly effect the Unit's priorities in the future.

It is difficult without data and time to draw meaningful conclusions on the social and economic impacts surrounding the FRP. In the future baseline and monitoring surveys should be carried out. If these are organised to include roads where no rehabilitation has been carried out they can be considered as 'before project' studies. Ideally the time elapsed after rehabilitation before follow-up monitoring surveys should be approximately two years, to provide people and organisations with time to respond to the improved roads. Data should be collected in collaboration with the commer-

cial and agricultural sectors. In this scenario if the sample is carefully designed the baseline can also provide useful impact information as well. Surveys should be designed with the possibility that between-survey monitoring of certain aspects may be carried out during project implementation by the Gender Núcleos for example. To this end, data should be collected from contractors and guidelines for monitoring of key issues produced.

Useful information could include:

From Núcleos:

- Staffing levels of women employed in the longer term by contractors,
- The numbers of women in supervisory or brigade leader positions,
- The numbers of men and women trained and re-trained,
- Level of skills obtained through labour-based methods by the workers, by the contractors and by the DEP-DPOPH
- The numbers of men and women continuing working or readmitted on different stretches of road.
- The numbers of women trained in civil construction working for contractors / ECMEPs
- The numbers of women employed by contractors/ECMEPs as permanent staff, and their training histories with the FRP.

From field surveys key information could include:

- Changes in transport costs by method (taking account of load and distance).
- Changes in modes of transport and in the levels of traffic.
- Distance/travel times to farm inputs, markets/buyers, rural credit institutions
- Numbers of health and education facilities.
- Attendance at health facilities and schools.
- Proliferation and proximity to rural markets.
- Proliferation of micro and small enterprises.
- Changes in market prices and farmer gate prices of agricultural produce.
- Sale of agricultural inputs.
- Area of land under cultivation.
- Changes in household expenditure

Secondary data may be obtained from:

- The 1997 census figures at village level,
- the Ministry of Agriculture and Rural Development,
- the National System for Market Price Information,
- DINAGECA/Cenacarta for satellite imagery based interpretations of agricultural land-use and cover etc.,
- the 2001 National Agricultural Census results,
- USAID socio-economic impact monitoring reports of its Rural Access Project (95-005/656-003)
- DFID/ANE Feeder Roads Project's socio-economic impact reports produced annually.

Annex 10:3: Summary of findings of the FRP 'Report on Gender Activities of the Labour Intensive Brigades (Buimo): Diagnostic of the Social Situation', April 1998.

Main findings:

Recruitment involved:

- Notifying local authorities and traditional leaders
- Village meetings to inform the population in an area where road rehabilitation would take place
- Placing notices in public areas
- Information passed by actual brigade workers
- Radio
- The District Directorate of Labour

Candidate requirements:

- Physically good condition and health, and preferably young
- Residents in vicinity of road work rehabilitation sites
- Women heads of households and married women with authorisation from their husbands
- Identification cards or registration of location of residence

Length of contract:

- In principle for a period of three months.
- In reality longer periods of time due to lack of labour in some areas, preference by brigade leaders for workers already possessing skills to perform necessary tasks, and pressure from recruited workers to remain in brigades to secure their continued employment.

Situation of women in the brigades:

- 6% of workers were women (September 1997)
- majority are heads of households
- difficulties in hiring married women if their husbands are not already brigade members
- existence of kinship relations between women on brigades
- use of family members to maintain their family farms, and where none are available the payment of others as casual labour on these
- most women were in their first employment situation
- their salaries were used primarily for food, clothing and payment of school fees and other school materials
- women view the work positively as they did the role of the improved road in the communities
- most women were illiterate and very few were employed in positions with additional responsibilities such as supervisors, note-takers, warehouse managers, tractor drivers or other assistants
- the inconvenience of staying in labour camps was outweighed by their interest in continuing in salaried jobs
- women had good working relations with male brigade members
- brigade managers and supervisors had a good opinion of women as brigade workers noting they work well and were rarely absent
- in the central provinces women's role in the brigades tended to be limited to meal preparation, water distribution, cleaning duties and clearing of brush
- women's responsibilities continued beyond the workplace to other tasks in their homes visited after work or on weekends

Difficulties of brigade members:

- delays in receiving salaries
- reduction in food quotas from WFP
- sexual relations in the camps resulting in pregnancies and termination of employment
- prevalence of STDs in camps as a result of frequent casual relationships
- serious shortages of medical assistance in camps
- lack of protective clothing and work instruments
- lack of transport to return to their homes during leave periods
- isolation of brigades and lack of visits to verify the quality of the work performed.

Report recommendations:

- Define a work programme for gender related activities and the formation of Gender Núcleos
- Determine the type of information to be monitored
- Reaffirm the recruitment procedures to include criteria to ensure the FRP target groups included
- Gender awareness raising to be carried out at management and operational levels
- Define scopes of work for Gender Núcleos to take these needs into consideration
- Identify sustainable mechanisms for operation of Gender Núcleos.

Annex 10:4: Summary Tables of Employment Levels and Derived Income

UNDP / Asdi - ANE Feeder Roads Programme
Employment generation

Year	Men recruited	Women recruited	Total recruited	% women
1997	5,521	675	6,196	10.9
1998	6,794	1,033	7,827	13
1999	7,420	1,514	8,934	17.0
TOTAL	**19,735**	**3,222**	**22,957**	**13.6**

Income generation

Year	Total work days	Estim. Global income USD	Av. Income (USD) per family member	Av. Income (USD) per family	Av. days worked p /person	Average months worked/yr
1997	1,099,185	999,827	32.27	161.37	177.40	8.06
1998	1,416,724	1,090,745	27.87	139.36	181.00	8.23
1999	1,484,308	2,036,474	45.59	227.95	166.14	7.55
TOTAL	**4,000,217**	**5,360,418**	**46.70**	**233.50**	**174.25**	**7.92**

Notes:
Minimum wages for 1997, 1998 and 1999 used for income calculation
Exchange rates used = 1 USD : 11500 MT (1997), 12000 MT (1998) and 12500MT (1999)

Training inputs

Year	Maintenance supervisors trained	Rehabilitation supervisors trained	# women trained	% women trained
1997	222	360	4	1%
1998	308	330	19	3%
1999				
TOTAL	**530**	**690**	**11.5**	**2%**

Sources: FRP Annual Reports (1997, 1998, 1999)

Annex 10:5: Report on the Evaluation Field Visit to Nampula and Zambézia Provinces

Introduction

In view of the short period spent in Nampula attention was focused on making a rapid follow-up assessment to the two socio-economic impact studies made by G. Åkesson in 1995 and 1996 on the Rapale – Mecubúri road. Interviews (of nine women and four men) were made in Nampula Province with employees of the health and education sectors, the Catholic Mission, patients in the maternity and health units, three brigade workers from this road, two traders based in Mecúburi, World Vision's Programme Director and two members of the DET gender nucleus. The assessment continued in Zambézia Province with interviews carried out along the following roads: Mária – Mulevala, Maganja da Costa – Nate and Mugeba – Muakiwa. Fifty interviews were carried out with equal numbers of women as men: supervisors, first aid workers, rehabilitation and maintenance workers, men and women of roadside markets, traders, brigade leaders, DET technicians from Mocuba and the Gender Núcleo.

A total of 63 interviews were carried out, and questions concerned the benefits brought by the roads in terms of poverty alleviation, access to health and education facilities. In addition, the brigade workers were interviewed about their working conditions and procedures.

Socio-economic impact

1. During the visit to Nampula there was said to be much more movement of people within the districts than in previous years. Travelling within districts, between districts, to and from the provincial capital with articles for sale or purchased, on foot, bicycle or in a 'chapa-100' vehicle. New traffic also included the movement of heavy trucks with trailers carrying diverse contents, including cotton bales, cassava and maize.

2. All those interviewed in Nampula and Zambézia agreed that the FRP has contributed significantly to the collection of their products for commercialisation. The products included cassava, maize, rice, peanuts, coconuts and cotton.

3. Particularly on the roads where rehabilitation was complete, such as Rapale-Mecubúri (Nampula) and those of Maganja da Costa to Nante, and Mugeba to Muakiwa in Zambézia, access was said to be more rapid and provided safer access to the health units and local or provincial markets in the capital cities. On the Mária-Mulevala road which is being rehabilitated since the middle of 1998, there is no movement of vehicles as a result of the works being in process and the lack of bridges. The population in this area travels by foot and people carry their loads on their heads. Most of the loads are products for sale or purchased products for family consumption carried for up to five hours or a whole day covering distances of over 20km. Three primary schools were rehabilitated on this road and the pupils have to travel two to three hours every day to attend classes – leaving home at 0500 hrs or arriving after 2000 hrs. In this area those requiring medical assistance can only obtain this two to three hours away in Mocuba at the cost of 25,000.00 MT per passenger. Although there is a health unit at Mulevala, it has no medicines or qualified staff.

4. Trade of agricultural produce, which people say has increased in its variety since the Peace Accord in 1994 and progressively since 1996 is exchanged with fabricated goods such as clothes, domestic utensils, construction materials and basic food products from the cities of Nampula, Quelimane and Milange.

5. Most of the commercial network is still non-operational with the traders being unable to obtain capital to invest in rehabilitation, organising transport and re-stocking. In contrast the informal markets have become the main economic activity foci, generally led by men. However along the roads food products, firewood and charcoal tends to be sold by women.

6. From the men and women interviewed a profile was collected of use of salaries from working on the FRP:

Women	Men
1st salary – improvement / increase in home, purchase of school materials for the children.	1st salary – bicycle, radio, basic school material for the children.
2nd salary – Food, domestic utensils, own and family clothes, bicycle.	2nd salary – clothes for self and family, food, purchase and sale of liquor and charcoal.
3rd salary – To assist other family members and home expenses.	3rd salary – assistance to family and home expenses,
4th salary – purchase of goods for their re-sale.	4th salary – small business, a vending stall on the road.

These people stressed that they depend on the temporary work on the roads since there is no other employment, particularly for the most vulnerable groups.

7. According to the Catholic Mission, the most influential congregation in Rapale, the existence of the road has contributed to spreading ideas so that the parents of malnourished children are taught about dietary improvements. It has also assisted health agents from the HIV / AIDS programme reach communities living along the roads. In the maternity unit in this area the number of births occurring at the centre have doubled from 30 in 1998, to 60 or 70 births a month now. Prioritised health problems requiring attention form health unit personnel were: 1st malaria; 2nd diarrhoea; 3rd tuberculosis; 4th STDs / AIDS; 5th measles; 6th anaemia (women and children).

Women's participation in the FRP (Nampula and Zambézia)

8. In Nampula and Zambézia the DETs had operational Gender Núcleos that received support and direct assistance from the Gender Advisor in ANE. The members of this group carry out supervision of the initial community mobilisation to ensure the involvement of the local authorities and the recruitment of women into rehabilitation and maintenance brigades. They draw up monthly action plans, and write monthly progress reports.

9. There appear to be advances made in relation to initial reports and recommendations in the early studies of women's participation made prior to 1997. These include:
   - Meeting and passing the 25% proportion of women stipulated as recruitment levels
   - Women's drop-out rate from work brigades is practically nil as a result of:
     - Timely salary payments;
     - Stoppage of unjustified salary discounts;
     - Flexible working hours when work is task based, this allows men and women to carry out other agricultural and domestic work more easily;
     - Medical assistance is provided via nurses and first aid workers.

10. Generally women's recruitment by supervisors and brigade leaders has not followed the recommendations in the 'Norms for Women's Recruitment' established by DNEP in 1995. Women are not prioritised, nor given an opportunity to participate, local authorities are minimally involved with preferences for word of mouth through friends who work in the brigades or groups who have had previous contracts and would like to continue even though they are from the headquarters towns.

11. There was no evidence of insertion or training for women as works leaders, supervisors or overseers on the roads visited.

12. Most of the women working on the road are single or widows of various ages between 18 and 50 years. As most are heads of families they constitute part of the target group of the project in terms of vulnerability.

13. There was no mention of disrespect between men and women, lack of help or sexual harassment. On the contrary the men and women interviewed affirmed that there are so many women who need and want to work, they suggested that the quota should be raised to 50% (after a preliminary assessment), and they should be prioritised for recruitment for maintenance works.

14. There appears to be no system of social monitoring in operation.

15. There are neither any women engineers nor any women machine operators in the ECMEPs visited.

16. There are no exchanges of experiences with other NGOs / companies that also contribute to the FRP such as World Vision, ADRA, Scott Wilson with a view to improving their procedures and coherence. It was found that there is much inconsistency; sometimes roads are rehabilitated by one brigades and then maintained by another. Sometimes, therefore gender issues, as well as monitoring and the norms established by the central institution are observed, sometimes not.

Recommendations

- Policy formulation concerning selection of candidates for training for (semi-)professional qualifications/functions should include consideration of gender.
- Contacts and awareness raising in secondary schools and pre-university level institutions could be made so that male and female students may become interested in possible careers in the sector from early on.
- Exchange of experiences should be promoted within the FRP with other involved NGOs and companies such as World Vision, ADRA, and Scott Wilson.
- A system of monitoring should be set up to ensure that recruitment and working conditions follow acceptable norms by involving the local and traditional authorities.
- There should be collaboration with other gender and social programmes in the provinces. This will provide many institutional benefits and broaden the impact of the FRP activities, one of which would be to influence traders to offer work to women where appropriate.

Annex 11: Institutional Arrangements and Reforms

Overleaf is a copy of Annex VII of the Final Report of the Mid-term Evaluation, dated 9 June 1998.

It is to be noted that this annex describes the institutional arrangements as well as planned changes as of May 1998. The annex has thus not been edited to update it to reflect recent developments up to April 2000. These developments are reflected in the Main Report of the Final Evaluation.

Institutional Arrangements and Reforms

1. Introduction

This Annex describes the current institutional arrangements in the road sector, the planned new arrangements in the sector, and the envisaged implementation arrangements. An analysis is also presented of some features of the present arrangements of relevance to the FRP as well as aspects of the planned reform process of significant importance as concerns any future support to the FRP, in general, and by UNDP and Asdi, in particular, within the context of their ongoing support under the projects MOZ/96/013 and Swedish Support of the Road Sector in Mocambique, respectively.

2. Background

At the time of Independence, responsibility for the management of the road network was vested in Junta Autonoma de Estradas de Mocambique (JAEM). JAEM was structured as an autonomous agency under the then colonial government. It established provincial services in all provinces, but generally relied on contracted companies to undertake construction and heavier maintenance works.

In 1977, the functions of JAEM were transferred to the National Roads Directorate (DNE). Subsequently, in 1979, the DNE was replaced by the Department of Roads in the Ministry of Construction and Water (MCA), resulting in the transfer of many of the road management functions to the provincial level. At that time the provincial road services were also restructured and incorporated into civil construction companies at the provincial level known as "Constructoras Integrais".

These changes had a negative impact in that resources devoted to road maintenance diminished. As a consequence a further reorganisation of the sector took place in 1983 resulting in the creation of the National Department of Roads and Bridges (Departomento Nacional de Estradas e Pontes) in the MCA.

The following year, 1984, saw the establishment of the "Empresas de Construcao e Manutencao de Estradas e Pontes" (ECMEP), which were set up by using staff, equipment and installations which had previously belonged to the Provincial Road Services and subsequently to the Constructoras Integrais. One ECMEP was established in each one of the 10 provinces.

Subsequently, in 1987, the duties of managing the national road network were vested in the Direccao Nacional de Estradas e Pontes (DNEP), an organisation with somewhat greater autonomy than the previous Department. DNEP was given the responsibility to assist MCA in planning and ensuring the implementation of the construction of primary and secondary roads, and to promote the maintenance of the primary and secondary road network, in general, in co-ordination with the local authorities. Provincial Departments for Roads and Bridges (DEPs) were also created at that time.

A further reform took place in 1989 with the establishment of the Road Fund for the Maintenance of Roads and Bridges (Fundo Para a Manutencao de Estradas e Pontes). The Fund was established to finance maintenance of the national road network, based on, *inter alia*, dedicated road taxes.

In 1994, the Ministry of Public Works and Housing (MOPH) was established as the successor to MCA. The tasks of DNEP remained basically the same, but its area of responsibility was extended to cover the promotion and implementation of the construction and maintenance of all classified roads, i.e. also the tertiary road network.

With the coming into operation of the World Bank co-ordinated Roads and Coastal Shipping Project (ROCS) as from 1992, the country also saw the introduction of international competitive bidding for the provision of various services, including for design, supervision, and construction and rehabilitation works. This has later been followed by the active fostering of a small scale local construction industry to be involved in the maintenance of roads, subject to competitive tendering procedures, albeit on a much smaller scale than the ECMEPs. These more recent changes can be seen as part of a much larger restructuring programme of the road sector that is about to begin. Before describing these reforms, the actual situation will be outlined first.

3. Present Arrangements

3.1 DNEP with an Emphasis on Organisational Arrangements for the FRP

In formal terms, the Ministry of Public Works and Housing (Ministerio das Obras Publicas e Habitacao; MOPH) is the road authority of the country. In effect, a considerable amount of the day-to-day responsibilities for the management of the road sector has been delegated to the DNEP, more formally then its National Director (ND). The role of the Minister vis-à-vis DNEP is primarily the appointment of the ND, the preliminary approval of annual budgets – final approval being obtained from the Ministry of Planning and Finance (MPF) – and the overall monitoring of DNEP. While DNEP cannot be described as an autonomous agency, its partial autonomy is underscored by the fact that it operates its own financial management and personnel systems, albeit subject to the regulations pertaining to the public sector.

DNEP performs planning, contracting, regulatory and supervisory functions. It is not involved in direct operations, which are performed by either private contractors and consultants, or the ECMEPs.

The organisational structure of DNEP is outlined in Figure AVII.1. A new feature of DNEP, not reflected in the Figure is that a new Deputy National Director was appointed in May 1998. Of relevance to the Feeder Roads Programme (FRP) is the unit referred to as Reparticao de Estradas Terciárias (RET). This section reports to the Department of Maintenance, which in turn reports to 'Coordinator 2´. The use of these titles reflects the condition that the current organisational structure is in a sense transitional, in view of the fact that DNEP is expected to be transformed in the near future. This aspect is also reflected in the condition that the RET has never been formally established, unlike other offices in the DNEP. The RET has been set up provisionally in order to meet the specific requirements related to, primarily, the rehabilitation of the tertiary road network of the county, and to manage (co-ordinate) the substantial donor input into this task.

The DNEP organisational structure is characterised by a division according to functions, in brief (i) planning of major works; (ii) management of contracts for major works; (iii) co-ordination and monitoring of maintenance works; (iv) training and human resources development; (v) support to the ECMEPs, including for procurement of spares and equipment; (vi) finance; and (vii) administration. The RET is in effect structured differently as, with respect to tertiary roads in the country, it performs support functions in the fields of planning, management, co-ordination, monitoring,

procurement as well as training. This support is benefiting the ECMEPs, the DEPs and DNEP, i.e., support is directed both to, on the one hand, planning, regulation, monitoring and supervision, and on the other hand, operations, including procurement. In addition, RET plays a significant role as concerns donor co-ordination and the provision of assistance to donors who wish to provide support to the rehabilitation of the tertiary road network of the country.

It is to be noted that the words 'support' and 'co-ordination' have been used to describe the RET; the RET has no executive functions. It should furthermore be noted that the RET is not organised so that a distinction is made with respect to the three main beneficiaries of its support activities: (i) DNEP/DEP; (ii) the ECMEPs; and (iii) donors.

The Chief Technical Adviser (CTA), who is the head of the Core Management Unit (CMU) and the three Regional Technical Assistance teams (RTA), i.e., the technical assistance under MOZ/96/013 (excluding the TA to the two UNCDF-financed projects) can be seen as reporting to and through the head of RET. The reporting route of the other members of the CMU/RTA is either directly to the CTA or through other members of the CMU/RTA to the CTA. However, as concerns their effective integration into the existing organisations in the road sector, the relationship is, in effect, given by the organisational affiliation of the person who has been allocated as the counterpart. Sometimes, this implies varying and perhaps also unclear 'relationship' structures. For example, the RTAs in Beira and Nampula can be seen as relating to the ECMEPs/DETs (see further below), while the RTA (South) is organisationally within DNEP/RET. A similar situation prevails with respect to the cooperantes under the Swedish support. While in theory the cooperantes assigned to, for example, the ECMEPs are part of the overall technical assistance effort they are not formally related to the CMU/RTA and their work cannot therefore be co-ordinated under the FRP.

The current organisational structure of RET as well as of the CMU/RTA raises questions from an overall management point of view, aspects which are neglected in the project documents for MOZ/96/013 and the Swedish Support to the Road Sector in Mocambique. The lack of attention to the organisational dimension can, however, be seen to at least in part explain another aspect that is frequently highlighted, e.g. at various donor meetings to review FRP, i.e. the counterparts. Although, most technical assistance staff now have counterparts, their appointments have not been without problems; in particular delays have been encountered. However, these problems must also be seen against the background that the CMU/RTA is related to RET, which is not an official part of DNEP. There are no 'natural' counterparts to the CMU/RTA in the established DNEP organisation.

Another dimension of the RET's position in the DNEP is reflected in the condition that the work of the CMU/RTA appears not be adequately integrated into the work done by the rest of DNEP, and then in particular the work done by other technical assistance teams. There appears to be an inadequate level of communication, but this situation can also be a reflection of the fact that the DNEP is run in a very centralised fashion with little delegation of responsibilities.

The current arrangements can be seen to reflect (i) historical circumstances; (ii) the fact that the road sector is undergoing fundamental organisational change; and (iii) the role of donors, and their need to ensure adequate transparency and effective utilisation of the resources which they make available. The ET is of the opinion that no changes should be done at present. But the ET would also like to emphasise the need to pay much greater attention to the organisational dimension when planning any future support to the FRP, and to then ensure that the organisational arrangements are such that they directly fit into and support the existing organisational structure of DNEP or its successor.

3.2 The DEPs

The DEPs in the provinces are formally a unit of the Provincial Directorate of Public Works and Housing (Direccao Provincial das Obras Publicas e Habitacao, DPOPH). The director of the DPOPH is a member of the provincial government, and ultimately reports to the Governor. The DEPs are, however, also part of the regional structure of DNEP, and the head of a DEP is appointed by the ND of DNEP.

Formally, therefore the head of a DEP has two masters. In effect, there appears to be the following division of functions. DNEP is responsible for the overall management and control of the rehabilitation, upgrading and periodic maintenance of primary and secondary roads, while the DEP is responsible for the management and control of the rehabilitation, upgrading and periodic maintenance of the tertiary roads, as well as the management and control of routine maintenance of primary and secondary roads. This implies, *inter alia*, that the DEPs enter into contracts for routine maintenance and rehabilitation works of the tertiary road networks, and supervise these works, and also have the power to approve and effect payments under these contracts. Payments are in principle to be effected by drawing on a DEP account, into which the Road Fund is to make payments in advance. In the case of private contractors engaged in routine maintenance, DNEP does a follow-up check (also of the contracts), and the DEP account is not reimbursed by the Road Fund until the invoice has been accepted by DNEP. However, in view of the condition that the Road Fund normally cannot meet payment obligations – and hence is not able to make advance payments to the DEP accounts – invoices under contracts administered by the DEPs are not paid out at the provincial level at present but sent on to DNEP for payment.

The further allocation of decision making powers between the provincial level and DNEP appears to be as follows: DNEP decides on policies for road maintenance rehabilitation and regulates contracting arrangements, including unit rates applicable in case of contracting with the ECMEPs. DNEP, together with the Road Fund, further set budget targets for various activities (routine maintenance, rehabilitation, bridge repairs, etc.), while the provincial government decides on priorities, and the DEP programmes the work given priorities, policies, regulations and budget limits. Proposed budgets have to be approved by DNEP, before the DEPs can execute them. In conclusion, the provincial governments can make priorities within certain limits and can therefore decide on which roads that should be rehabilitated by a brigade, and can to some extent also influence the allocation of resources to routine maintenance.

The DEPs, hence play an important role in the management of the tertiary road network as well as the maintenance of all classified roads. Functions carried out involve (i) inspecting and monitoring road conditions, including undertaking traffic counts as part of the work required for maintenance planning; (ii) programming and planning above all routine maintenance works – rehabilitation works have largely in effect been programmed so far by the technical assistance provided under donor financed projects, but this work is formally a responsibility of the DEPs; (iii) contracting with ECMEPs and (small-scale) private contractors for execution of works; and (iv) the supervision of these works. The DEPs are also responsible for controlling vehicle loadings on roads.

The organisational structure of a DEP is shown in Figure AVII.2. As can be seen, a DEP is partly organised into districts; it is understood that there are normally 3 districts. These district organisations are headed by a district engineer and also manned by 'fiscais', i.e., inspectors who inspect road conditions and supervise the work of contractors, including the ECMEPs.

The DEPs currently receive technical assistance to train staff and to establish road inventories and to implement management systems, including arrangements for inspecting road conditions, moni-

toring road traffic, contracting and supervision. Under the technical assistance, small laboratories have also been set up to test materials.

The DEPs are emerging organisations, and most of them still have some way to go before they are fully able to handle the tasks allocated to them. The following weaknesses should be noted in particular:

- The inspectors tend to be inexperienced.
- The DEPs appear to have a low capacity for planning road rehabilitation works of the tertiary road network.
- There is no or little experience with and low capacity for handling negotiated or competitive tendering procedures.

It is noted that under current support – as well as under previous support programmes to the FRP – the roles of the DEPs are inadequately reflected, and little support is provided. This probably explains, at least in part, why the DEPs lack capacity for the planning of road rehabilitation works of tertiary roads. In view of the importance of the DEPs, it is the view of the ET that there is a need to redress this situation; see below.

3.3 The Road Fund

The scope of the Road Fund, which commenced activities in 1991, by financing maintenance activities, was extended to also cover road rehabilitation works as from 1994, including rehabilitation of primary, secondary and tertiary roads. The fund receives its revenues from primarily three sources:

- A MT 1100 surcharge on petrol and 80% of a surcharge on diesel (the value of which is MT 1825 at present.
- Transit charges imposed on foreign registered vehicles with a tare of 3,5 tonnes and above, and paid in foreign currency (Rand or US$); and
- Bridge tolls on all vehicles collected at Xai-Xai, Tete and Save. Tolls are also collected on the bridge to Ilha de Mocambique and on the ferry across Zambézia at Caia.

A further source of income for the Road Fund are contributions from Asdi towards local costs of the tertiary roads; WFP previously also contributed towards local costs.

The oil companies involved in fuel distribution in the country, collect the fuel surcharge revenues and transfer them to the MPF, which then transfers the money to the Road Fund. The transit charges are collected by an agent (Anfrena) at border posts, and are deposited directly into the Road Fund accounts, and similar arrangements have been established for the collection and transfer of the bridge tolls.

The accounts of the Road Fund are maintained on a cash flow basis. Measured in this way, total revenues in 1997 amounted to almost MT 300 billion (US$ 26 million). Of these revenues, more than 82% derived from fuel surcharges, and 15% from transit charges, so the other sources of revenue are small (although the value of the Asdi component in reality is underestimated by using cash-flow accounting principles).

On the expenditure side (all in all MT 313 billion), MT 98 Billion were spent on routine maintenance, i.e. 31%, MT 83 billion (27%) on rehabilitation of tertiary roads, and MT 108 billion (35%) on other road rehabilitation and maintenance works. During this year, MT 12 billion (4%) were also paid to the WFP (to be used for other GOM expenditures) as compensation for food for work to the district brigades.

The budget for 1998 indicates both for total expenses and receipts an amount of MT 348 billion. Of this, MT 88 billion would be spent on routine maintenance and MT 202 billion on rehabilitation and periodic maintenance.

Since its coming into operation, the Road Fund has been plagued by cash-flow problems. The main reason for this appears to be that MPF generally transfers revenues from the fuel surcharge late. On average there appears to be a 3 to 4 month delay, but unfortunately these delays are not regular either, making cash-flow projections difficult. Some months no moneys may be transferred while other months can see receipts reflecting several months. There is in addition some evidence that the MPF may not be transferring the full revenues received in terms of the fuel surcharges. Indications are thus that the revenues received on account of the surcharge on fuel during 1996 in effect only amounted to about 85% of the estimated value actually generated to the GOM through this revenue source. In 1997, the difference appears to have been smaller, about 10%. On the other hand it should also be stated that the MPF apparently has the power to fix the ceiling amount of expenditures from the Road Fund during a year, and that the actual transfers therefore may be seen to be in accordance with this decision. (It is also understood that the MPF may be applying the principle of capping the increase in the transfer of revenues derived from fuel surcharges each year at about 5%.)

It is a general view that the cash flow problems associated with the Road Fund is a major reason - albeit not the only one - for payment delays of invoices from for example the ECMEPs, resulting also in delays in the payment of salaries to the labourers employed by the district brigades. However, this must also be seen against the background of the financial management systems employed by the Road Fund. The Road Fund appears so far not to have operated any proper cash-flow management system, it has no reserve funds, and is apparently not able to draw on short term loan facilities to meet peak demands. And it is operated on a pure cash-flow basis. However, it is understood that for 1998 an agreement has been reached with the MPF for the programming of the transfer of revenues derived from the fuel surcharges, and the first indications are that this has led to an improvement.

The overall management of the Fund is the responsibility of the Administrative Council. The members of the Council represent six different ministries. The ND is *ex officio* member of the Council and at present also acts as its Chairman. The Chairman is appointed by the Minister of Public Works and Housing. While the Fund is organisationally separate from the DNEP, its secretariat is located in the DNEP premises. The Secretariat is managed by a Secretary supported by a staff of administrators and accountants. It is understood that the Road Fund Secretariat will move to independent offices in the near future.

The Road Fund is said to be a government owned legal entity, but appears to be a fully integral part of the government machinery. It does not have any formal objectives. The powers of the Road Fund seem to be limited. While the Administrative Council approves budgets for expenditures from the Road Fund, this power seems to be more of a formal nature than a real one as all the preparatory work is done by DNEP. The Road Fund control appears to be limited to ensure that moneys are spent for recognised items such as maintenance and rehabilitation of roads and bridges, and subject to an overall limit imposed by the MPF. The sources of revenue are given by law, the actual levels of surcharges, and other charges are fixed by the MPF in consultation with the Price Commission, and the actual transfers of revenues from fuel surcharges effectively controlled by the MPF. As budgeting is done by DNEP together with the DEPs/provincial governments, the current arrangement with the ND both managing DNEP and being the Chairman of the Road Fund Council, gives considerable leverage to DNEP for deciding on the overall allocation of funds to

various activities. These arrangements are viewed as not appropriate, and it is understood that a new Chairman, independent of DNEP, will be appointed in the near future.

Finally it should be mentioned that it is understood that the Road Fund has no powers to impose any conditions for payments, in addition to that expenditures can only be made in terms of an approved budget. The payments from the Road Fund are made under the joint signatures of the Chairman and the Secretary.

3.4 The ECMEPs

ECMEPs are self-financing state-owned operational entities, but are not corporate bodies, and all their facilities and equipment are hence owned by the state. There is one ECMEP in each province, located in the provincial capital (with the exception of Zambézia where the ECMEP is located in Mocuba, and Inhambane where the head office is in Maxixe). ECMEPs are medium sized contracting organisations specialised in the maintenance of (non-urban) roads as well as the rehabilitation of tertiary roads using the district brigades.

The ECMEPs contract directly for work with the DEPs, and in terms of contracts based on bills of quantities and unit prices fixed by DNEP. The ECMEPs thus do not tender for work, and can in effect be commanded to undertake work in view the fact that their directors report to the Provincial Director of Public Works and Housing. Permission is required for an ECMEP to undertake work on behalf of another client than the DNEP/DEPs. The output during each month is measured and a statement prepared, and passed on to the DEP. The ECMEPs are expected to operate profitably, and any profits may be reinvested with the approval of the MPF. Capital is injected into ECMEPs by government through the provision of plant, vehicles and equipment. The acquisition of new equipment is highly dependent on external funding.

The ECMEPs are organised into four department, administration, technical, production and equipment. The director is appointed by the ND, and the director then appoints the staff of ECMEP. The ECMEPs are generally characterised by no or a low level of delegation. DNEP provides support to the ECMEPs with procurement and accounting services, which is done through a special unit, the Logistics Support Unit (NAE).

The personnel and remuneration policies are essentially those of the civil service. Although salaries are somewhat better than for staff employed by DNEP and the DEPs, conditions are considerably poorer than in the private sector. The ECMEPs therefore face problems in recruiting qualified staff. The number of employees per ECMEP, varies between 200 (Tete) and 800 (Zambézia).

The ECMEPs are estimated to have a capacity for maintaining about 7 500 km of roads per year (excluding the district brigades).

While ECMEPs are primarily maintenance organisations, they have come to play a very important role in the FRP, and this activity is now financially also the most important one for the ECMEPs, and probably also a more profitable activity than other activities. Since 1994, and in terms of a directive issued by the DNEP, all the feeder roads activities using labour-based techniques, including rehabilitation and maintenance, are supposed to be the responsibility of a separate unit in the ECMEPs, the District Road Divisions (Divisoes de Estradas Terciarias; DETs). The head of the DET is to report directly to the Director of the ECMEP, and the DET is to operate with its own staff, machinery and financial management systems, including accounts, and should draw on the infrastructure of the ECMEPs (workshops, etc.) against payment of charges therefor; see Figure AVII.3. It is understood that these principles are not necessarily always adhered to, and that the DET sometimes is viewed as a component of the Production Department, and also that the separation/

independence of the DET accounts are not always fully respected. It is also reported that DET accounts are being used to finance expenses incurred by other operations of the ECMEPs.

The DETs mobilise the district brigades to undertake rehabilitation works under the FRP, and are upon completion of the rehabilitation works responsible for the execution of maintenance. The DETs have organised routine maintenance based on the length-worker system. In December 1997 there were all in all 34 brigades involved in road rehabilitation and periodic maintenance. The intention is to increase the number of brigades to 38 during 1998. The annual capacity of the DETs for undertaking routine maintenance is estimated at some 1750 km. Some DETs have divided their organisation into two units, for rehabilitation and maintenance, both units run by its own Director de Obra. For further information concerning the operations of the brigades and the maintenance of the tertiary road system, see Sections 3.4 and 3.5 of the report.

3.5 Other Operators

The private contracting industry is limited in Mozambique. At present there is only one larger company capable and with experience of undertaking construction works in the road sector; this company, CETA, is currently being privatised (envisaged at present to be accomplished through a management buy out as a bid for the purchase of the company was not acceptable to the GOM). There are additional local companies with a potential for becoming active in the sector, but most larger scale works at present have to be executed by foreign contractors.

The development of private contractors primarily for undertaking smaller routine maintenance and rehabilitation works is actively promoted at present. Under the ROCS project the local industry is being promoted under what is referred to as the Local Road Construction Industry (LRCI) initiative. One component thereof is giving preference to local contractors when tendering for work in competition with international contractors. Another component is the Contractor Development Teams project under which 49 contractors have been identified and are currently receiving assistance in developing competency in competitive tendering and commercial operations, and are also undertaking maintenance works. These companies, which have received trading licences from the MOPH (one condition for a licence is that the company has adequate technical skills), are now being awarded contracts for work, without having to tender. They are estimated to have a combined annual capacity of at most 1 000 km of routine maintenance at present, but the capacity of small-scale local contractors is expected to expand considerably during the next few years.

In addition, donors are embarking on the fostering of private contractors as part of their support to the FRP. This has been done by IBIS and World Vision in Zambézia, with finance from USAID, and is now done as part of the DFID support to the feeder roads programme in Zambézia. Under the DFID project, 8 contractors have been selected and are receiving support in the form of direct contracting with payments made directly by DFID (albeit through an account with DEP, Zambézia); 6 of these contractors have obtained trading licenses. NORAD has advanced plans for initiating a similar project in Cabo Delgado in the near future.

There is a small, albeit growing, consulting industry in Mozambique capable of providing planning design and supervision services. Mention should also be made of that a National Contractors Association (EMPREMO) nowadays also exist in Mozambique and that there are plans to set up a similar association for consultants.

4. Proposals for Reforms

4.1 Introduction

In addition to the technical assistance to the FRP, DNEP has benefited from substantial technical assistance during the past 5 years in the fields of programming, planning, regulation, monitoring, supervision and financial management, and this technical assistance has also benefited the DEPs. Overall, the impression gained by the ET is that the organisation is in the process of implementing many of the required management tools and information systems of a modern road administration, including in order to be able to operate competitive tendering procedures for all kinds of work. The main problem is not a lack of tools and procedures, but inadequate capacity to use the tools and the procedures in a sustained and disciplined manner.

The immediate reason for this is the lack of experienced staff, although the situation in this regard is improving. However, the fundamental problem that DNEP is facing is that it works in an environment which does not allow it to function as a 'managed' organisation. In effect, operations can be seen as 'crisis management'. This is not uncommon for road administrations even in developed countries, but tends to be more visible in developing countries. Ultimately, the reason for the 'crisis' dimension can be seen as deriving from the condition that road administrations such as DNEP are accountable to the government, and hence driven. at the overall level, not so much by 'measurable objectives' as by political ambitions. In the case of DNEP this is compounded by a number of other factors, including:

- Shortage of funds, including irregular provision of moneys for paying contractors and staff.
- A shortage of experienced staff.
- Low salaries, and cumbersome civil service procedures, including financial, procurement and human resources management.
- The heavy role played by donors/IFIs, including the demand made by the donors in order to satisfy the often cumbersome accountability framework within which donors/IFIs are obliged to operate.
- The incomplete separation between operational activities of the ECMEPs, on the one hand, and the normal road authority functions, on the other.

The organisational reforms envisaged have been directed at overcoming these constraints on the performance of the DNEP/DEPs, the operations of the ECMEPs and also to enable the road sector to function more effectively when making use of inputs and support provided by donors. Below follows a description of the reforms, as understood by the ET, and an identification of issues of importance to the FRP.

3.2 The Proposed New Structure

In terms of the proposed reforms, the current DNEP/DEPs and financing arrangements would be replaced by the following structure (see further Figure AVII.4), all of which is seen as part of the National System for the Management of Public Roads (Sistema Nacional de Administracao das Estradas Publicas; SNAEP):

- A National Roads Board (Conselho Nacional de Estradas; CNE), an entirely new structure. The Board will have members representing government ministries, local authorities and different road user groups. The director generals of the Road Fund and the National Road Institute will be included as *ex officio* members. The Minister of Public Works and Housing will appoint the Chairman of the Board, and the Board would be responsible to the Minister for implementing GOM policy concerning roads. The Board would both fulfil an advisory role to the Minister

and, in a sense, the role of the Board of Directors of the National Road Institute and the Road Fund. The Board would thus regulate the activities of these two organisations as well as approve their budgets and annual reports. The Board will have two sub-committees, the Financial Sub-Committee, and the Planning Sub-Committee. There would be a Secretariat with 3–4 staff.

- Provincial Roads Commissions (Comissoes Provincias de Estradas; CPE); advisory commissions regarding the planning and financing for classified roads in each province; see below
- A National Road Institute (Instituto Nacional de Estradas; INE) to replace DNEP/DEPs; see below
- A slightly reformed Road Fund (Fundo Estradas; FE); see below.

To put this change into effect, it will be necessary to pass the following three pieces of legislation:

- An establishment decree; the purpose of this decree is to provide for (i) the establishment of the CNE, the INE and Provincial Roads Commissions; (ii) the termination of DNEP; (iii) the transfer of staff and assets from DNEP to the INE; and (iv) the establishment of the Road Fund as part of the SNAEP.
- A new Roads Act essentially setting out the road authority powers, including stating that classified roads are a responsibility of the State, as well as identifying who is responsible for exercising and prepare for the exercising of the road authority powers.
- Regulations of the National System of Management of Public Roads (SNAEP); these regulations set out the instruments, powers, functions, operations and duties of the various institutions of the SNAEP in the road sector, including with respect to the CNE, INE, CPE and the Road Fund.

An additional component of the reform process is the complete separation of the public functions in the road sector from pure operational functions. Two main reforms are envisaged:

- The conversion of the present ECMEPs into corporate bodies, for the time being to remain fully owned by the State.
- The establishment of three new plant pool companies. These companies, which would obtain their plant mainly from heavy surplus equipment at present under control of the ECMEPs, would be sold off to private interests, with the State retaining a minority share in these three companies.

An implication of these reforms is that it would entail the (eventual) termination of direct contracting to be replaced with competitive tendering for all maintenance and rehabilitation works.

3.3 The National Roads Institute

In terms of the new legislation the INE would be a legal body, and would be able to implement its own financial management, procurement and human resources policies, however, subject to policies formulated by the CNE. The CNE would also regulate technical standards. This would be the main change in comparison with the present DNEP; otherwise the organisation would perform the same functions as DNEP does today.

The INE would be managed by a Director General, to be appointed by the Minister of Public Works, and Housing, two Deputy Director Generals, a Management Board and a Technical Board. It would have 6 Departments, corresponding to the present structure (except Administration and Equipment). Appointment of staff would be the responsibility of the Director General.

The INE would be operating through branches in each province. These would perform functions similar to those performed by the DEPs today.

3.4 The Road Fund

The new Road Fund, would also be set up as a legal entity, and would be managed by a Director General to be appointed by the Minister of Public Works and Housing. The Director General would, however, report to the CNE. It would continue to finance routine and periodic maintenance and rehabilitation works as well as its own expenses out of the dedicated taxes, but would also finance the costs of running the CNE and the INE. The Road Fund would in addition administer government funds as well as funds obtained from donors to be spent on road works.

In terms of the new legislation, the Road Fund would be able to establish reserve funds to balance cash flows, and would also be able to borrow money subject to the approval of the CNE and regulations issued by the MPF. It is understood that the Road Fund would be able to directly collect all road taxes dedicated to the Road Fund, but that the level of these taxes would remain under the control of the MPF.

3.5 Decentralisation

It is understood that the proposed reforms would entail somewhat reduced powers at the provincial level in comparison with today. At present, the provincial government can exert influence over priorities. The Provincial Road Commissions proposed to be established in terms of the SNAEP are understood to perform a function similar to that performed by the provincial governments today, but the CPEs would only have advisory and monitoring functions. The CPEs would, *inter alia*, comprise as members a number of provincial directors, the INE local representative, and various private sector stake holders. The local branch of INE would function as a secretariat.

On the other hand, it is understood that some further developments have also been considered. Proposals have thus been made for the establishment of 'Conselho Provincial do Fundo Para Manutencao de Estradas e Pontes' (CPFMEP). Incomplete information is available concerning this proposal, but it is understood that the local road fund are envisaged to be established in terms of present legislation and not within the ambit of the SNAEP. A possible interpretation of this development is that it is envisaged as a first reform step to fully delegate budgeting for road maintenance and rehabilitation to the provincial level by using the principle of block transfer of funds to Provincial Road Funds to be administered by the CPFMEPs. A possible further step, within the SNAEP, would then be to retain these local road fund boards, but also give more powers to the CPEs to allow them to decide on priorities. However, this interpretation is that of the ET and its relevance has as yet not been verified. It is understood that the proposals for establishing CPFMEPs are not being moved forward at present, indicating that they may be reassessed.

It is understood that the new institutional structure will only have powers in terms of the classified road network. It provides no powers with respect to unclassified roads as well as roads which are the responsibility of local authorities. It is also understood that legislation so far has identified 18 local authorities as responsible for the construction and maintenance of roads within their borders, and that eventually other urban and rural districts will be identified as being responsible for, *inter alia*, roads and streets, as part of the local government reform process.

3.6 The New ECMEPs

The proposals for reforming the ECMEPs would lead to their transformation into public enterprises (so called Empresas Publicas), which would operate on commercial principles. Three ECMEPEPs would be established, one in Maputo, one in Beira and one in Nampula. The three ECMEPs would retain provincial representations based on the principle of profit centres.

The new ECMEPs would initially be owned by the State, but 0.5% of the shares would be sold to CETA (in order to meet legal requirements pertaining to EPs). (It is understood that future privatisation of the ECMEPs will be considered, including a partial management buy-out.)

The analysis made in the report "Conversion of the ECMEPs into Legally Autonomous Entities" (1996) is based on the assumption that the new companies would focus on routine maintenance, and rehabilitation works using labour-based methods. The analysis is further based on the assumption that the new companies would only retain the kind of equipment that would be necessary for this kind of work, while all other, in particular heavy equipment, would be transferred to the Plant Pools (see below). It is however, understood that donors may object to the transfer of equipment that they have donated to the GOM, suggesting that the new ECMEPs may have to take on equipment that they may not require for the new envisaged business strategy or that it would be necessary to reconsider the business strategy proposed by the consultants.

The establishment of the new ECMEPs requires the passing of a decree by Cabinet. The decree has been drafted.

3.7 The New Plant Pools (PERCs)

The proposals for establishing the plant pools (PERCs; Private, Equipment Rental Companies) entail the transfer of surplus equipment from the ECMEPs to form the basis for three new companies, based in Maputo, Beira and Nampula. Operators of the equipment would also be transferred but no further staff and assets of the ECMEPs. The motives for setting up of these plant pools are (i) that the ECMEPs have excess equipment; (ii) emerging private operators cannot buy or hire-purchase equipment; and (iii) to reduce the probability of the equipment leaving the country assumed to be greater if the equipment was sold off through direct auctioning.

The new companies would initially be established as Empresas Publicas (ECMEP-EPs), which would then be partially sold to private investors – joint venture partners (JVPs) – through a tender process. It is envisaged that the JVPs would be able to own about 70% of the shares of the new companies. The main input of the government would be the plant pool and the initial formation of the three companies, while the JVPs are expected to inject their contributions in the form of new capital and/or assets. Additional tax and investment incentives packages could also be made available through negotiations with the Investment Promotion Centre.

All the documentation for the sale of the PERCs has been prepared. It is based on a prequalification round, to be followed by submission of technical and financial proposals by prequalified bidders. Negotiations are assumed to result in a Joint Venture Agreement (JVA) being concluded, whereafter the actual legal conversion of the PERCs into public companies in terms of the companies act (conversion of the ECMEP-EP into ECMEP-SARLs) will take place, and this will be done by the JVPs in terms of the JVA. Once the new companies have been formally established and the JVP has contributed his promised investment, the JVA will cease and the companies will commence their operations.

It is envisaged that the shares retained by the State may later be sold to the staff of the PERCs and to other private investors, including the JVP.

It is understood that the equipment to be allocated to the PERCs, was originally identified in 1996, when it was on average 3.7 years old (about 50% depreciated) and had a value of US$ 6,9 million. This value should be considerably lower today, and will be even lower when the sale has been completed in view of that this process may take up to another two years.

4. Implementation Arrangements and Issues

4.1 Implementation Schedule

The implementation schedule for the proposed reforms as envisaged by DNEP in the beginning of 1998 is shown in Figure AVII.5. There has been a further slippage since then by about two to three months. Partly the reason appears to be that the MOPH has not desired to forward the new legislation to implement the SNAEP until a Road Policy has been formulated. Such a policy (Política de Estradas) has now been prepared by the DNEP and has been forwarded to the MOPH in March 1998. It is understood that the policy was to be considered by Cabinet on 31/03/98.

The documentation for the establishment of the new ECMEPs was submitted to MOPH on 27/03/98 for onward transmission to MPF for their final approval and appointment of interim chairmen of the interim board of directors. Appointment of these chairmen was made in early June, and actual commencement of the establishment of the new companies was planned to be initiated during the same month The final documentation package for the establishments of the PERCs has been submitted to MOPH; it will also have to be approved by the Department of Patrimony. Before being considered by MPF, both these reforms have to be reviewed by UTRE as well, i.e. the special unit set up under the MPF to review the reform of state enterprises. Interim chairmen of the interim boards of the PERCs were also appointed in early June 1998.

In terms of the revised implementation schedule, the majority of actions will, however, still take place in the course of 1998. It is, however, to be noted that with the exception of the PERCs, the DNEP implementation schedule is not a complete schedule with regard to the full implementation of the envisaged reforms. The actions identified only relate to the initial approvals to be obtained in order to initiate the process of change.

The ET has not been able to obtain any information as to the further time plans for the actual establishment of the new institutions making up the SNAEP, as well as the ECMEPs.

4.2 Implementation Arrangements

As part of the Swedish financed Institutional Study, which prepared the background material and developed the approach to institutional change which are now embodied in the proposed reform of the GOM structure in the road sector, in particular the SNAEP and its various institutions, proposals were also made for a plan of action as well as organisational arrangements during implementation, including a steering committee, a task force and a project manager. It was also proposed that technical assistance be acquired by GOM to facilitate implementation.

The proposed transformation of, in particular DNEP, will be a demanding process, not least when seen against the background of the current pressures on DNEP. The information obtained by the ET suggests that neither DNEP nor the GOM is in the process of actively putting in place the arrangements that will be required in order to implement the proposed reforms in an orderly and credible manner.

As concerns the legalisation of the ECMEPs, TOR have been prepared for "Management Support During a Transitional Period for the Three Re-Structured Regional ECMEPs of Mocambique". According to these TOR, the three new ECMEPs would be supported by three management advisors during one year as well as a technical advisor on short-term basis for in total 3 months. The management advisors are primarily expected to assist with business planning, organisational development, human resources development and policy formulation, and establishing management information systems. It is understood that the TOR do not call for the advisors to have experience in entrepreneurial development in the contracting industry.

It is understood that the recruitment of these advisors, to be provided by a consulting firm, will commence soon.

It is further understood that the ECMEPs will likely also obtain assistance through the LRCI initiative, more specifically the assistance provided under the Contractor Development Team efforts, in the near future. In addition this Team will provide assistance to local consultants. So far this programme has focused on emergent private operators.

As concerns the establishment of the PERCs, the main implementation arrangements are in place, including the provision of financial advisers to assist with the evaluation of bids and negotiating the JVA. It appears that responsibilities within GOM for the processing of the matter may still have to be sorted out. The implementation of this activity is facilitated by the condition that the JVPs will have to form the new companies and then also to build them up to become functioning operations.

5. Issues of Relevance to the FRP and Recommendations

5.1 Introduction

The reforms which have been outlined above have been subject to review for quite some time, but actual progress on crucial decision making has been slow. It is the ET's view that this slow progress may be explained that the reform process was never been adequately linked into the Government to begin with; all the efforts seem to have been channelled through DNEP, rather having come about on an instruction by Cabinet through the approval of a basic policy initiative.

Even at the time of the ET's visit it was uncertain as to how the reform process would move forward. The ET's impression is that the GOM has limited preparedness to handle the reforms at present, and the ET's views are therefore that it cannot be assumed that reforms now will move ahead according to a tight schedule, e.g. as proposed in Figure AVII.5.

Nevertheless, it is believed that reforms will start to be effected in the near future. The basic groundwork has been laid out in the form of the preparation of the basic documentation. In addition, the World Bank will make reforms a condition for further support under the planned ROCS 3 project. More specifically the following conditions have been formulated, according to the World Bank Mission Aide Memoire, dated March 1998:

For pre-appraisal assumed to take place in February 1999, the following reform process should be completed:

(i) adoption of the Road Policy paper by GOM
(ii) enactment of the new Road Act by Parliament
(iii) the passing of the decree and regulations to establish the CNE and INE.
(iv) the conversion of the ECMEPs and plant pools into Empresas Publicas

The following agreements are expected to be reached "prior to appraisal" scheduled for May/June 1999:

"(i). timely and direct transfer of road user charges into the Road Fund, and setting its managing Board up as an independent body;
(ii) DNEP as an independent Road Authority fully functional, with proper career development and staff incentives;
(iii) private plant pools up and running;

(iv) ECMEPs operational as SARLs; and

(v) definition of a strategy for rural roads, and reclassification of the network in line with decentralization of competencies for rural roads."

While these demands may appear unrealistic – against the time frame indicated – it seems probable that reforms will start to move and during the time period of the current support from UNDP and Asdi to the FRP. The ET has also registered that other donors are now anxious for reforms to move ahead. For the FRP, the ET believes there are five main issues to be considered

5.2 Issue 1: Contracting

Work under the FRP has mainly been done through direct contracting with the district brigades through the ECMEPs. More recently, this has changed through the introduction of the DFID financed project in Zambézia, and the planned NORAD support to tertiary roads in Cabo Delgado, which like the DFID project will focus on developing private contractors. Private contracting is now also rapidly developing for routine maintenance, and already this year contracting in this field will be done through a competitive tender process (see Section 3.5 of report).

Once the ECMEPs are commercialised, a further step in this direction will be taken; contracts cannot any longer be commanded; they will have to be negotiated or tendered for subject to competition. Hence, maintenance and rehabilitation works done on the tertiary road network will gradually have to be done on commercial principles, and this will gradually grow in importance already during the 18 months remaining of the reviewed projects.

The implications of this for the FRP in general and the CMU/RTA, in particular, are the following: So far assistance supplied has mainly been in the ambit of direct (command) contracting; now more emphasis will have to be given to contracting under commercial conditions. This reorientation of the reviewed projects is also in accordance with the project documents.

Two further implications of this reorientation are the following: Firstly, the organisation that will be doing commercial contracting for feeder roads are the DEPs. The DEPs have no or little experience in negotiated and competitive tendering procedures. There is a need to consider if the RET and CMU/RTA should not therefore reorient their focus on, who receives assistance, and towards the DEPs. While the DEPs are currently receiving technical assistance under separate support, this assistance is scheduled to come to an end in August; however, it cannot be ruled out that there will be an extension. There is thus a need to co-ordinate any plans that the CMU/RTA may develop with respect to the DEPs with this other technical assistance team.

The other implication concerns technology. The FRP ideology is based on labour intensive work methods for tertiary roads. The ET is convinced that this technology is relevant and efficient. However, in a commercial setting what counts are not the methods but the end results, i.e. the quality – or performance – of the service delivered. In a commercial environment contracting is thus done on the principle of meeting certain performance requirements. For various reasons this approach to contracting cannot be applied easily in the road sector. However, it is becoming quite common in certain countries for routine maintenance activities to be contracted based on performance – or service – standards, and as described in Section 3.5 of the report, DNEP is now also in the first phase of introducing such contracts for routine maintenance.

Contracts based on service standards have several advantages. They are easier to monitor, they provide direct information about the quality of roads, and they give the entrepreneur/contractor much greater choice as to the choice of method of how to undertake the work. This is where the technology aspect comes in. In terms of traditional contracting, the client tends to determine the

technology; in a service contract, it is up to the contractor to decide how things should be done, as long as service standards are met.

Routine maintenance on the tertiary road network is an issue, as discussed in Section 3.5. The costs appear to be high and the quality of the work done under the length-worker system is not always satisfactory. Contracting by way of service standards could prove to be instrumental to deal with these issues. This approach thus allows the road administration (the owner of the road) to focus on the appropriate level of standards of a road, and then to leave it to the contractors, through competitive tendering, to identify what is the appropriate – cost effective – work method for meeting the required standards. In other words, the ET is suggesting that the CTA/RTA should approach the issue of road maintenance of tertiary roads not only from a work method point of view, but start to give more attention to the question of what is the appropriate contracting method.

In conclusion the two recommendations of the ET on the issue of contracting in a commercial environment are:

Recommendation 1:1: The CMU/RTA should examine carefully what assistance it can and should provide in order to facilitate the introduction of commercial principles for contracting for rehabilitation and maintenance of tertiary roads. In particular, CMU/RTA should evaluate the need for developing contract documentation in this area, for training in negotiated and competitive tendering, and for the provision of targeted assistance to the DEPs, including the development of manuals. Any assistance towards the DEPs, must take into account other technical assistance that the DEPs are or may be receiving.

Recommendation 1:2: The CMU/RTA should carefully monitor the introduction of service standard-based contracts for routine maintenance, and evaluate the relevance of this type of contracting for the maintenance of tertiary roads. If the method is found appropriate, the CMU/RTA should map out other actions required in order to introduce this form of contracting and assist, where relevant and appropriate, with its introduction.

5.3 Issue 2: The Future of the DETs

As stated, the institutional reforms imply that competitive tendering will become the norm in the road sector in the future, and that this will also apply to the ECMEPs. On the other hand, the Draft Decree prepared by the consultant undertaking the Study into the Legalisation of the ECMEPs contains the following provision Article 13):

> *"Through a joint ministerial ruling from the Ministries of Finance and Public Works and Housing, some of the activities mentioned in this Decree could be attributed exclusively to the new corporations."*

In Article 6 it is stated that the main activities will include

> *"a) the routine maintenance of roads and bridges;*
> *b) the construction of roads with the use of intensive manual labour".*

Assuming that these provisions are still expected to be part of the pending legislation to be used for legalising the ECMEPs (this is to be confirmed) it would be possible to allow the ECMEPs to continue to operate in the future also in terms of direct contracts, e.g. in the area of using labour-based methods for road rehabilitation and road maintenance. It is the ET's understanding that it is being considered to offer the ECMEPs protection, but only for a limited period of time.

The current approach to the future of the district brigades is that they will form part of the commercialised ECMEPs. It will be up to the new companies to decide on the future course of development, including if they for example should hive off the DETs through some kind of privatisation process.

The view of the ET is that the future of the ECMEPs as commercial organisations must be viewed as uncertain. The new commercial entities will face considerable challenges. The new ECMEPs will also be organisations based on a combination of two methods of work in the road sector, the traditional method and the more labour-intensive method as applied by the DETs. It is noted that the afore-mentioned study on the Conversion of the ECMEPs into Legally Autonomous Entities does not actually undertake any business analysis of the future of the DETs; the study is based on the presumption that the DETs will become commercial as part of the legalised commercial ECMEPs, without analysing if this actually makes sense from a commercial/business point of view.

The DETs have often operated with considerable autonomy. These organisations have staff with considerable technical skills in labour-based construction methods, and many of them are considered capable and highly motivated. They, however, lack commercial skills and no administrative/business infrastructure. In addition, it is difficult to see – given the current situation and restrictions – how these organisations directly could be transformed into private entities. It seems inevitable that the first step of transformation, provided that the new ECMEPs are set up in the near future, is that the DETs initially remain part of the ECMEPs.

Given this, but also the uncertain future of the ECMEPs and their DETs, the ET would like to make the following recommendations:

Recommendation 2:1: The FRP should not contribute to establishing any further district brigades as part of the DETs. The proposal for increasing the number of DET brigades during 1998 by 3 (or 4) should therefore be reassessed for relevance and feasibility.

Recommendation 2:2: Any further brigades should be set up under projects, which aim at developing private contractors. The FRP should also consider if such new projects should not also be opened up to staff members of the DETs. While the ET is convinced that comprehensive approaches to the fostering of private contractors similar to the approach applied under the DFID project is required, it would also suggest that the CMU/RTA monitors different approaches to the fostering of commercial operators. In particular the following should be assessed: (i) The appropriate approach for the emerging contractors to acquire tools and equipment; the ET believes that approaches should be used, which as closely as possible actually mirrors conditions ruling under market conditions; and (ii) the need to ensure that emergent contractors are able to draw on the experience of entrepreneurs/contractors with a proven track record.

Recommendation 2:3: The CMU/RTA should evaluate if any further studies are warranted in order to assist with establishing a future development for the DETs, which would ensure that the capability and capacity of the DETs are being put to the best use of the country. Any such studies/evaluations could be financed under the Swedish Support (budget item 03). The study could e.g. review the appropriate future of the DETs, including whether they should remain part of the ECMEPs or if they should hived off, and in that case, how. In particular, in the event it is found that privatisation of the district brigades is seen as an attractive option, the study could examine the appropriate privatisation method, including required arrangements for successful implementation.

5.4 Issue 3: The Preparation of Future Support

The projects under review will come to an end at the end of 1999, although the Swedish Support can provide for support during an additional two years. It is the ET's view that further support will

be required to the development of feeder support also after 1999. However, it is at this time not possible to identify the contents of such support, with the exception that it will have a clear focus on commercial operations.

The project documents for the ongoing Asdi and UNDP support was provided under the previous phase of support to the FRP. It is the ET's opinion that it would not be appropriate to do this work in the same way in the future, given the fact that there will be institutional changes, but that the timing of these changes is uncertain. The preparation of any further support should be done through the provision of services from outside the CMU/RTA, which, however, would be prepared to contribute in a significant way.

The main reason for suggesting this approach is the need to take a fresh look at the contents and mechanisms of support. In particular, it will be important to consider the new institutional arrangements for the operations of the tertiary road network, including the future of such a unit as the RET and the roles of the DEPs.

Another reason, linked to the previous one, is the need to take a careful look at the mode of channelling support to DNEP. At present by-pass mechanisms are being used, implying that resources are made available without them entering into the accounts of DNEP and, in effect, the ECMEPs. As a consequence the prices now being charged by the ECMEPs do not reflect the full resource costs for work done; a further consequence is that there is no information system in place that can yield vital management information about the actual costs for undertaking rehabilitation and maintenance works on roads using labour-based methods. This situation will no doubt complicate the transition to commercial operations.

It is to be emphasised that the current situation is not due to donor intervention. The problem ultimately derives from how the ECMEPs have been structured, i.e. as extensions to DNEP, and having obtained their capital from the beginning in kind. This will now come to an end with the ECMEPs' conversion into commercial entities.

But there is a further reason, dictated by the fact that the World Bank intends to include the FRP in the proposed ROCS 3 Project, and in addition has plans to play an active role.

The following is stated in the Aide Memoire issued after the recent World Bank mission (dated March 1998):

> *"IDA will prepare/secure funding to support the definition of a strategy for rural roads, including: (i) the allocation of responsibilities, and the identification of various agencies responsible for the rural roads; (ii) the definition of priorities and programming criteria with local inputs, and the assessment of the potential for community involvement/participation in rural road maintenance; (iii) the definition of alternative and innovative funding mechanisms; (iv) a review of the FRP program; and (v) a review of the development of small local contractors in rural areas, including recommendations for the future."*

The donors who traditionally have been funding the FRP, not least Asdi and the UNDP, will have to assess how their plans for any future involvement in the FRP can be combined in a constructive way with these plans and intentions of the World Bank. An active role by for example Asdi and/or UNDP implies that they cannot rely on the CMU/RTA only for advice; this would be too much a burden. The work will likely have to be done under a separate contract.

Recommendation 3:1: Further support to the FRP will be required. The definition of that support will have to be developed as an activity which is separate from the CMU/RTA, and will have to be co-

ordinated with the work planned to be undertaken by the World Bank as part of its preparation of the ROCS 3 project, in particular then its work in the field of 'rural roads'. The FRP and CMU/RTA are expected to provide inputs into the project definition work.

5.5 Issue 4: Support to the Implementation of SNAEP

The Swedish support was designed to include assistance to the implementation of the institutional reforms, including the setting up of INE, CNE and the reformed Road Fund. No plans have so far been developed for how to utilise these resources. The ET finds that this will still not be possible for some time to come, as progress on the reforms is still unclear and no concerted efforts have made to date to formulate a strategy for how to implement the reforms.

Assuming that the reforms will go ahead, the assistance envisaged under the Swedish Support will likely be needed badly. However, it is premature to define the nature of this support. It will likely comprise two components, one involving drawing up a strategy for how to move the reform package forward and the other for assisting with actual implementation.

It seems likely that the way forward will become more clear in September 1998, when the World Bank intends to organise a 'policy and institutional reform seminar' (presumably in Maputo). It seems likely that planning for the Swedish support for the implementation of SNAEP could be initiated at that time.

Recommendation 4.1: While the Swedish Support provides assistance to the implementation of institutional reforms, it is premature to define the scope and contents of that support. It is probable that the matter can start being moved forward in connection with the World Bank sponsored 'Policy and Institutional Reform Seminar', scheduled for September 1998.

5.6 Issue 5: Quality Control

Quality control is a major issue at present. DNEP is trying to strengthen its capacity in this field in a number of ways. Most important is the training of the 'fiscais', and to implement rigorous procedures for how to undertake inspection of works in the field as well as condition surveys of roads as part of the programming of maintenance activities. Considerable efforts have already been made in this area, and additional training of 'fiscais' is being and will be undertaken. In addition under technical assistance to DNEP and the DEPs, a maintenance management system is being implemented to allow for better programming of maintenance, but also to enable better overall monitoring of the condition of the road network.

Under the FRP assistance is also being provided concerning quality control, mainly through training programmes and direct coaching in the field. But it is to be emphasised that the work mainly is related to the direct supervision of works to ensure quality and to ascertain the quantities of work being done.

There are two aspects to be considered here. The first aspect is the need to consider how the capacity for undertaking inspection of works done on the tertiary road network can be bolstered by making use of private consultants. As emphasised, there is a clear trend towards commercialising operations in the road sector, a development which will require even stronger supervision and control, and put the DEPs, and their fiscais' under increasing pressures.

One approach to overcome this capacity problem is to rely on private consultants to do part of the work; indeed the private sector can to some extent also be used for doing the preparatory work required for road rehabilitation works to be let under commercial tendering.

Under the LRCI initiative steps are taken to foster the private sector, including the local consulting industry. There is need for the RET/CMU to consider if those efforts should be supplemented with regard to the local consulting sector in order to gradually increase its capacity to assist also with the inspection and planning activities of labour-based works.

Recommendation 5.1: The RET/CMU should examine the possible role played by the local consulting industry in the tertiary road sector, and take appropriate initiatives to gradually strengthen the capacity to plan and control works in the sector by relying on local consultants. There is a need to co-ordinate such initiatives with the LRCI.

The second aspect, which so far has been neglected in the development of the new institutional structures in the road sector, is how to ensure overall quality control in the future. In parallel with the external auditing which will be required of the finances of e.g. the INE in the future, it will also be necessary to establish a system for ensuring performance. It would appear appropriate for the Road Fund to assume a central role in this regard, i.e. the Fund should only disburse provided that works are of acceptable quality. This would likely require the Road Fund to establish its own – small – inspectorate to enforce the quality control system.

There is a need to already now give attention to the issue how a general monitoring system can be built up regarding the condition of the tertiary road system, i.e., an information system that can be used to obtain an overall impression of the condition of the tertiary road system. It goes without saying that such a system should be simple. It is possible that the approach now already being developed for the secondary and primary roads can be utilised. It is also possible that the new contracting system based on performance standards can be utilised.

This is not to be construed as a recommendation that the FRP should make a large effort in this area. It is only suggested that attention be paid to the issue, and that some process is initiated. In due course, it will likely become urgent to implement an overall quality monitoring system.

Recommendation 5.2: The CMU/RTA should examine how the (overall) monitoring of the maintenance of tertiary roads can be improved, taking into account efforts already made through other technical assistance and training efforts. The possible use of existing systems in DNEP for monitoring road conditions, including relying on information derived from maintenance contracts based on service standards should be examined.

Figure AVII.1Figure AVII.2Figure AVII.3

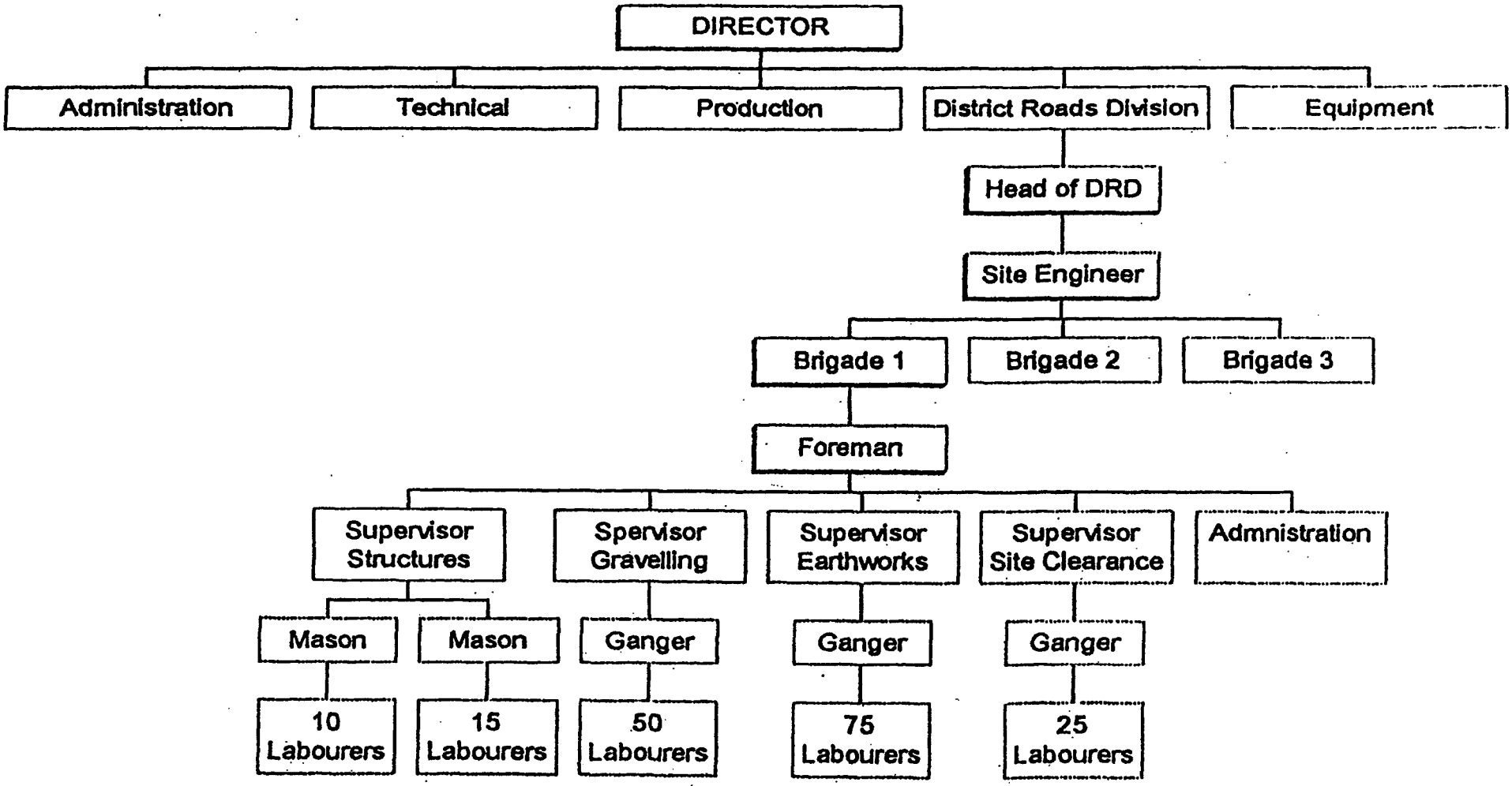

DIRECTOR
Administration
Technical
Production
District Roads Division
Equipment
Head of DRD
Site Engineer
Brigade 1
Brigade 2
Brigade 3
Foreman
Supervisor Structures
Spervisor Gravelling
Supervisor Earthworks
Supervisor Site Clearance
Admnistration
Mason
Mason
Ganger
Ganger
Ganger
10 Labourers
15 Labourers
50 Labourers
75 Labourers
25 Labourers

Figure A VII.2

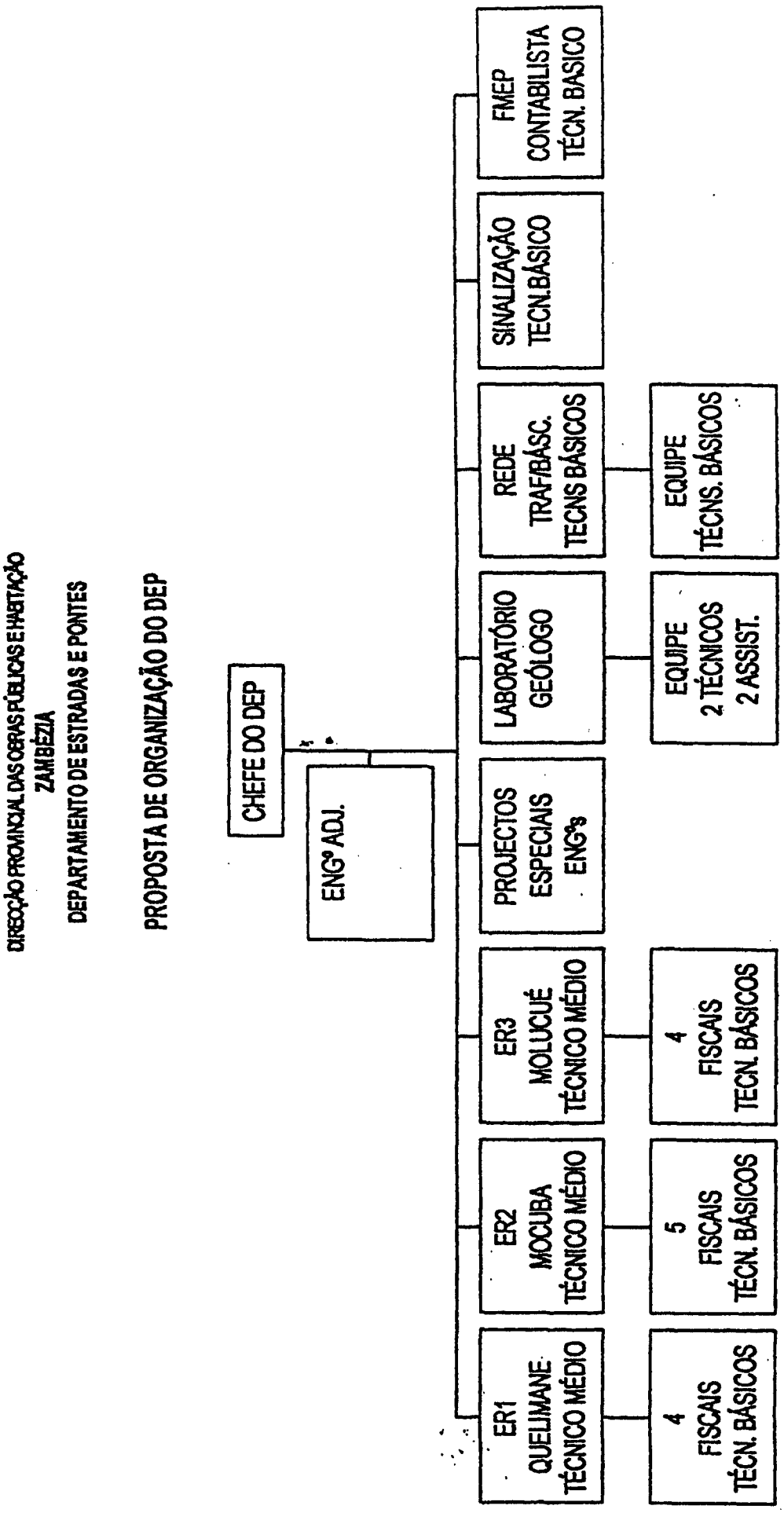
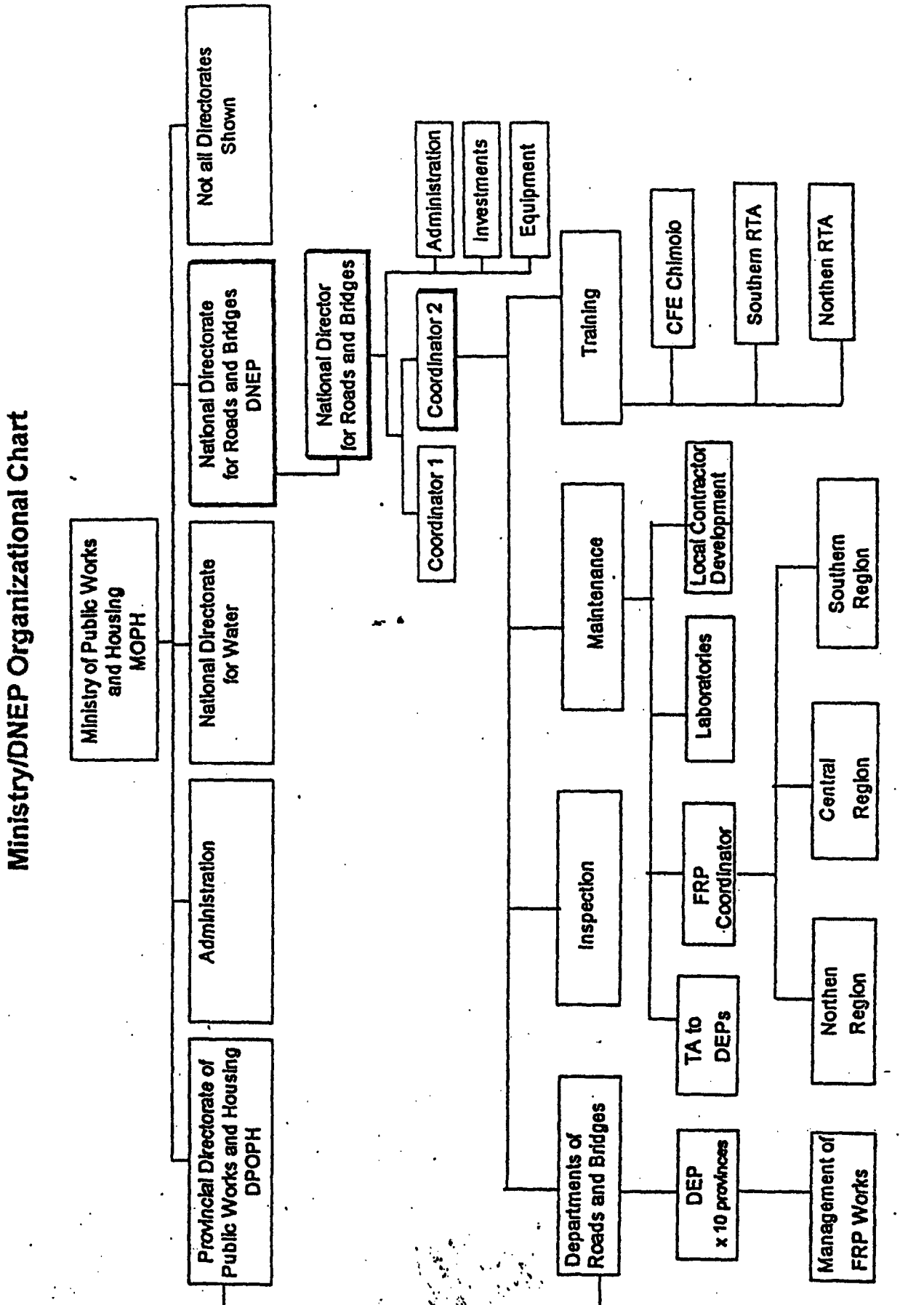


Figure A VII.1



Annex 12: Terms of Reference

Overleaf are the terms of reference for the Final Evaluation.

Terms of Reference – DRAFT, 07-03-2000

Final Evaluation

Feeder Roads Programme (FRP)

Country:	Mozambique
Project Number:	1) MOZ/96/013 (UNDP/Asdi) 2) Swedish support to the Road Sector (Asdi)
Project Title:	1) Management Support to Labour based Tertiary Roads 2) Swedish Support to the Road Sector
Project Short Title:	Feeder Roads Programme (FRP)
Sector:	Transport
Govt. Executing:	Ministry of Public Works and Housing (MOPH)
Agency	National Roads Administration (ANE)
Executing: Agency	International Labour Organisation (ILO)
Total cost:	1) $ 6,185,276 2) $12,700,000
Source of Funds:	1) $ 2,890,000 – Asdi $ 3,873,202 – UNDP 2) $12,700,000 – Asdi

1 Introduction

1.1 General background

Mozambique is administratively divided in 10 provinces and the Capital of Maputo. There are 33 Municipalities (including the Capital of Maputo, the provincial capitals and the larger towns) and 128 districts. Mozambique has a land area of 799,380 km² with a coastline of 2,515km. 13 major rivers traverse the country and offer fertile flood plains. Mozambique shares borders with 6 countries, 5 of which it offers important rail, road and port facilities along "corridors".

The 1999 estimate of the National Institute for Statistics (INE) puts the total population at 16.8 million. Mozambique is characterised by high levels of mortality and fertility, high population growth and a young age structure.

After a civil war of almost 20 years, Mozambique democratically elected its first President and parliament in 1994. The second general elections were held in December 1999 and re-elected President Chissano and a Frelimo majority in the National Assembly.

The last five years have been characterised by rapid economic growth and increasing foreign investments. The GDP grew from US$2,251 million in 1994 to US$4,264 million in 1999, this means an increase of GDP per capita over the same period of US$145 to US$246 (source: INE, 1999 – with corrected population figures).

Agriculture is the most important sector of the economy, contributing approximately 30% of GDP and employing 80% of the work force. The family sector encompasses between 2.5 and 3 million families and predominates in both area and production volume. On average, these households cultivate 1.1 hectares, using a low level of technology based on family labour and hand tools, almost without the use of purchased inputs and completely dependent on often irregular rainfall.

Rural poverty is largely the result of the low level of development of agriculture, which is essentially subsistence. Continued economic isolation of the rural areas with poor infrastructure and a fragmented market economy is likely to cause substantial agricultural surpluses in many parts of the country that will remain unsold. Such isolation will also make these populations vulnerable to natural calamities such as droughts, floods, and plagues, as has become evident again in February 2000. Therefore, the tertiary roads play an important role in the economic development of the country.

1.2 Background of the Regional Roads Sector

The Mozambique classified national road network is estimated at approximately 26,960 km. Of this, about 5,500 km are asphalt-paved roads and the rest are gravelled or stabilised earth roads (source: ANE). The poor condition of roads is a major constraint to rural development and for the 80% of the population that lives in these rural areas.

The road sector plays a key part in the economic and social development of Mozambique. In recognition of the importance of land transportation for the economic and social development of the country, the Government, with assistance from the World Bank and other donors including UNDP and Asdi, has made wholesale changes in the management of the road sector. Under the framework of the Roads and Coastal Shipping (ROCS) Programme, substantial investments have been made throughout the sector. Major efforts have been made to repair key sections of the road system as well as to ensure that there is a maintenance capacity to keep the roads in a good condition.

These changes to the sector are in line with the general trends in the overall economic situation in the country. The first stage of the implementation of the reforms was the adoption by the Government of a new National Road Policy in 1998. In April 1999 the Council of Ministers approved the New Road Administration System and the establishment of the National Road Administration (ANE) that falls under the responsibility of the Ministry of Public Works and Housing (MOPH). Prior to the introduction of these reforms, the National Directorate of Roads and Bridges (DNEP) managed the sector.

The Feeder Road Programme (FRP) is managed by the Government of Mozambique through ANE by its Directorate of Regional Roads (DER). The programme is a component of the ROCS project, and involves the rehabilitation and maintenance of classified rural roads throughout Mozambique using labour based techniques, which have proved to be appropriate, economical and successful in Mozambique. The programme, which began as a pilot project in 1981, now operates in 9 of the country's 10 provinces. The FRP is involved primarily with a small but growing portion of the 14.000-km of Tertiary Roads that represent almost 50% of the total classified road network in the country.

UNDP in cost-sharing with Asdi is providing technical assistance through the International Labour Organization (ILO) to ANE to develop the capacity to manage the Feeder Roads Programme. The FRP has also provided management support to UNCDF for the recently closed down CDF projects in Zambezia and Nampula. In the past, FRP has worked through the Tertiary Roads Divisions (DETs), which are labour-based brigades within the parastatal Provincial Road Construction Enterprises (ECMEPs). More recently support to the Provincial Departments of Roads and Bridges (DEPs), which fall under the Provincial Directorates for Public Works and Housing (DPOPHs), has been increased. The DEPs plan, supervise and monitor road maintenance of all classified roads in a particular province. The DEPs are responsible for the rehabilitation and maintenance of the feeder roads in their provinces.

Since 1992 a total of 3,507 km of road has been rehabilitated under the programme. With the current 34 operational brigades, an average annual output by the FRP brigades of 700 km has been achieved. The programme is devoting increasing attention to both routine and periodic maintenance work.

1.3 Road Sector Policies

The new Road Policy, recently approved by the Council of Ministers, provides direction for the management of the Road Sector. Decisions taken by the various executive bodies in the sector must be in line with this policy. Particular aspects of the policy that relate to Regional Roads, and thus of particular relevance, are listed below.

- The Government will initiate and sustain the decentralisation of rehabilitation and maintenance of Regional Roads to provincial level;
- Non-classified roads will remain the responsibility of District Authorities;
- The programme for rehabilitation of Regional Roads will be continued in the medium term;
- Routine maintenance will be carried out, concentrating primarily on roads in good and fair condition;
- The programme for periodic maintenance will be extended to Regional Roads;
- Works on Regional Roads will be prioritised in accordance with level of use;
- The use of local contractors in the rehabilitation and maintenance of Regional Roads will be given priority;
- Labour-based techniques and nationally-available materials should be used to the maximum extent possible in the maintenance and rehabilitation of Regional Roads;
- The Government will take steps to guarantee regular and sufficient funding for Regional Roads.

2 Scope and Objectives of the Evaluation

The evaluation covers the following components of the Feeder Roads Programme; Management Support to Labour-based Tertiary Roads funded by UNDP/Asdi (MOZ/96/013), Swedish Support to the Roads Sector.

The purpose of the Final Evaluation is to assess overall achievements of the programme, specifically to ascertain relevance and potential effectiveness of the programmes and to assess the impact and effect generated from the programmes and what lessons can be drawn on operational, organisational and policy levels. The Final Evaluation aims to verify the technical and organisational aspects of the two programmes, the FRP and the Swedish Support to the Roads Sector. The capacity created by the programmes within the Directorate for Regional Roads of ANE and in the contracting sector should also be assessed.

The evaluation is further intended to draw lessons from the experiences of the programme and make recommendations for the future functioning of the Directorate of Regional Roads of ANE and the development of the tertiary roads sector as a whole in Mozambique. The recommendations should also address the issue of, in which way future donor funding can be most effective in its support to the sector.

The conclusions and recommendations will in particular be used by:

- Asdi to make decisions on the future support to the Tertiary Roads Sector;
- The Government of Mozambique (GOM) to inform decision making on the future functioning of the Directorate for Regional Roads; and
- Other interested donors to inform decision making on future programming in Mozambique.

3 Issues to be addressed

The mission team will thus have two objectives in mind for this evaluation. Firstly, the final evaluation of the Feeder Roads Programme, which describes and assesses the results and impact of the FRP. Secondly, a forward looking part, describing the future needs and makes recommendations for support to the sector.

3.1 Final Evaluation of FRP

In general the evaluation mission should describe and assess the performance of the programme with regards to its objectives in all respects including but not limited to the issues mentioned in 3.1.1 through 3.1.7.

3.1.1 Presentation of the programme as originally designed

- Background note on the situation of the sector at the start of this phase of the programme;
- Description of the programmes objectives, inputs, activities, expected outputs, implementation modalities, cost, financing and reporting, including any modifications to these elements during implementation.

3.1.2 Quality of project preparation and design

Assess if the programmes were properly designed and prepared and indicate if other necessary components should have been taken into account. Emphasis should be given to the following issues:

- Was the project concept sound;
- Were the beneficiaries clearly identified;
- Were the objectives and outputs realistic, quantifiable and well defined;
- Were workplans prepared, and were they followed.

3.1.3 Efficiency of project execution

Identify and assess factors that have facilitated the achievements of the various objectives of the programmes, as well as those that have impeded the fulfilment of those objectives. In particular assess the efficiency of the programme implementation and monitoring by comparing the actual implementation with the originally designed plans and explain differences. Particularly look at:

- Quality and timeliness of the inputs and activities of the various parties to the programmes, mentioning any deviations from the original plan and justification;

- Quality and timeliness of the responsiveness of the programme management to changes;
- Quality and timeliness of monitoring and backstopping by all parties to the programmes;
- Whether the programme coordination arrangements were carried out as envisaged.

3.1.4 Effectiveness of the Institutional and Technical aspects of the programme

Assess whether the technical approach, the institutional framework and the modalities of financing and execution were the best to achieve the programme objectives. In particular look at:

- The institutional setting of the programme;
- Comparison of the programmes achievements against the stated objectives and outputs;
- Extent to which the programme has been successful in its capacity building objective, i.e. transfer of capacity to national counterparts, development of training modules and transfer of technology. Also assess the capacity of the beneficiaries at the end of the programme;
- Analyse the sustainability of the roads and government's capacity to ensure regular maintenance and make sure of the experience gained under the programme;
- Quality of the infrastructure constructed and the quality and adequacy of their maintenance operations, also after the programme comes to an end. Compare different maintenance systems introduced;
- Describe and assess procedures developed, e.g. monitoring of quality and cost;
- Effectiveness of the programmes in reaching the target beneficiaries.

3.1.5 Impact of the Programme

Comment on programme results and assess how the programmes' achievements have modified the pre project situation, contributing towards both community and national development and that the target population has benefited from the results, addressing in particular the following issues:

- Level of poverty reduction and employment generated under the programmes
- Effectiveness of the rehabilitated roads in generating a socio-economic impact through facilitating access to social services, agricultural production inputs and urban markets in their area of influence:
- Impact on the activities and income level of women;
- Specific attention should be given to the results of the gender component and activities of the programmes;
- Impact on the environment.

Where possible provide quantitative evidence in support of conclusions.

3.1.6 For the nationally executed components

- Nature and extent of government contribution;
- Relevance of the policy of national execution;
- Factors that may have caused or are likely to cause any short comings.

3.1.7 Findings, lessons learnt and recommendations

The mission shall state the findings, lessons learnt and provide recommendations for the smooth phasing out of present support. The findings will also feed into the second part of the evaluation, which is forward looking and will recommend areas of future support.

Detail actions that should be taken in the winding up of project activities to ensure that data or experience is not lost with the departure of the present TA team

3.2 Future support

The evaluation team is expected to carry out a situation analysis in which it adequately assesses the future needs of the roads sector. Recommendations on the direction of the future management of tertiary and non-classified roads should be made.

3.2.1 Situation analysis

The situation analysis should contain the following elements:

- ANE's current strategies and plans for regional roads;
- Implementation and operation of the new system for management of regional roads;
- Operation of the current Feeder Roads Programme;
- Inform on best practice in other countries that may prove beneficial for Mozambique;
- Present and planned support, listing support agencies and their activities;
- Present coordination in the sector;
- Changes in institutional responsibility for the development of national contracting capacity;
- Comment on the future operations of the training centre in Chimoio after separation from the Roads Authority.

3.2.2 Scope of future support

The assessment of the future direction for the management of tertiary and unclassified roads shall end up in a set of recommendations on possible future support to regional roads sector and DER. These recommendations should enable donors to propose new projects and will have to provide in particular:

- Recommendations for adjustments to current plans for management of tertiary and non classified roads;
- Areas within the tertiary and non classified roads sector where support is still needed;
- Identification of appropriate types of support;
- Overview of the need and recommendations of modalities for coordination of support;
- Recommendations and define scope of future project documents for individual support components.

4. Methodology of Evaluation Approach

The evaluation mission will do a final evaluation of the Feeder Roads Programme, and state findings and recommendations in view of the phasing out of the support. The mission will also look at the future management of the sector and propose specific areas where support may still be needed.

The proposed evaluation will be of 3 weeks in Mozambique, and for the team leader one additional week to finalise the report. Field trips should include visits to Nampula and Zambezia (not necessarily by all the members of the team) and will take more or less four days each. Another field trip should be made to a site closer to Maputo. The rest of the time is for interviews/meetings in Maputo and report writing.

The details of the programme will be worked out with ANE, UNDP Country Office and Asdi prior to the start of the mission. A provisional programme is given in annex. However, the evaluation team will on arrival meet with the FRP to confirm the ToR and the proposed detailed programme, and to agree on the reporting procedures.

5. Reporting

Before its departure from Mozambique the evaluation team will prepare a summary of its preliminary findings, recommendations and proposals for the future, and will discuss them with representatives from GOM and donors involved in this evaluation. The comments of the parties concerned should be reflected in the final mission report.

A specific presentation should be given to a wider audience of other stakeholders interested in the sector in Mozambique on the findings and recommendations of the evaluation mission with respect to the sector.

The mission team leader will submit a draft of the report at the end of the mission. Combined comments on this draft report, from the donors involved in this evaluation and the government, will be forwarded by the government to the team leader within 15 days. A final evaluation report should be submitted to the donors, including comments on the draft report, within a period of 15 days in hard copy and on a diskette in MS Word/Excel.

The report should include a set of recommendations on possible future support to the regional roads sector and DER. The donors involved that are considering future support should be able to use the recommendations to propose new projects.

Provision will be made for the team leader to return to Mozambique to present the findings in a workshop defining future support to the roads sector.

6. Composition and Responsibilities of the Evaluation Team

The evaluation mission should integrate objective and independent consultants to represent the Government, UNDP and Asdi.

The mission shall comprise members who have experience in road management systems, including financing, institutional reform, impact analysis, labour-based methods of road rehabilitation and maintenance. In more detail, the following team is proposed:

- a consultant with knowledge of the technical and engineering, and labour-based technologies aspects;
- a consultant with knowledge of the institutional set-up and reforms, impact analysis and technology transfer
- a local consultant with knowledge of the road sector in Mozambique and FRP operations
- a consultant specialising in gender and socio-economic issues in Mozambique

One of the above mentioned consultants will be nominated as team-leader. Possibly a consultant may have the required experience to cover more than one field, in which case the team could be more limited.

7. Implementation Arrangements

The Mission cost will be supported by the project budget of MOZ/96/013 and by Asdi through the Swedish Support to the Road Sector Programme.

Annex 13: List of Acronyms and Abbreviations

ADRA	Adventist Development and Relief Agency
ANE	National Road Administration
Asdi	Swedish International Development Cooperation Agency
ASIST	Advisory Support Information Services & Training (ILO Project)
CFE	Centro de Formacao de Estradas (in Chimoio)
CMU	Core Management Unit
CTA	Chief Technical Advisor
DETs	Divisoes de Estradas Terciarias (in ECMEPs; previously DEDs)
DEN	National Roads Directorate (in ANE)
DEP	Provincial Department of Roads and Bridges
DER	Regional Roads Directorate (in ANE)
DDOPH	District Directorate of Public Works and Housing
DFID	Department of International Development (UK; previously ODA)
DINAGECA	National Directorate of Geography and Cadastre
DNEP	National Directorate of Roads and Bridges (the predecessor of ANE)
DPOPH	Provincial Directorate of Public Works and Housing
ECMEP	Provincial Enterprise for Construction and Maintenance of Roads and Bridges
ESRP	Economic and Social Rehabilitation Programme
EU	European Union
FE	Road Fund (in ANE)
FG	Full Gravelling
FRP	Feeder Roads Programme
GOM	Government of Mozambique
GSG	Gender Support Group
GTZ	Gesellschaft für Technische Zusammenarbeit
IDA	International Development Association
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
INAV	Instituto Nacional de Viacao - National Traffic Insitute
KfW	Kreditanstalt für Wiederaufbau
LCB	Local Competitive Bidding
MPF	Ministry of Planning and Finance
MOPH	Ministry of Public Works and Housing
MTC	Ministry of Transport and Communications
MINEC	Ministry of Economics and Cooperation
MT	Meticais (unit of currency)
NAE	Logistics Support Unit (in ANE)

NGO	Non-governmental Organisation
PG	Partial Gravelling
PGA Unit	Poverty, Gender and Aids Prevention Unit
RET	Reparticao de Estradas Terciarias (predecessor to SET; in DNEP)
ROE	Rate of Exchange
ROCS	Roads and Coastal Shipping Project
RMTA	Regional Maintenance and Training Advisor
RTA	Regional Technical Advisor
SEK	Swedish Crowns
SET	Seccao Estradas Terciarias (in DER)
SI	Spot Improvement
STD	Sexually Transmitted Deseases
TA	Technical Assistance
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNV	United Nations Volunteer
USAID	United States Agency for International Development
USD	United States Dollar
WB	World Bank
WFP	World Food Programme

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