THE ROLE OF RURAL TRANSPORT IN POVERTY REDUCTION

THE TANZANIA FORUM GROUP
For Rural Transport and Development

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A) EXECUTIVE SUMMARY

1. Poverty reduction is one of the major themes on the current development agenda. The Tanzanian government has developed a long-term strategyon poverty reduction. The government has also prepared a short and medium term Poverty Reduction Strategy Paper (PRSP). Despite these efforts the problem of increasing poverty stubbornly refuses to go away. Many reasons have been advanced for this situation. Transport specialists, for example, suspect that the government efforts on poverty reduction pay insufficient attention to problems of rural accessibility and mobility. This is partly because Tanzanians generally place little value on their time. For central to poverty reduction is the question of the proper valuation and, therefore, the efficient **management of time**.

2. The peasant economy is characterized by unnecessary expenditure of large amounts of time and effort on movement and carriage. Considerable time and effort is expended in the rural areas (particularly by women who are the major rural productive force) on fetching water and firewood, on attending to grain milling activities and on moving to and from the fields for ploughing, planting, weeding and harvesting crops. Time is also wasted in getting to hospitals and marketing centers. The essence of transport improvements is **minimization of time and effort needed to move from place to place**. It has also been observed that the major problem is not the absolute amount of time spent on transport (although this is important) but rather the productivity of that time. For example, a women who spends 30 minutes to go to the water well will only bring back 20 litres if she carries the water container on her head. If she uses a handcart, she can bring back 6 to 8 water containers of 20 litres each or 120 to 160 litres. If she users a half - ton donkey cart she will bring back 500 litres. Thus with simple transport innovations, her productivity improves tremendously.

3. Transport is required to provide physical presence to places offering opportunities. In a rural setting this can be looked at from both production and consumption dimensions. From the production side the impact of transport can be seen through accessibility to areas with agricultural potential, provision of inputs, and accessibility to markets. Transport deficiencies

add to input costs and lead to marketing inefficiencies. Welfare effects explain the consumption dimension of the role of transport. Improved transportation facilitate access to social services like education, health care, sources of clean and safe water and so on. This enhances the quality of human capital and positively impacts on labour productivity. Human capital development is a critical input in poverty eradication initiatives.

4. In addition to enhancing general economic efficiency, transport improvements can lead to poverty reduction, through the activities involved in the provision and production of transport infrastructure and equipment. The choice of labour based technology for rural transport infrastructure works can, for example, lead to considerable increase in rural income.

5. 5. Poverty reduction can also be accelerated through improvements in the total transport system including exploitation of the vast water transport potential; through effective development and application of intermediate means of transport which are within the reach of rural people, and through the emphasis of women-friendly rural transport technologies.

6. 6. For many years the transport system in Tanzania has been characterized by immense deficiencies including the existence of multiple Government ministries responsible for transport planning and management, lack of coherent transport policy guidelines, inadequate formalized co-ordination and consultation, shortage of trained and experienced personnel, inadequate infrastructure and facilities, lack of regulatory regimes that are adequately equipped to enhance competition and insufficient dialogue between the public and the private sector.

7. The transport system, therefore, urgently needs institutional reforms, a framework for strategic planning and enhancement of formal co-ordination.

8. The transport and telecommunications sector in Tanzania contributes an average of 5% to the GDP. However this direct contribution of the transport sector is far outweighed by the sector's indirect impact on the economy. An increasing growth rate of value added by agriculture, mining and tourism sectors all depend on a stronger and more reliable transport sector.

9. The present transport infrastructure consists of 85,000 km of road, 3,685 kms of rail, four major seaports and several minor ones on the ocean and the lakes three international airports and an additional four major domestic airports. The pipeline of 1,760 kms from Dar es Salaam to Ndola, is not really a Tanzanian transport installation, as it only carries crude oil to Zambia.

10. **The National Poverty Reduction Strategy (NPRS)** Adopted by the Government in 1997, it **provides overall guidance** and a framework for co-ordination and supervision of the implementation of policies and strategies **for poverty reduction**. The national objective emphasizes poverty reduction by way of increasing investment in the development of human resources enhancement of productive sectors generally agricultural productivity, **improvement of**

infrastructure promotion of private sector development, enhancement of competition, environmental sustainability, good governance and ensuring sustained macro-economic stability. The **development and improvement of transport infrastructure and services is therefore, crucial to the attainment of these objectives.**

11. In addition to the general background information provided in the preceding paragraphs, the National Transport Policy (NTP) has elaborate sections on transport sector objectives and goals, urban transport policy directions, rural transport policy directions, pan-territorial transport policy directions, international transport policy directions, and special transport (for mining, tourism, forestry or fisheries) policy direction. **This study concentrates on rural transport policy directions.**

Rural Transport and Development

12. The transport sector objectives and goals emphasize the need to design and implement an institutional framework which will ensure the provision of effective, reliable and integrated transport services; provide supportive legislation in line with the implementation of NTP; enhance technical and managerial capacity in the transport sector; and to develop or acquire appropriate transport and communication technologies suitable for the Tanzania environment.

13. The rural transport policy has section on infrastructure development and maintenance, gender perspective, provision of rural transport services, transport for agricultural production and marketing, transport equipment ownership, and rural transport and environment.

14. The primary emphasis of the national transport policy is on infrastructure development and maintenance. The policy stresses the need for community participation and involvement in developing and maintaining their infrastructure. The provision of rural transport services is left to the private sector.

15. A considerable number of programs, reforms and initiative have been undertaken as part of the implementation of the National Transport Policy. Among these are the setting-up of the Tanzania National Roads Agency (TANROADS) to manage the trunk and regional road network; the Road Fund Board to manage the Road Fund established to ensure adequate funding for road maintenance; promotion of labour-based techniques and local contractors for road works, the implementation of the Village Travel and Transport Program (VTTP) and local Government Reform. Many other multipurpose programs, most of which are being implemented by donors, contain a significant rural transport component. The performances of TANROADS and the Road Fund Board are said to be moving in the right direction.

16. But the promotion of labour-based technology, the development of household based rural access infrastructure including paths, tracks and footbridges, together with the acquisition and operation of intermediate means of transport (IMTs) seem to experience significant problems.

17. The road sector component of the Poverty Reduction Strategy mainly considers the maintenance and rehabilitation of the trunk and regional road network in the most vulnerable areas.

18. The **priority issues** that require urgent consideration, therefore, include the need to establish an effective management system for rural transport at the district level and the need to **get the Rural Transport Policy to the rural areas.** Furthermore, the Rural Transport Policy should place proper balance between infrastructure development, and the availability of the right kind, quantity and quality of vehicles on that infrastructure, empower rural communities to develop and maintain their transport infrastructure and equipment, and provide adequate information and incentives for the private sector to participate effectively in providing rural transport.

19. The promotion of labour-based technology and intermediate means of transport should also be pursued with vigor. Current efforts, which appear to be half-hearted, should be strengthened. The need to strengthen transport for enhanced agricultural production and marketing also requires special attention.

20. It is particularly important, that non-transport interventions such as the development of water wells or piped water, the acquisition and location of grain milling facilities, the establishment of community woodlots and the location of dispensaries be planned concomitantly with the related transport implications.

21. The major conclusion of this study is that, it is observed that there exists a gap in the management of rural transport system at district level. It is therefore, recommended that a transport management office should be established at district level countrywide to regulate, manage and monitor effective and efficient sustainable rural transport system.

1.0 BACKGROUND

Poverty reduction is one of the major themes on the current Development agenda. Local and national governments and international development agencies have a deep interest in poverty reduction. The Tanzanian government has developed a long-term strategy on poverty reduction. The government has also prepared a short and medium term Poverty Reduction Strategy Paper (PRSP). Yet, despite these efforts, the problem of increasing poverty stubbornly refuses to go away. Various reasons have been advanced for this unhappy situation. Transport specialists, for example, suspect that the PRSP gives insufficient attention to accessibility and mobility considerations. Rural households live in conditions of almost complete isolation. With few or no communication aids, and less transport facilities and services, rural households and communities are cut-off from new ideas and knowledge, from local, national, and world markets, and form sources of goods and services needed for life's sustenance.

It is partly for these reasons that the International Forum for Rural Transport and Development (IFRTD) in collaboration with National Forum Groups (NFGs) in 12 countries of Asia, Africa and Latin America decided to undertake a study to establish the contribution and impact of rural transport on poverty reduction. In Eastern and Southern Africa this study will be conducted in Kenya, Uganda, Tanzania, Zimbabwe and South Africa. In Tanzania, the Tanzania Forum Group (TFG) the national affiliate of IFRTD is conducting the study. The **study team** consists of the TFG chairman Mr N.H.N. Ndelilio and TFG members Mrs G. Mwakilufi, Mr J. Kiwuye and Eng. S. Mhauka.

2.0 TRANSPORT AND POVERTY REDUCTION

Tanzania belongs to the group of the Highly Indebted Poor Countries. This means that Tanzania is Poor. Most of the time a large proportion of Tanzanians (up 50%) have little or no food, live in ramshackle shelter, have limited access to health services and exist in a state of almost complete ignorance of the possibilities and opportunities avialable outside their immediate environments..

Many reasons have been given for this condition. Among these are lack of education, lack of technology, lack of capital, low world market prices for agricultural commodities, rampant diseases including HIV/AIDS, privatization and liberalization of economic activities and natural causes including bad weather and so on. While these factors are important contributors to Tanzania's poverty it is suspected that there are more fundamental reasons for the nation's state of persistent and increasing poverty. An argument has been advanced that Tanzanians place little value on their time. Partly because of having been brought up under a socialist world outlook, Tanzanians have limited understanding of modern markets, and the marketing expertise needed to operate therein.

The valuation of time is central to poverty reduction. The essence of transport improvements is minimization of time and effort needed to move from place to place. The peasant economy is characterized by unnecessary expenditure of large amounts of time and effort on movement and carriage. Considerable time and effort is expended in the rural areas in fetching water and firewood, in attending to grain milling activities and in moving to and from the fields for ploughing, planting, weeding or harvesting crops. Time is also wasted in getting to hospitals and marketing centers.

Yet transport in general is rarely considered an explicit and direct part of the country's poverty reduction strategy. In fact the Poverty Reduction Strategy Paper (PRSP) mentions transport, almost in passing. And when it does it is only the roads that find space therein. Many transport economists, brought up in the advanced industrial societies with well developed and plentiful transport facilities and services, consider transport as having only a marginal impact on poverty reduction. Yet transport reduces absolute poverty by increasing economic efficiency and by lowering costs and prices as well as enhancing access to social and economic opportunities. The provision and production of transport infrastructure, equipment and services can also be designed so as to have maximum impact on poverty reduction.

According to Dr Likwelile, poverty can be defined as inability to meet basic minimum requirements of life. It is the lack of access to basic needs including food, shelter, education, health services and movement or travel for essential purposes. Improved accessibility to goods, facilities and services involves a three-pronged action concerning their affordability, availability and reach ability. Affordability is basically a question of prices and cost. Ultimately it is a question of production and distribution technology. Availability involves the location of goods and services. Reach ability is largely a question of mobility. It is a matter of the state of transport development. Transport, therefore, enables us to reach goods that are not located in our immediate environs. The cost of transport is the price paid for not having the goods or services located where they are needed for consumption. In a modern economy where production efficiency dictates that goods should be produced for the market and not for personal consumption, transport is an absolute necessity. For optimum efficiency transport and facility location should be considered concomitantly.

Accessibility is facilitated by availability of transport facilities (infrastructure and equipment) and services. Transport is required to provide physical presence at places offering opportunities. To improve access one needs to improve the transportation system. The transport system consists of infrastructure and equipment, the management system, and the transport modes, and operators. This makes investment in rural transport infrastructure a major development priority for developing countries (Jacoby 1998). Furthermore, according to the World Bank, 1996 improved infrastructure and the resulting better access has a positive impact on household welfare.

In a rural setting this can be looked at from both production and consumption dimensions. From the production side the impact of transport can be seen through accessibility to areas with agricultural potential provision of inputs, and accessibility to markets. Transport deficiencies add to input costs. This raises production costs as farmers are forced to pay more for inputs. It also stymies agricultural productivity. Transport inadequacy affects efficiency in marketing, as competitive market centers cannot be reached with ease. Inadequacies in transport also affect labour mobility. Deficiencies in transport also constrain the carrying out of many income-generating activities.

As a result of the above, farmers incur substantial production and marketing costs, are forced to face narrowed down windows of opportunity earn less in terms of incomes, and experience in the process (as income is negatively related to poverty) increased incidence of poverty and reduced personal welfare.

Welfare effects, including accessibility to social amenities, explain the consumption dimension of the role of transport. Improved transportation facilitates access to social services like education, health care, sources of clean and safe water and so on. Ability to access these services enhances the quality of human capital and positively impacts on labour productivity. Human capital development is a critical input in poverty eradication initiatives.

2.1 Transport and alleviation of poverty in rural areas

A disproportionate number of the poor live in the rural areas. The agricultural sector is dominant in the rural economy. Agricultural income flows are uncertain on account of reliance on the vagaries of

nature, poor technology and limited access to competitive markets. Rural poverty is aggravated by the fact that the rural sector is poorly served with transport facilities.

Feeder roads connecting farmers to farming areas and to markets do not meet people's requirements, are poorly maintained and costly to use. Rural transport services are inadequate due to lack of affordable and appropriate infrastructure and means of transport.

To eradicate rural poverty one must take into account the nature of the rural economy. The rural economy is agricultural. A majority of the economic agents are poor and depend, for their survivals on low skilled labour. The rural economy is also affected by limited **access** to competitive markets, inefficient supply of inputs, and is less integrated.

Rural poverty is aggravated by the fact that the rural sector is poorly served by transport facilities, affecting farming activities and marketing of produce. It also impairs growth, a central aspect of poverty eradication. To spur growth one needs to among others, encourage investment in infrastructure. Research findings have shown that the aggregate elasticity of agriculture in poor countries was higher with respect to non-price factors than to prices (Creightney 1993). Improvement in infrastructure appears to have an upper hand in yielding bigger increases in production than, for instance, a rise in prices.

Transport improvements are thus critical for rural development and poverty reduction. The link and impact lies in the fact that improved transportation improves access to economic opportunities by reducing transport costs.

It also ensures increased agricultural productivity opens up room for participation in non agricultural activities through time saving effects, eases accessibility to markets and social services, and links the rural sector to the rest of the economy.

Also important is the income generation aspect of the construction, rehabilitation and maintenance of transport infrastructure. The choice of technology for road works is an important consideration in this regard. The use of labour based technology for rural works can generate employment for the rural poor during the off-season for agricultural activities. This can also be affected through employing small scale labour based local contractors.

Related to this, is a question of identifying the most appropriate means of transport to use in the rural areas. A survey conducted by REPOA (Research in Poverty Alleviation) shows that out of the means of transport available in the rural areas walking accounts for 64.9% and bicycles and carts 35.5%, with cars and trucks accounting for 18.2% (Rutasitara 1999). The intermediate means of transport (IMT) are, therefore, the most used vehicles in the rural areas. They may also be the most appropriate means given the nature of the rural economy and the type of transport infrastructure available.

2.2 Gender and Transport

The discussion up to this point has concentrated mainly on road transport and the related infrastructure. One issue that requires separate treatment and emphasis is the question of **gender**. For, the transport burden impacts differently on men and women. Women constitute the primary transport vehicle in the rural areas. The backs and heads of women are the main tools for transporting water,

firewood, grain and babies. Women also provide the main source of labour for agricultural activities and sometimes for livestock rearing. On average, women are responsible for nearly 67% of traveling time, while men and children are responsible for 21% and 12% respectively. Also women are responsible for 85% of the total load carried, 90% of which walking transports and head loading. Furthermore women have limited access to IMTs.

2.3 Water Based Transport

Beside road transport, Tanzania is yet to start exploiting its other great transport potentials, among them is water transport. Tanzania is fortunate to be surrounded by large and navigable water bodies, almost on all sides and to be crossed by big navigable rivers. The water bodies, starting with the Indian Ocean in the East, the great Lakes Victoria, Tanganyika and Nyasa in the North, West and South and the rivers Ruvuma, Rufiji, Ruaha, Ruvu, Mara and Kagera, to mention only a few, provide Tanzania with a great unexploited potential for water transport.

Moreover these water bodies provide immense possibilities for alleviating rural poverty through the development of the fishing industry. The small ports on the ocean, the lakes and riverbanks that could prove to be of inestimable value to local fisherman are virtually undeveloped. Also the transport connections from the fishing ports to major centers of consumption remain mostly rudimentary. This leads to inefficient marketing of the fish, thus increasing the fishermen's poverty. For example, the price of Mwanza sardines (dagaa) in Dar es Salaam fluctuates widely within short periods (say one to two weeks) from 400/= per kg to 1000/= per kg, largely due to shortages caused by transport inefficiencies. The price of fresh fish may also exhibit similar fluctuations. In the latter situation, however, the fishermen's position gets worse, as the fish gets spoiled.

Although transport generally contributes to poverty reduction, its effectiveness in achieving this objective depends on the nature of transport and the choice of technology in its provision. A recent study of Irish Aid road projects (Irish Aid,1998) finds that while investment in roads can provide valuable short- term benefits to those employed in the works, the long term influences on basic needs and poverty reduction(especially for roads) is more limited. Lower order feeder roads yield greater benefits. Also investment in roads perse does not have a significant effect ion the alleviation of household level travel and transport demands. Hence a total " transport systems" perspective of possible interventions is advocated, rather than focusing purely on district and feeder road improvements. This involves a more village based method of appraisal such as that advocated by RTTP and Integrated Rural Accessibility Planning (IRAP) approach by the ILO and IFRTD. These village-based methods include identifying priority footpaths and tracks, promoting IMT and relevant non-transport interventions.

3.0 TANZANIA'S STRATEGIES FOR POVERTY REDUCTION.

3.1 Background.

The GOT has been taking steps in reducing poverty since when poverty was identified as one of the three major enemies for our economy. The other two enemies identified during that time were diseases and ignorance. However, of late some other problems have mushroomed, these are, namely; environmental degradation; rural-urban migration; overcrowding in urban areas; high population growth that is not commensurate to economic growth; HIV/AIDS gender inequality; corruption and income inequality.

Just after independence, the GOT put in place some measures to fight the three enemies. Education programmes were put in place to fight ignorance, both primary and adult education were also given priority. Secondary and tertiary educations were also given deserving attention. Health programmes were put in place to fight diseases. Basic health care, Mother and Child Health programmes, nutrition programmes were all promoted and strengthened for purpose of child survival, growth and development; child and maternal protection and population disease prevention and cure.

Some the current measures undertaken by the Government include:-

I. Formation of Division responsible for poverty eradication.

II. Formation of a Ministry responsible for poverty education; placed in one of the highest offices of the state i.e Vice President's Office (VPO).

III. Appointment of a Minister of State in the VPO, responsible for poverty eradication.

IV. Formulation and adoption by the Government of the National Poverty Eradication Strategy (NPES).

V. Formulation of the Tanzania Development Vision, famously known as vision 2025.

VI. Formulation of the Poverty Reduction Strategy Paper (PRSPP

VII. Holding of the National Workshop on Poverty and Environmental Protection held in Dodoma, November, 1998.

VIII. Formulation of Multi-lateral Debt Relief Fund.

IX. Tanzania's qualification for the Highly Indebted Poor Countries (HIPC).

X. Creation of an enabling environment for the private sector to participate in issues of poverty reduction and development.

XI. Facilitating the public sector to carry out core functions of the Government including policy formulation, coordination and monitoring while allowing the private sector to come in and fill in the gap left by the government.

XII. Promoting gender equality in schools, colleges and equal opportunities at work place.

4.0 NATIONAL POLICIES AND STRATEGIES ON POVERTY REDUCTION.

The GOT is undertaking various initiatives towards poverty reduction and attainment of social and economic development. Founded within broad policy framework, the vision 2025, stipulates the vision, mission, goals and targets to be achieved with respect to economic growth and poverty eradication by the year 2025. To operationalise vision 2025,the Government formulated the National Poverty Eradication Strategy (NPES), which provides overall guidance and framework for coordination and supervision of the implementations of policies and strategies of poverty eradication. The Poverty Reduction Strategy Paper (PRSP) was then formulated as a medium-term strategy of poverty reduction, in the context of the enhanced Highly Indebted Poor Countries (HIPC) iniative.

the focus to the PRS is threefold, namely, reducing income poverty, improving human capabilities, survival and social well being and containing extreme vulnerability.

4.1 Current Poverty Reduction Status.

The second PRS progress report highlights the following in the poverty status comprising both income poverty and non-income poverty:-

Income Poverty:

The report on the status of poverty is based on the Household Budget Strategy Survey of 2000/01, which was carried out as part of the Poverty Monitoring System and the Integrated Labour Force Survey of 2000/01. The analysis has enabled Tanzania to establish baseline data for poverty and has facilitated revision of the PRS targets.

- Results show that 18.7 of Tanzanians live below the food poverty line and 35.7 percent live below the basic needs poverty line. Poverty is more severe in rural areas compared to urban areas. Indeed among the total poor population, the urban poor constitute about 13% compared to 87% in rural areas. Dar es Salaam has the least incidence of poverty. There is also growing inequality as shown by the rise in the Gini coefficient from 0.34 in 1991/92 to 0.35 in 2000/2001.

- Urban poverty is also a matter of serious concern. Notable features are in the areas of low and uncertain incomes for people in the formal sector, limited formal employment opportunities particularly for youth, especially girls, lack of access to credit for business and housing for low income groups. There is also the problem of inability to afford decent and adequate housing for people living in unplanned settlements.

Non-Income Poverty:

The non-income poverty covers 4 main categories, namely:
(i) human capability
(ii) survival,
(iii) nutrition and
(iv) extreme vulnerability.

(i) Human Capability
Notable here is the impressive performance in education sector attributed to the implementation of Primary Education Development Programmes (PEDP).

There are dramatic increase in the intake in primary schools with gross enrolment reaching 100.4 percent in 2002 compared to 77.6 percent in 1990, and net enrolment rising from 58.8 percent in 1990 to 85 percent in 2002. The Challenge is how to further improve the quality of education, the learning environment, eliminate gender inequality at all levels, health and other basic services. It is the government's resolve to address all these issues appropriately.

(ii) Survival
There has been an increase in the use of improved sources of drinking water in rural areas over the 1990s. But more efforts will be made to ensure that adequate resources are allocated to the provision of rural water. There are indications of slight increases in infant and under-five mortality rates in recent years, attributed mainly to HIV/AIDS pandemic. This poses a major challenge as far as the PRS targets are concerned.

(iii) Nutrition:
Little progress was achieved during the 1990s with regard to the improvement of nutrition rates for children. There are significant disparities in the levels of under-nourishment between rural and urban areas, and between children form poor and richer households.

(iv) Extreme Vulnerability:
The PRS recognizes vulnerability as important aspect in initiatives towards poverty reduction. However, setting targets and quantitative measures of extreme vulnerability remains a challenge task in the absence of a clear understanding of the concept and its manifestation in Tanzania. It is expected that the findings of the participatory poverty assessment (PPA) will enhance this understanding and guide to the design of effective policy interventions.

4.2 Millennium Development Goals and the PRS:

Tanzania is committed to the Millennium Development Goals (MDGs). Tanzania produced the first report on progress towards the MDGS in 2002. The report also indicated the likelihood of achieving the targets for Tanzania. The government has put in place a sound policy framework for poverty reduction and a comprehensive Poverty Monitoring System to monitor progress towards the MDGS.

5.0 NATIONAL TRANSPORT POLICY

5.1 INTRODUCTION

Vision

The vision is: -
To have efficient and cost-effective domestic and international transport services to all segments of the population and sectors of the national economy with maximum safety and minimum environmental degradation.

Mission

Based on the vision above, the mission is to:-
Develop safe, reliable, effective, efficient and fully integrated transport Infrastructures and Operations which will best meet the needs of travel and transport and improving levels of service at lower costs in a manner, which supports government strategies for, socio-economic Development whilst being economically and environmentally sustainable.

Characteristics

The transport sector in Tanzania is characterized by high cost, low quality services due to various reasons. These include

- High backlog of infrastructure maintenance and rehabilitation,
- Inadequate institutional arrangements, laws, regulations and procedures which are not consistent with each other.
- Inadequate capacity caused by low level of investment in resources,
- Low level of enforcement of safety, environmental sustainability and gender issues.

The deteriorated state of the transport sector coupled with unsatisfactory operational performance signifies another fundamental characteristic of the sector. Persistent weaknesses in the development and management of the sector have been identified to include:-

i) The planning and management responsibilities which are divided between Ministries responsible for Transport, Works, Home affairs, Regional Administration and Local Government and Finance.
ii) Lack of coherent policy guidance to those concerned with the planning and development of the transport sector leading to disjointed plans and programmes.
iii) Inadequately formalized coordination and consultation among principal actors.
iv) Shortage of adequately trained and experienced personnel in the transport planning departments and units.
v) Non-application of scientifically based planning methodologies fitting our environment coupled with non-existent data systems.
vi) Inadequate infrastructure and facilities to cater for non motorized transport such as carts, bicycles, and also simple motorized equipment such as motorcycles, motor tricycles, and similar intermediate technology facilities.
vii) Low managerial capacity in public enterprises; under capitalization of such enterprises and absence of meaningful competition.
viii) Lack of regulatory regimes that are adequately equipped to enhance competition, fair operational practices and complementarity of services; and
ix) Insufficient dialogue between the public and private sector due to poorly developed service providers as well as service users or consumer associations.

Issues, which will have to continue to be pursued to counter some of the problems raided above, include: -

i) Enhancement of institutional reforms, which have been going on in all aspects of the transport sector. Therefore, the need to strengthen coordination and regulation of the transport matters under the ministry responsible for transportation remains paramount. Also the need for separation of policy formulation and strategic planning; regulation and service provision or operations from each other is more apparent now to ensure better sector management.
ii) Putting in place a framework of strategic planning which should be worked out by the Ministry responsible for transport.
iii) Enhancement of formal coordination and consultations through sectoral technical consultative meetings and annual national consultative technical meetings such as the Transport Policy and Planning Workshops, Rural Access Group consultative meetings, and Annual Road Conventions.
iv) Ensuring the existence of a computer based transport data ; and
v) Putting in place more systematic coordination of transport planning and operations under the auspices of regional cooperation especially in the SADC and East African regions.

The National Transport Policy (NTP) takes cognizance of the fact that fundamental requirement for effective transport system is an institutional framework which ensures that:-

i) Each fundamental element of transport is provided in the appropriate quality, quantity and form.
ii) All elements of transport are combined in a technologically optimum way for each mode of transport.

iii) Each mode is operated in a most efficient way; and
iv) Appropriate mechanisms exist to ensure effective intermodal coordination and communication between the user, the operator, the regulatory agency and the government on all transport questions and issues.

The above list of issues needs to be followed up more closely to enable service delivery and hence remove impediments in the development of other sector of the economy.

5.2 STATUS OF TRANSPORT INFRASTRUCTURE AND SERVICES

The Transport network in Tanzania comprises:-

Road Network

Road transport with roads network totaling about 85,000km. The network consists of trunk (10,300 km), regional (24,700km), district (20,000km), urban (2,450) and community (27,550 km) roads. Only 5% of the road network is bituminised.

The medium and long term objective is to bituminise all trunk roads while at the same time ensuring that all-regional as well as key district and urban roads are sufficiently rehabilitated and maintained to ensure smooth flow of traffic. The NTP underlines the need for the private sector participation including the local communities in the planning and rehabilitation of the roads that pass through their area.

Railway network

Tanzania railway systems has a total track length of 3,685 km (mainland) out of which 2715 km is operated by Tanzania Railways Corporation TRC and 970 km by Tanzania-Zambia Railway authority – TAZARA (970 km within Tanzania). Together, the two railways systems link 14 of the 20 regions on the mainland, and neighbouring countries including Zambia, Democratic Republic of Congo, Burundi, Rwanda, Uganda and Kenya. TRC is fully owned by the Tanzania Government, while TAZARA is owned jointly by Governments of Tanzania and Zambia on 50/50 basis.

TAZARA has 1,860 km of single track built between 1970 and 1975 from Dar es Salaam to New Kapiri-Mposhi in Zambia, with 970 km in Tanzania Mainland. The railway has major workshops at Dar es Salaam and Mpika with depots at Mbeya, Mlimba, Chozi, and New Kapiri Mposhi. The TAZARA track (1,067 m gauge, 75 kg/m rail, 191 kg concrete sleepers and mostly 1% ruling gradient) permits a maximum speed of 70km/h. Speed restrictions cover less than 10% of TAZARA line and about 40% TRC line. Both TRC and TAZARA have axle load limits (governed by condition of bridges) of 20 tons. Both speed and axle load restrictions have been gradually increasing.

The role of railway transport for efficient inter-modal transit traffic cannot be over emphasized. NTP underlines the need for further development of modal and inter-modal interface facilities and institutions. For this to happen, involvement of private sector in infrastructure development and operation of railway is considered necessary.

Maritime and other Water Transport

Maritime transport is characterized by the presence of major sea ports, which are Dar es Salaam, Tanga and Mtwara, managed and operated by THA, and inland water transport with ports in lakes Victoria, Tanganyika and Nyasa managed by Marine Services Company Ltd. Other smaller ports are Kilwa, Lindi, Mafia, Pangani and Bagamoyo. Dar es Salaam Port, which is the biggest port, has 11 berths of which 8 are for break-bulk (6,400,000 tonnes) and 3 for containers (120,000 TEUS). The port also has an oil jetty with the capacity of handling larger tankers of up to 40,000 DWT. The challenge for the port of Dar es Salaam is that of attracting greater traffic from its hinterland inside Tanzania and from neighbouring land locked countries.

Maritime transport in Zanzibar is characterized b the presence of major sea ports, which are Malindi and Mkoani, managed and operated by Zanzibar Ports Cooperation. Other smaller ports include Chake Chake, Wesha, Wete which are in Pemba and Mkokoteni in Unguja.

Inland shipping is currently undertaken on lakes Victoria, Tanganyika, and Nyasa. The major ports are Mwanza, Bukoba, and Musoma on Lake Victoria, Kigoma on Lake Tangayika, and Itungi on Lake Nyasa. There is also a potential for navigation in Lake Rukwa and along some of the big rivers e.g Kagera which together with three lakes constitute thousands of square kilometers of natural navigable waters, availing Tanzania mainland a most valuable transportation resource that has not been sufficiently utilized. Besides port facilities and navigational aids are inadequate.

NTP recognizes the need for further restructuring for ports for increased infrastructure, safety, Security and operations efficiency. Private sector involvement in the enhancement of infrastructure, services in port development, operational and in shipping services is underlined. The role of the Government in the development of the basic maritime infrastructure, safety, Security remains paramount.

Air Transport

Air transport is served by three international airports Dar es Salaam, Kilimanjaro and Zanzibar, major domestic airports which include Mwanza, Mtwara, Dodoma, Tabora andnumerous other smaller aerodromes and air strips making a total of about 60 government airports. Presently, the domestic airports and strips do not generate enough traffic to make them commercially viable.

Domestic air travel is important for Tanzania because of the long distances involved between major regions. The domestic services also serve to satisfy business and tourism markets. The number of licensed domestic charter operators has increased from 16 in 1992 to 31 in 2001. International scheduled services are governed by Bilateral Air Agreements concluded between Tanzania and other states. However, under the current regional groupings, the challenges ahead is on (while members are progressively liberalizing their respective air transport industry) how to harmonize national air transport policies to make them compatible and hence facilitate smooth flow of goods and services among the member States. Anther challenge for air transport is to cater for increased demand for higher standard tourist traffic and transportation of non-traditional commodities e.g. flowers, fresh fruits, minerals etc. Under globalization concept, the idea of having designated national Airline standing alone is now out of date. The challenge ahead is on how we

can integrate our national airlines regionally in the provision of air services worldwide. It is a high time that the Yomoussoukro Decision (YD) is implemented to attain sustained regional integrated air transport services.

Pipeline Transport

The only pipeline transport in the country is the one which conveys crude oil products from Dar es Salaam to Ndola refinery in Zambia, a distance of 1750 km. THA has a single buoy mooring for delivery of crude oil from the jetty to the TAZAMA pipeline. Besides, a pipeline is being constructed from Songo Songo to Dar es Salaam to transport natural gas, and another pipeline under consideration is from Dar es Salaam to Mwanza to transport petroleum products. Further private investment in this mode of transport is encouraged.

Urban Transport

Urban transport in Tanzania is predominantly both motorized and non-motorised road transports. Other modes of transport including trans, water are not yet developed. Urban transport is constrained by low level of motorization currently estimated at 26 vehicles per 1,000 inhabitants. Journey delays due to traffic congestion on roads, rush for vehicles arising from equipment shortage and low capacity, unfriendly/unbecoming hostile behaviour of bus crews are common features in Dar es Salaam urban transport.

Further, road accidents are on the increase due to non-adherence and enforcement of rules and regulations. Disregard of proper infrastructure for Non-Motorised Transport (NMT) introduces a heavy penalty to the poorest section of the town dwellers. Services are concentrated to the major arterial roads with little penetration to neighborhoods and newly developed peri-urban areas. Environmental problems (noise, air and water pollution) are on the increase as a result pf traffic congestion.

Rural Transport.

The rural transport is predominantly non-motorised, walking sand head loading. Poor infrastructure development, high transport operation costs and changes experienced by operators and users respectively. Low demand of Transport is due to low level of affordability. Other modes of transport including trains, water are not yet developed.

5.3 REGULATORY AND INSTITUTIONAL ARRANGEMENTS.

Several authorities are involved in the regulation of road transport. These are: -

i) Ministries of Communication and Transport (Road Transport licensing),
ii) Works (axle-loads control, safety control),
iii) Home Affairs ("Traffic Law and Regulations enforcement),
iv) Finance (motor vehicles registration, road toll),
v) Regional Administration (regional transport licensing),
vi) Vice President (environment), and
vii) Planning Commission (key transport utilities),
viii) Trading and Industry (Vehicles Licensing)

Major weaknesses in the regulation include poor coordination between authorities, poor governance (corruption) and poor enforcement. Therefore, the challenge is to streamline the functions and increase coordination, and to link organically, policy formulation, regulation and implementation oversight.

Existing regulations for the railway transport system are meant to ensure smooth, safe and reliable services. These internally developed measures relate to engineering, operations and communications procedures. Missing are the regulations governing inter-modal relationship.

A regulatory body responsible for air transport has been established. Surface and Maritime transport regulatory bodies are in the process of being established.

Maritime transport is guided by both national and international regulatory regimes. The current Merchant Shipping Act is supplemented by international conventions, treaties and codes of conduct in order to ensure that the national standards on practices, procedures and safety as per International Maritime Organization regulation. However, there is considerable inadequacy in safety and other waterways procedures.

Regarding air transport, Tanzania abides by the ICAO standards and practices in accordance with international regulation of civil aviation due to the international nature of air transport. The Tanzania Civil Aviation Authority (TCAA) regulates and ensures orderly development of civil aviation in the country.

Regarding the future, the government is effectively pulling itself out of business operations to remain with the key role of policy formulation, strategic target setting, regulation and monitoring.

The NTP aims at guiding the development of an efficient, well integrated and coordinated transport infrastructure and operations, which are economically, financially, socially and environmentally sustainable.

5.4 TRANSPORTS AND NATIONAL DEVELOPMENT

Transport Sector Contribution to the National Economy

The transport and telecommunication sectors contribute an average of 5% in the GDP in value added terms. However, this indirect contribution of the transport sector is far outweighed by sector's indirect impact on the economy. An increased growth rate of value added by agriculture, mining and tourism sectors all depend on a stronger and more reliable transport sector. However, improvements to the transport network must be balanced by other legitimate public sector activities.

The government is already spending about 10% of its revenue to maintain the current road network. It is believed that this share of the Government budget to the transport sector may not be enough when considering:

(i) That the lack of transport infrastructure and their poor condition remain one of the main bottlenecks for Tanzania mainland development and
(ii) Other African countries at the same stage of development are spending between 15% and 25% of their budgets on maintaining and improving their transport infrastructure.

Long Term Development Goal

The long term development goal of the country is to raise the standard of living and through the enhancement of both the productive and non-productive sectors of the economy from the present level per capita Gross Domestic Product of about USD 210 to USD 2,500 as per national Vision – 2025. Together with this national strategic goal, the National Transport Policy (NTP) also takes cognizance of the various other national guidelines. These include the National Poverty Reduction Strategy Paper (PRSP), rural Development Strategy (RDS) (in which, areas such as rural road transport, telecommunications and postal services have been identified as priority sub-sector in fighting poverty), Civil Service Reform programme, Parastatal sector reform, private sector involvement in economic development, strategic environmental sustainability, gender issues, eradication of diseases and literacy campaign and other sector development programmes.

Various Economic Reforms Undertaken

The various economic reforms undertaken in the recent years have continued to improve economic performance. Although, these reforms have made some positive impact on poverty reduction among Tanzanians whom about 50% are classified as poor and 36% as very poor (abjectly poor), much effort is needed to deal with fundamental problems which cause slow pace of economic growth and development; some of which are:-

i) Deterioration of the state of social services such as education, health, nutrition, water, and sanitation,
ii) Slow pace of agricultural growth, upon which over 80% of Tanzanians rely,
iii) Inadequate domestic savings, vulnerable balance of payments position, and
iv) Inadequate investments in physical infrastructure especially transport.

In view of these problems, transport sector development is indisputably a critical factor and an impetus to sustainable economic growth and development.

National Poverty Reduction Strategy

The National Poverty Reduction Strategy adopted by the government in 1997 provides overall guidance and a framework for coordination and supervision of the implementation of policies and strategies for poverty reduction (see chapter three). However, the low level of individual incomes is one of the indicators of poverty. This coupled with absence of a conducive environment for the private sector investment has hindered investment in physical infrastructure, particularly transport infrastructure. This NTP provides guidance towards better transport infrastructure and services which will in turn lead to the development other sectors including, education, agriculture, health care, access to water , and general economic development.

The national objective puts emphasis on poverty reduction by way of:

- Increased investment in the development of human resources,
- Enhancement of productive sectors especially agricultural

- Improvement of infrastructure,
- Promotion of private sector development,
- Environmental sustainability,
- Good governance
- Sustainability of the overall improvement in macro economic stability.

The development and /or improvement of transport infrastructure and services is therefore crucial to the attainment of these objectives.

Realization of the Objectives and Goals

The NTP recognizes the role of transport in the realization of the goals identified in the priority sectors such as education, health, water, agriculture, manufacturing, tourism, mining, energy, land and good governance New investments in the construction and rehabilitation of infrastructure are given priority parallel with maintenance of the existing facilities

The Central Role of Transport Infrastructure

On the same token, the NTP strives to stimulate population integration and enhancement of regional equity, by way of providing transport systems, which will not only enable Tanzanians to exchange goods and services among themselves but also enable them interact freely.

Transit Trade

The NTP strives to enhance transit trade by way of improving the infrastructure including facilities of the various transport modes, routes and interface points such as those at transshipment. Similarly, the NTP strives to enhance the other key issues such as security, environmental sustainability and gender.

Social Sector Emphasis

In the social sector, a lot of emphasis is directed to the enhancement of the on going programmes by way of encouraging improvement of transport infrastructure and services to inaccessible parts of the country. At present providing social services to people in the remote districts or villages, particularly during the wet seasons, is quite difficult. The NTP emphasizes need for maintenance of roads to such points and putting in place appropriate institutional arrangements for planning, coordination, financing, execution of services and appropriate legislation for furnishing the private sector involvement. Public sector involvement in the enhancement of infrastructure through mobilization of financial resources as well as capital investment will be given deserving emphasis.

5.5 TRANSPORT SECTOR OBJECTIVES AND GOALS.

Need for Coherent Policy

The transport sector needs a comprehensive policy to ensure compliance to the national social and economic development objectives and goals, paying due emphasis to the following:-

i) Support the short and long-term national development programmes for sustainable economic growth, economic reforms, meeting basic needs, human resource development and creation of employment.
ii) Ensure private sector participation in the provision of services while the government continues to retain the role of ownership and development of the key strategic transport infrastructure.
iii) Apply a participatory approach in the provision of transport infrastructure and services by involving all the stakeholders (i.e. government, operators and users) in playing their role in the development of the sector.
iv) Provide effective institutional arrangements, laws and regulations, capacity building and use of appropriate technology.
v) Support appropriate development strategies including development corridors, land use densification and efficiency and integrated economy through among others, establishing a strong infrastructure base and services in all major towns and other centers of socio-economic activities and growth.
vi) Facilitate sustainable development by ensuring that all aspects of environment protection and management are given sufficient emphasis at the design and development stages of transport infrastructure and when providing services.
vii) Safety and Security

Institutional Arrangements

A fundamental requirement for an effective transport system is an institutional framework, which will ensure provision of effective, reliable and integrated transport services. One of the main factors that has led to the deterioration and poor performance of the sector is lack of effective coordination of the various components of the transport system.

The government is disengaging itself from operational activities and is allowing private sector participation and market competition. Therefore, for the long-term interest of the sector, it is important to effectively separate, streamline and consolidate policy (for the ministry responsible for transport matters), regulation (for regulators) and operations (for operators). Such an arrangement is required to ensure that consumers are protected against abuse of dominant positions, long-term interests of the nation are protected and fair distribution of transport services in the country. It is however important that sectoral oversight, over regulation and operation be maintained by the ministry responsible for transportation which will also be answerable to parliament on matters regarding the sector.

Laws and Regulations

Supportive legislation is needed in line with the implementation of the NTP. The existing legislation should be reviewed and where necessary new rules and regulation be developed in favour of investment, safety, security and sustainable environmental protection in the transport sector. Moreover, coordinated efforts of the institutions responsible for enforcement of traffic rules and regulation will be given a deserving emphasis.

Sector Capacity Building

The NTP recognizes the need for enhancing technical and managerial capacity in the transport sector. The ongoing reforms in the sector necessitate further human resource development to face challenges posed by developments in science and technology as far as transport sector is concerned. A deliberate move is necessary to:-

i) ensure availability and sustainability of local technical and managerial capacity to man the transport sector;
ii) ensure the private sector allocates a certain percentage of the operational budget to human resource development;
iii) review training programmes to meet needs of local capacity building.

Technological Development

Given Tanzania's low science and technology base, the main challenges in technological development include:-

i) Acquisition of modern technology given the scarce resources by attracting private capital through suitable policy environment;
ii) Choosing appropriate technologies by setting standards and enforcement mechanism through regulation; e.g., look into possibility of using motor cycles as taxis to reduce fuel consumption and adverse impacts to environment.
iii) Promoting creativity and innovativeness to adopt or develop new technologies by providing an enabling environment.
iv) Enhancement of info-communication as a basis for future socio-economic development and also as a basis for enabling Tanzania to be a member of the global village.

5.6. RURAL TRANSPORT POLICY DIRECTIONS

Rural Infrastructure

Rural transport infrastructure is at four levels i.e. household, village, ward and district.

Household and Village Level Infrastructure

Objective
Through participatory approaches, organize households to contribute in the improvement of their infrastructure.

The issue
The main types of infrastructure used at the household level are the paths, trails, tracks, which are cleared narrow passages, used for shorter trips of 5 to 10 km. Rivers, streams and locally made bridges are also used. Such infrastructure does not facilitate households to acquire their essential needs at a minimum possible cost. Besides, most of the valuable resources including time and energy are spent in fetching water and firewood from distant places.

The policy direction is to:-

i) Involve the households in infrastructure planning, financing and maintenance.
ii) Development of capacity in terms of skills and other resources to enhance quality of infrastructure.

The Ward and District Level Infrastructure

Objective
To develop and expand the infrastructure and ensure easy accessibility.

The Issues
The village and district roads in rural areas are used for travel for longer distances and are usually accessible to motor vehicle traffic. The infrastructure is crucial in providing linkage of rural communities to the urban market, where the agricultural inputs and products are transported to and from the farm gates respectively. The state of the existing roads is poor and can hardly be used especially during wet seasons due to inadequate maintenance. This leads to poor or unreliable transport services, which in turn contribute to post harvest loss in agricultural products.

The poor condition of the infrastructure has imposed a significant penalty on agricultural activities through higher vehicle operating costs, delays caused by long travel time to the nearest transport services, decreased crops and animal production, and therefore adversely affecting the economy.

The NTP provides the following policy directions:-

i) Mobilise and involve the communities in infrastructure development.
ii) Increase public and private sector investment in village and district access roads.
iii) Institutional structure be properly defined to enable capacity building and smooth exploitation of available physical, financial and human resources in the development and maintenance of infrastructure.
iv) Planning done at the district or regional level to involve the local communities which ultimately will be entrusted with the bulk of the execution as well as the maintenance works.

Rural Infrastructure Maintenance

Objective
To develop the rural capacity to plan, design, maintain and construct rural infrastructure.

The Issues
Rural infrastructure is hardly passable especially during the rainy seasons. The infrastructure sometimes gets completely destroyed

making accessibility impossible. Most of village dwellers are not aware of their role in making their contributions of the improvement of their roads, bridges and other transport infrastructure.

Maintenance has been irregular and largely limited to spot improvements made by villagers with little or inadequate resources and skills, yielding just short-term results. Such infrastructure hindering local transport and travel, bars growth of economic activities.

The following policy direction will be pursued:-

i) Sensitize communities and villagers to realize their important role in contributing to infrastructure planning, design, construction and maintenance.
ii) Contract local communities to manage the roads in their localities.
iii) Develop a culture of routine maintenance among the rural communities.
iv) Explore ways of ensuring availability of a dedicated fund for rural infrastructure maintenance.
v) Improve community capacity building in rural infrastructure maintenance.

Institutional Arrangements for Rural Infrastructure Development.

Objective
To streamline the institutional arrangements.

The Issues
The current institutional arrangements assign the responsibility to manage feeder and district roads to local government. Community roads are relegated, by mandate or by default to be managed by local communities whose financing capacity is limited. Furthermore, external funding is commonly restricted to the national and regional roads with less emphasis on district roads.

The policy direction is to enable local government to be more responsive, responsible and accountable for overseeing rural infrastructure development and management.

Gender Perspective

Objective
To minimize rural transport related problems to women.

The Issues
Women are traditionally most active in the day to day upkeep of rural life. They spend an estimated 75% of their time walking long distances to and from farms and other production centres. Due to poor rural transport infrastructure what they produce becomes small.

In order to alleviate rural women transport related problems, the following policy directions will be pursued:-

i) encourage non-motorised means of transport .
ii) improve rural transport infrastructure

Rural Road Transport Services

Objective
To facilitate movement of goods and services in rural areas

The Issues
The quality and quantity of rural transport services profoundly affect the daily lives of millions of residents of rural communities. Goods and agricultural inputs need to be transported to/from villages and market centers. Similarly, social interactions generally require significant level of transport. Despite all these, transport services are limited making the mobility of rural communities difficult and costly.

In order to facilitate movement of goods and services in rural areas the policy directions to be pursued include:-

i) Enhance private/public sectors partnership development.
ii) Encourage private sector capital investments in rural areas.
iii) Be partisan on ownership and management of rural transport and travel

Non Motorized Transport Services

Objective
To make rural life relatively easier, hence enabling rural community spare more time and energy for productive work.

The Issues
The Non-Motorized Transport (NMT) is used at a varying scale depending on the income levels, availability of appropriate livestock, equipment, terrain and social cultural factors. In rural areas walking and head loading dominate travel and transport activities, and in most cases the movements take place on footpaths, tracks and trails away from the formal road network. Availability of means of transports such as bus, tractors, pick-ups, trucks and lorries is very low and limited. Many households use NMT like bicycles, tricycles, animal drawn carts and wheelbarrow to transport agriculture inputs and outputs from their fields.

Presently, out of the total carriage in the rural areas, only 25% is done using NMT. This situation reduces efficiency in economic activities and marketing, hence accelerates poverty in the rural.

To address the above situation the following policy direction will be pursued:-

i) Deliberate efforts to promote use of cheap NMT technology
ii) Sensitize the use of NMTs among women in rural areas.
iii) Improve transport infrastructure in the rural areas to cater for all transport means including NMT.

Motorized Transport Services

Objective
Provide for motorized transport as a cost-effective transport means between village, ward and district levels.

The Issues
At village, ward and district levels, the most predominant mode is road. Motor transport using vehicles, tractors with trailers; crop purchaser's vehicles, district buses and private minibuses are used in some areas. These cater for longer distance travel to districts moving along regional roads. The use of the road motor transport at this level is poor due to inadequate transport equipment and low demand due to low level of affordability. In such areas where there is inadequate transport facilities and low level of affordability, a non-

motorized facilities like bicycles, tricycles, animal drawn carts and wheelbarrow are to be used to ferry both passengers and goods.

The policy directions are therefore to:-

i) Coordinate with the responsible sectors with a view of establishing facilities such as schools, health centres, water, energy etc at village proximity.
ii) Plan village development programmes, with transport aspects being considered in conjunction with other important land use, social, economic, cultural factors.
iii) Encourage the use of non-motorised transport to ferry both passengers and goods as an alternative means where there is an inadequate motorized transport facility.

Other Rural Transport Services

Objective
To see how best the transport potential of water bodies in rural areas can be utilized.

The Issue
In areas along the coast, lakes, rivers and in islands, the use of water transport needs to be enhanced as a cheap and ideal mode at this level. In this regard, villages need to be encouraged to develop feeder services using small vessels.

The policy direction is for the Ministry responsible for transport to liaise with the local authorities in order to explore, identify, and make possible the navigability of portions of rivers and other water bodies.

Rural Transport Services and Agriculture

Objective
Improve transport services in rural areas to foster agricultural growth.

The Issues
The efficient transport service in rural areas is needed for speedy delivery of agricultural inputs such as improved seeds, fertilizers, ploughs and other farm implements to the village and household levels, as well as transportation of crops from farms and villages to the markets and other consumption areas. Some of the village and district dwellers have no access to transport services because such services are either unavailable or are hardly affordable. Poor transport services impede the growth in agricultural activities and standard of living of rural communities. Rural areas need to be given primary consideration in transport services through increased transport supply and investment.

Since the transport demand side would wish have an effective transport in rural areas to foster agricultural growth, the policy direction to meet this expectation is to:-

i) promote private sector participation in the provision of transport services.
ii) encourage private sector in collaboration with public sector to provide competitive services to make them affordable to rural community

Ownership of Transport Equipment

Objective
Increase supply and ownership of transport means/equipment at village, ward and district level.

The Issues
There is very little motor vehicle ownership at the household level taking affordability into consideration. But at the village and district level, transport ownership is mostly a combination of private or cooperative depending on the prevailing social - economic set up. There is a need to ensure villages and cooperatives perform efficiently and improve transport services in rural areas up to the household level.

Furthermore, the pricing or charges for hired transport services at the village and district level need not be entirely determined by the market forces. However, it is very difficult to determine and enforce non-discriminatory rates for both the hirer and supplier of the services.

To tackle the afore stated issues the following policy direction will be pursued:-

i) Mobilize resources to enable acquisition of transport equipment.
ii) Let the provision of PSO be pursued whenever necessary.
iii) Capacity building for management, maintenance and operation of vehicles.

Rural Transport and Environment

Objective
Minimizing wasteful exploitation of natural resources and enhancing environmental protection.

The Issues
The main concern in rural areas is eradication of poverty. Most economic development activities in the areas depend in one way or another on the environment. For example farming, firewood, water sources all depend on the existence of forests. Rural residents, especially the women have to walk long distances from their homes to fetch either firewood or water. Satisfactory intra-regional and rural road coverage will help in eradicating poverty taking into account that requirements such as firewood may be fetched from other areas having a comparative advantage of producing them with minimum effects to the environment.

In order to promote environmental protection aiming at reducing poverty in rural areas, the policy direction is to:-

i) Improve rural transport infrastructure to reduce rural travel burden
ii) Influence use of alternative energy sources such as bio gas and solar available at the residential localities, instead of traveling long distances looking for fire woods as source of power.
iii) Raise environmental awareness.

The Issues

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another on the environment. For example farming, firewood, water sources all depend on the existence of forests. Rural residents, especially the women have to walk long distances from their homes to fetch either firewood or water. Satisfactory intra-regional and rural road coverage will help in eradicating poverty taking into account that requirements such as firewood may be fetched from other areas having a comparative advantage of producing them with minimum effects to the environment.

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iii) Raise environmental awareness.

6.0 MAIN TRANSPORT SECTOR PROGRAMS INITIATIVES AND REFORMS

6.1 INSTITUTIONAL CHANGE

As already stated, the government is effectively pulling itself out of operational matters to remain with the key role of policy formulation, strategic target settings, regulation and monitoring. In pursuit of this policy, a number of Executive agencies have been set up under various ministries to deal with operational matters formally executed by the government departments. Among these are the Tanzania National Road Agency (TANROADS), and the Road Fund Board, both under the Ministry of Works (MOW) the Agricultural Mechanization Unit (AMU) under the Ministry of Agriculture and the center for Agricultural Mechanization and Rural Technology (CARAMATEC) under the Ministry of Industry and Trade. The Appropriate Technology Unit (ATU) which spearheads the promotion and application of labour-based road works continues to be directly under MOW.

6.2 THE TANZANIA NATIONAL ROAD AGENCY (TANROADS)

TANROADS was established under the Executive Agencies Act of 1997 and became operational in 1999.

The aim of TANROAD is to ensure the cost-effective and sustainable maintenance and development of the Trunk and Regional Road Network. Its responsibility will include the day-to-day management of roads and ferries that were the responsibility of the Roads department in the Ministry of works. It is funded by payments from the Roads Fund.

The original proposal was that decentralization in the road sector should be complete with TANROADS responsible for the trunk road network, while local authorities would have been responsible for both regional and district roads.

Such an arrangement would have ensured:

- A smaller network for TANROADS easing management and avoiding overextension for TANROADS.
- More money from the Road Fund for local authorities (a possible 50:50 split instead of the current 70:30 – see below) this could attract better quality staff;

- Fewer redundancies for TANROADS staff who could be re-deployed in local authorities.

However, currently TANROADS is responsible for both trunk and regional roads. It was hoped that the creation of TANROADS would:

- Create ownership by involving road users,
- Stabilize financing by securing an adequate and stable flow of funds,
- Clarify responsibility by establishing who is responsible for what,
- Strengthen management of roads by providing effective systems and procedures.

6.3 ROADS FUND BOARD

Before the 1990s the Tanzania road network had severely deteriorated mainly due to lack of maintenance. The Integrated Road Project (IRP) was launched in 1991 and one of the IRP strategies was to improve resources mobilization and allocation in order to provide for adequate maintenance of trunk and regional road networks. Consequently the Roads Fund was established in July 1991 through a Parliamentary Resolution. Sources of funding for the Roads Fund were to be a Fuel levy imposed on Petrol and diesel at an amount to be decided by the Minister for Finance, and various levies and duties from motor vehicle such as licenses, registration etc. Currently only the Fuel levy is paid into the Fund. The legal basis of the Fund was weak allowing frequent government interference into the disbursement of funds to eligible departments. As a result resource mobilization for road maintenance did not improve.

Hence an Act to establish the Road Fund Board was passed in December 1998. The function of the Road Fund Board are: -

- Advising the roads Minister on new sources of road tolls.
- Adjustment of rate of existing road tolls.
- To apply the money deposited in the Road Fund.
- To recommend to the roads Minister the allocation of Road Fund for TANROADS, local authorities and other agencies.
- To monitor the use of funds disbursed to TANROADS, local authorities and other agencies and advice the roads Minister accordingly.

The act states that at least 90% of the money deposited in the Fund shall be used for maintenance and emergency repair of classified roads, while, not more than 10% will be used for roads development.

At present 30% of the total Road Fund is allocated to local authorities and 70% to the Ministry of works. Of the 70% for MOW 63.7% is allocated directly to TANROADS, leaving 6.3% of the Fund for MOW. The creation of the Road Fund Board is part of the ring-fencing measures for the Fund, and appears to be working. However some issues and questions in relation to the Road Fund remain, including: -

- The 30% of the Road Fund allocated to local authorities is small compared to the size of the road network (75%)
- The allocation of Road Fund between different districts and ring-fencing the funds sent to the district.
- Capacity within local authorities to ensure effective and efficient allocation of funds sent to district.
- Channeling of funds from fuel levy collections to users (TANROADS local authorities)-role of Ministry of Finance.

6.4 PROMOTION OF LABOUR-BASED TECHNIQUE AND LOCAL CONTRACTORS

Labour-based road works can be defined as operations carried out principally by manual methods. They may be supported by intermediate or sophisticated equipment.

It has been estimated that a total of 70,000 km of the Tanzania road network has sufficient population density for labour based methods to be used for routine maintenance, and 47,000 km is suitable for labour-based methods to be used for rehabilitation. As such a number of labour-based road works projects have been undertaken in Tanzania over the past 25 years. Among these are NORAD sponsored Rural Road Maintenance Program in Tanga and Mbeya Regions , and the ILO sponsored Labour Contractors Training Projects in Kilimanjaro and Shinyanga Regions.

The use of labour-based techniques is an important element of the move towards decentralization of road management and commercialization of road works. For the successful mainstreaming of labour based methods, Stock and de Veen (1996) advocate reliable funding and decentralized administration. They also advocate the use of contractors, and small-scale contractors in particular, to ensure the most efficient use of labour based methods.

In the past, labour-based road works were mainly executed directly by government agencies using their own permanent technical staff, equipment and casual or daily paid labour. Under IRP the private sector is being increasingly used. This may lead to greater efficiency and reduced government staffing.

The appropriate Technology Unit (ATU) in MOW is responsible for the promotion of labour-based techniques in Tanzania and coordinating the necessary training program. However, an ILO/MOW assessment has established that labour-based technology in Tanzania still lack an institutional framework, and remains mostly project based and largely donor driven. Within MOW there is lack of formal, documented and implemented policy on labour-based methods for all areas of roads works. The labour-based policy is said to be cointaned in the Construction Industry Policy. The institutions involved in training for labour-based road works have also been largely in - effective. The Appropriate Technology Training Institutes (ATTI) established by NORAD in Mbeya and Lushoto (already closed down) are largely in operational. The labour-based small contractor training program under the National Construction Council (NCC) in Kilimanjaro and Shinyanga regions fizzled out with little or no impact. A similar contractor Training Program in Mwanza Region under the NCC and
National Income Generating Program (NIGP) is also in disarray.

However labour-based road works have certain positive aspects including:

- A good response form villagers who readily provide labour (Unpaid) for these projects,
- Road works are of equal quality to equipment – intensive works.
- **Paid** labour stimulates the local economy. The training given to labourers leaves capacity in the village to upgrade and maintain other roads in village.

However, there are important issues that need to be addressed with respect to labour-based road works

- Lack of credibility given to labour-based techniques by politicians and other decision makers (labour-based methods considered primitive) – sensitization needed:
- When it is appropriate to use paid labour and when it is appropriate to use unpaid labour (work on district roads paid, work on village roads unpaid)
- Paid labour needs to be targeted to ensure the poor, particularly women benefit.
- Lack of local contractors (Rufiji, Mtwara, Lindi).
- Lack of steady employment for local labour-based contractors
- Lack of capacity of district Authorities to contract out and manage labour based road works.

6.5 CENTRE FOR AGRICULTURE MECHANISATION AND RURAL TECHNOLOGY (CAMARTEC) AND ITS INVOLVEMENT IN RURAL TRANSPORTATION

CAMARTEC established in 1981 is under the Ministry of Industries and Trade. Its mission is to improve the quality of rural life through research and development, testing and production, and dissemination of proven technologies in the following areas: -

- Agricultural mechanization
- Rural transportation
- Rural housing
- Rural water supply and sanitation
- Rural energy

So far CAMARTEC has mainly been involved in small-scale production and distribution of intermediate transport equipment consisting of wooden ox-carts, handcarts and wheelbarrows. However in recent years CAMARTEC'S operations have been constrained by lack of funds.

6.6 AGRICULTURAL MECHANISATION UNIT (AMU) UNDER MINISTRY OF AGRICULTURE

AMU'S role is to reduce the labour burden and increase the speed of agricultural work in the fields of transportation of agricultural produce and of processing agricultural produce.

AMU has been involved in developing and promoting the use of animal dram carts and trailers. The main problems in introducing these intermediate means of transport (IMT) are:

- Cost of carts – not very important as demand is grater than supply.
- Cost of production of carts to local craftsmen (particularly the axle component) – most craftsmen cannot afford the axle; credit is not generally available.
- Condition of feeder and rural roads especially in the rainy season. AMU is also severely constrained by funding shortages.

6.7 RURAL TRAVEL AND TRANSPORT STRATEGY SEMINAR, 1992

The first national seminar on rural travel and transport was held in May 1992. The seminar participants included representative of government ministries, donor agencies regional development directors and other government officials. The aim of the seminar was to assess the rural travel and transport situation in Tanzania, and to formulate a strategy to improve the situation. There were two key outputs of the workshop;

i) Plans for a series of rural travel and transport pilot projects.
ii) A working committee in rural travel and transport was established to implement the recommendations.

One such recommendation for the working committee to follow-up was the need to "formulate a comprehensive and clear rural transport policy. This should include strategies for rural road planning, construction and maintenance and the promotion of intermediate means of transport (IMT)" No specific policy statements were made in the seminar.
An outcome of the seminar was a prioritization study of the ten district proposed as suitable for pilot travel and transport projects. The ten districts prioritized are: Masasi, Mbozi Sumbawanga rural, Meatu, Iramba, Mbinga Kasulu, Mbulu, Muheza and Morogoro rural. The study also recommended that women should be empowered in terms of ownership of, and access to IMT. The study committee established to implement the recommendation of the workshop met twice per year until 1994, after which administrative problems meant that it did not meet again until it was reformed in 1997. The new committee met once in 1997, and once in 1998, but does no sit regularly-.(Has it sat lately??)

6.8 THE VILLAGE TRAVEL AND TRANSPORT PROGRAM (VTTP)

The pilot VTTP is part of the second phase of the IRP and the coordinating unit is located in the MRALG of the President's office. The overall development objective of the pilot VTTP is to improve the live hood of people in Tanzania through making sustainable improvements in the rural travel and transport situation. The immediate objectives are to:

- Make sustainable improvements in the rural transport system in all selected villages.
- Reduce the time effort households spend on transport.
- Develop an effective approach and method for VTTP design and implementation.
- Empower communities to build a capacity in development and maintenance of transport infrastructure such as feeder roads paths and tracks.

The long-term objective of the pilot VTTP is to develop a national program for village travel and transport interventions.

The planned program interventions are improvement to transport infrastructure, promotion of IMT, and non-transport interventions such as water wells, grinding mills and afforestation

Currently VTTP is being implemented in Iramba, Mbozi, Morogoro Rural, Mbinga, Rufiji and Masasi districts

6.9 THE ROLE OF LOCAL GOVERNMENT

In Tanzania, local government (district council) is considered to be the most important institution for implementing rural travel and transport programmes. However, in the past district councils have been relatively weak institutions due to:-

- Lack of skilled human resources
- Lack of financial resources
- Lack of motivation
- Lack of communication from sectoral ministries in central government to district authorities.

In order to overcome the lack of capacity at the district level, a comprehensive reform of the civil service and local government is taking place including the following components for local government: -

- Program management
- Institutional and legal framework
- Restructuring of local authorities
- Good governance
- Local government finance
- Human resources development and management

The major changes at the council level will be in financial management, staff management and organization and divisions of responsibilities between central and local authorities.

In terms of financing, local authorities will be given conditional and unconditional block grants for recurrent expenditure in order to give them more autonomy in planning and budgeting. Sources of public revenues are to be revisited and divided between the two level of government central and local, on a more rational basis. The management of staff will also be decentralized, so that local authorities can appoint, promote, develop and dismiss their own staff.

6.10 THE ROAD SECTOR COMPONENT OF THE POVERTY REDUCTION STRATEGY

The road sector component of the poverty reduction strategy observes that:

- Only 8% of the district road network is in good condition (requiring recurrent expenditure for maintenance);
- The rest (92%) is in fair and poor condition requiring development expenditure;
- 20% of the regional road network is in good condition; 40% in fair condition and 40% in poor condition, 33% of the trunk road network is in good condition 39% in fair condition and 28% in poor condition.

The main objective of the road sector component of the Poverty Reduction Strategy is to ensure full maintenance for all trunk and regional roads which are considered to be in good condition, and to rehabilitate roads in poor condition in the most vulnerable twelve regions. The road rehabilitation work will begin with those serving the most vulnerable districts, focusing on the potential agricultural production areas. This work will be accompanied by strengthening all the 113 District councils with capacity for data collection, storage and analysis for the provision of a data bank.

7.0 PRIORITY ISSUES CAPTURED IN THE ABOVE POLICIES. (STRENGHTS AND WEAKNESSES)

(i) Management of Rural Transport System.

The problem of rural accessibility in Tanzania is yet to be addressed. Accessibility consists of **facility location** and **mobility**. Different ministries, without transport considerations, deal with facility location in the rural areas**.** Thus water development is dealt with by the Ministry of water and Livestock development, hospital and dispensary location by the Ministry of Health, and the location of grain processing facilities are largely left to the uncoordinated decisions of the private sector. This situation ignores the fact that facility location and transport should be handled concomitantly. Rural mobility is a function of the quality of the **rural transport system**. This system is almost totally left unmanaged. The **district engineers**, who are supposed to deal with rural transport, tend to deal primarily with road development and maintenance. Other officials deal with vehicle **licensing** and **road safety**. But the latter officials appear to be mainly passive. Their role being to ensure that those who wish to own and operate vehicles conform to the stipulated government regulations. The first consequence of this unmanaged rural transport situation is that there are virtually **no vehicles** on the rural district and feeder roads network. This unhappy situation is a result of three factors; poor road conditions, low customer demand (few passengers), and low passenger fares and freight rates in the rural areas. Given these three factors, (the third of which is partly historical, and partly a consequence of rural poverty), the rural transport situation is unlikely to improve without deliberate managerial intervention.

The second consequence of the unmanaged transport situation is that the rural transport infrastructure up to the **door** of the rural household is largely undeveloped. So far government concentration has been on the rural district and feeder road network. There has been little or no effort in developing community roads or the paths, tracks and footbridges network. The latter network is allegedly left to rural communities. But community roads, paths, tracks and footbridges are largely unsurveyed, uninventorized and unclassified. The question of community ownership and legal title to this infrastructure is, therefore, yet to be tackled. Related to the development and maintenance of this infrastructure is the question of the type of means of transport which will operate therein. Infrastructure needed for safe and efficient walking and head loading is different from that needed for bicycles and

motorcycle operation. Furthermore, hand and animal carts and three – wheeled vehicles will require different infrastructure from that needed by bicycles or four –wheeled motor vehicles.

(ii) Preparation and Implementation of National Transport Policy

The preparation of the National Transport policy is complete and under implementation. But preliminary interviews of district leaders indicate that they are unaware of the policy; and that they were not involved in its preparation and adoption.

(iii) Rural Transport Policy

The Rural Transport Policy appears to have an infrastructure orientation. Clearly (except for walking) people do not move by the infrastructure. **They move by vehicles or other IMTS!**

(iv) Community Participation

The National Transport Policy places emphasis on the role of local communities in developing their transport infrastructure and solving transport problems. But the communities have largely been left unempowered . As noted above the question of community infrastructure ownership and legal title is largely unaddressed. Furthermore, communities are yet to be provided with the capacity to develop and manage their transport infrastructure and the total transport system. It has been observed that the tasks involved in transport infrastructure works are essentially simple and repetitive. Carrying out the tasks can be taught in a single day. But it is emphasized that close supervision, is essential in order to ensure that the work is done properly. Lack of proper and close supervision, by a qualified person, means that transport infrastructure works, executed by communities, appear to be improperly done, and therefore, fail to yield the expected benefits.

At the same time communities often fail to get the necessary technical assistance for planning road and path network development, the design and construction of simple but effective footbridges and the preparation of proper infrastructure maintenance plans.

(v) Involvement of the private sector

The National Transport Policy places a lot of emphasis on the involvement of the private sector in tackling the national transport problem. But merely **mentioning that** such and such **decisions** or actions **are left to** the **private sector** is hardly enough. The private sector will **not act**, (or act in **sufficient quantity** and **quality**) unless **firstly** it **knows** that it is expected to play the major role in providing a certain component of the transport system. **Secondly** that the necessary **incentives are in place** to ensure that the private sector will act as desired, thirdly that any **impediments** to private sector actions **are removed**.

Furthermore, if after doing all the above, the private sector still refuses to act (or to act to the desired degree) there must be mechanisms in place to ensure that the missing component will be provided at least in the short run. Presently this is not the case.

(vi) Use of Labour-based technology

The National Transport Policy places emphasis on the use of labour base-technology for transport infrastructure works. Yet, as stated in the relevant sections of this report, attempts to develop manpower capacity in labour-based technology have not been very successful. Also efforts to apply labour-base technology nationwide are yet to yield tangible results.

(vii) Non-Motorised Transport Services

In rural areas, walking and head loading dominate travel and transport activities. In most cases the movements takes place on footpaths, trails and tracks away from the formal road network. Availability of means of transport such as buses, tractors, pick-ups, trucks and lorries is low and limited. Yet the use of intermediate means of transport (IMT) can increase rural productivity significant. A woman going to the well carrying a water container on her head can, for example, bring back only 20 litres of water. If she uses a handcart she can bring back 6 to 8 water containers of 20 litres each or 120 to 160 litres per trip. If she uses a half – ton donkey cart she can bring back 500 litres per trip. Thus improving her productivity tremendously.

Out of the total carriage in rural areas, only 25% is presently done using intermediate means of transport (IMT). This situation reduces efficiency in economic activities and marketing, hence it accelerates poverty in rural areas.

Many local transport solutions are cheap relative to motor options but expensive relative to local incomes. High costs limit adoption of MTs. Women are the main transporters but men are the main users of intermediate means of transport. Gender related constraints often limit women access to local transport solutions as most cycles, work animals and carts are owned by men. Gender related traditions may make it difficult for women to own work animals. Research should therefore be conducted to find poor friendly IMT technologies. Alternative the taxes on parts or spares for IMTs should be removed and / or IMTs subsidized so that poor people can afford them. Also these people should be taught how to make their own IMTs.

(viii) Other Rural Transport Services

The NTP recognizes the transport potential of water bodies in rural areas. The use of water transport along the coast, lakes, and rivers and in islands is to be enhanced. In this regard, villages need to be encouraged to develop feeder services using small vessels. The policy direction is for the ministry responsible for transport to liaise with the local authorities in order to explore, identify and make possible the navigability of portions of rivers and other water bodies.

(ix) Transport Services and Agriculture

The objective of the policy is to improve transport services in rural areas to foster agricultural growth. The efficient transport service is needed for speedy delivery of agricultural inputs to the village and household levels, as well as transportation of crops from farms and villages to the markets and other consumption areas. Poor transport services impede the growth in agricultural activities and standard of living of rural communities.

(x) Rural Transport and Environment

The main concern in rural areas is reduction of poverty. Most economic activities in the areas depend in one way or another on the environment. Rural dwellers, especially women have to walk long distances to fetch firewood or water. Satisfactory intra-regional and rural road coverage will help in reducing poverty taking into account that requirements such as firewood may be fetched form other areas having comparative advantage of producing them with minimum adverse effects to the environment. Also the use of alternative energy sources such as biogas and solar will help in alleviating environmental degradation.

(xi) Gender Perspective

Non-transport interventions are not thought of as a solution to the rural transport problems e.g. Location of services nearer to the people. Such interventions may be impeded by the policies that guide the location of these services. For example the location of dispensary requires that there should be not less than 20,000 people to use that service. Such policies may be outdated because of the level of development and variety of diseases currently attacking the communities that require a much higher level of service. To be able to introduce this kind of intervention it may require that the existing law regarding location of service, be amended to suit the needs and affordability of the poor. There is a need to look into several interrelated policies together so that when one seem to hinder the implementation of the other, changes are made together and this is usually done by Policy Makers.

When Transport Planners recommend the promotion of IMTs and improvement of the rural infrastructure only as a solution to rural transport problems they seem to be obsessed with promotion of these services although to some users, it may mean adding a burden. The Policy makers/Transport Planners also seem not to know how to assess demand, and there is an element of doubt, whether they understand clearly the gender needs of the rural people. The policy should state clearly that footpaths, trails, footbridges etc that are mostly used by majority of rural people, be improved. General statements about improving rural infrastructure may be given different interpretation by different implementers. Road projects (Trunk and Regional) do not immediately ease women's burdens.

Increase in prices of basic services such as transportation services, leads to increase in women responsibilities of workload when services become too expensive, women have to compensate. This is through head loading, walking long distances, etc.

Rural Transport services are sometimes affected by disasters, for example El - Nino. When this happens, everything is left to the ministry responsible for roads. The key ministry, i.e. The Ministry of Communications and Transport and the ministry responsible for poverty eradication, do not see it as their responsibility. The Transport policy is also silent on the issue.

8.0 CONCLUSION S AND RECOMMENDATIONS

As already observed in this report, the GOT is making strenuous efforts aimed at poverty reduction in Tanzania. Poverty reduction in the rural areas basically means increasing household agricultural production and improving crop marketing efficiency. Achievement of both of these objectives requires a significant input of transport services. Transport will be required for the movement of improved seed, fertilizers, farm equipment and labour to the fields. Transport will also be required to move agricultural experts to rural households and farms to impart crop production expertise to peasants. Furthermore, transport is essential for moving harvested crops to household for consumption, and surplus crops to local, national and international markets. Transport is also necessary to ensure marketing efficiency. For, the availability of the product at the market place at the right time is critical for successful conclusion of the sales transaction. Getting crops to the market at the right time requires reliable and efficient transport.

At the same time, it has been observed that improving the transport system will significantly improve the productivity of time spent on transport and, therefore, release transport labour (particularly women) to engage in non-transport (agricultural) activities. The provision and production of transport infrastructure equipment and services can also be designed so as to make a major contribution to poverty reduction.

However, the achievement of these objectives depends in a critical way on the quality of the rural transport system provided. The rural transport system must, therefore, be carefully and sensitively designed, developed and installed so as to ensure maximum impact in all the areas mentioned above. Considering the major issues identified in chapter 6 above, it is, therefore, recommended that: -

i. **A transport management office** should be established at the **district level** to manage the **total transport system in the district,** particularly the **rural transport system.** It is appreciated that the District Engineer is already doing a good job in developing and maintaining the district and major feeder roads. But **improvements to the total transport system in the rural areas will not occur without deliberate managerial intervention.** The primary duty of the district transport management office will be to constantly monitor the actual transport situation particularly in the rural areas and initiate action to remedy any transport deficiencies.

ii. The Rural Transport Policy (RTP) should be reviewed in order to provide a proper balance between the following elements:
    - Infrastructure development and maintenance;
    - Provision of the right kind, quantity and quality of transport equipment (vehicles).
    - Provision of adequate, economic and affordable transport services.
    - Effective management and regulation of the rural transport system.

iii. The review of the Rural Transport Policy should ensure the participation of all stakeholders in its preparation and adoption. Furthermore, an effective rural transport strategy (RTS) should be developed to ensure effective and efficient implementation of the RTP. The RTP should also be speedily **disseminated** to all rural areas with **clear instructions on the priorities** in RTP implementation. The district transport management office should assume primary responsibility for implementing the RTP in the district.

iv. The RTS developed above should clearly state the strategic actions to be taken to empower rural communities to develop, operate and maintains the **total transport system in their localities**. The district transport management office should assume primary responsibility for ensuring community empowerment and capacity building for rural transport.

v. The RTS should contain the strategic action to be taken to ensure the **private sector** is aware of the components of the rural transport system that it is expected to provide, the localities at which it is expected to provide them, and the i**ncentives** to be made available to ensure this happens. The RTS must also state the monitoring activities and timings to ensure effective private sector participation. The district transport management office will assume primary responsibility for implementing the strategy.

vi. TANROADS and PORALG, which are responsible for road network management, should ensure that the national program on the application of labor base technology for road works is enforced and applied with vigor. The labour –base training programme for employees and small-scale labour- base contractors should also be energetically pursued.

vii. The district transport management office should develop and implement a comprehensive programme for promoting appropriate IMTs in the rural areas of the district. Where water transport is a viable option, the district transport management office should develop and implement a comprehensive promotion program for reliable water transport in the rural areas of the district.

viii. The **district transport management office** should initiate action and in conjunction with the district administration, the DE and other relevant officials ensure the **availability of adequate transport for agricultural production and marketing up to and from the rural household door and the farm gate.**

ix. Transport is a not an end in itself**.** The best transport solution is, therefore, to **eliminate transport.** This is done through non-transport interventions, the expert location of facilities so as to eliminate or minimize the necessity of transport. Thus the location of water wells or piped water, grain milling facilities, hospitals or dispensaries, community woodlots and local markets

can be done in such a way as to minimize transport requirements. The district transport management office should therefore, be involved and its expertise provided on the optimum location of these facilities.

x. The district transport management office should monitor transport costs, bus fares and freight rates and take action to ensure price stability for transport services.

xi. Disasters such as El Nino which destroy transport infrastructure should be dealt with promptly, and involve all Government ministries concerned with disaster management.

APPENDIX A: STAKEHOLDERS IN RURAL TRANSPORT

The TFG members also identified key stakeholders that can help in achieving the raised issues as follows:-

i) Management officers involved in the regulation of transport sector in Tanzania, which are from ministries of: Works, Communication and Transport, Home Affairs, Finance, PORALG, Vice President's Office, Presidents Office-Planning Commission and Privatization and Trade and Industries.

ii) Members of Parliament

iii) Regional Road Boards members of all 21 regions; who comprise of:-

iv) Regional and District Officers, Regional Administrative Officers, Regional and District Police Commanders, Regional and District Officers, Tanroad's Regional Managers and District Engineers, Regional and District Trade Officers, Member of Parliament, District council Chairmen and representatives from NGOs and Private sector in both regional and district level .

v) District, Ward and Village Executives.

Tentative Plan for conducting awareness workshops is as shown in the bar chart attached.

APPENDIX B: QUESTIONNARES FOR RURAL TRANSPORTAND POVERTY REDUCTION RESEARCH IN THE DISTRICTS CONDUCTED

1. What is the current status and condition of your road network.
2. How is the road transport infrastructure managed in the district
3. Have you read the Rural Transport Policy and the Poverty Reduction Strategy Paper?
4. Was anybody in the district involved in preparing any of theses documents?
5. Was anybody in the district involved in adopting these documents? If yes, how were they involved?
6. Are there specific instructions on the implementation of the rural transport policy and poverty reduction strategy? (obtain a copy of the instruction)
7. What are the main priorities in implementation of the rural transport policy?
8. Do you have a long term and short term transport plan for the district? (obtain copies of the plan)
9. What are the main transport projects currently being undertaken in the district?
10. If not, how is the rural transport infrastructure and transport services managed in the district
11. Do you have a road network development plan for the district?
12. What are the sources for the development and maintenance of rural transport infrastructure? (if yes, obtain copies of plans)
13. Does the District Council manage the whole transport infrastructure up to the village? If yes, how is the work done? (labour based or machine)
14. If not, who else participate in managing this infrastructure, and how do they participate?
15. Are local communities involved in infrastructure development and maintenance? If yes, how are the they involved? What resources do they contribute? Are they paid or compensated for these resources? Who pays them?
16. Do you make traffic counts on the rural transport infrastructure? If yes, where and when was the last one done? What was the purpose of the count and findings (obtain copy of the report)
17. Are there regular passenger and freight transport services on the district roads? If yes, on which roads? What type of vehicles provides the services? Who owns the vehicles? How frequent are the services?
18. What kind of vehicles operate on the district transport infrastructure? Are there any Intermediate Means of Transport (IMT) such as bicycles, carts, wheelbarrows etc? What is their density?
19. Are there facilities for producing or maintaining IMTs in the district
20. Are water and firewood easily available in the district? How far do households have to travel in order to obtain these goods, and to reach milling facilities, markets and health facilities? Is transport available for these purposes?
21. How is the capacity of the District Engineer's Office? What are the skills?
22. Does the district employ consulting engineer's local contractors and labour based technology?

APPENDIX C: RESPONSES FROM DISTRICS

VISIT TO KISARAWE

Mr. N. H. N. Ndelilio visited Kisarawe on Monday 23/6/03 and held a meeting with the DED Mr. Kalindimya . A meeting with District Engineer could not take place as the Engineer was out of Office.

Meeting with Mr. Kalindimya
District Executive Director- Kissarawe
23/June/03

The DED has never read the National Transport Policy. He was not involved in its preparation or adoption. The DED has read the Poverty Reduction Strategy Paper. He noted that the paper contains little about transport. He also noted that the paper places emphasis on Agriculture, Health, Education and Water Resources. The DED is expected to follow-up closely on developments in these areas in the district. The DED believes that the roads in his district are being properly maintained. But he is aware that there are no vehicles on the feeder road network. The only vehicles on Kisarawe roads are those moving along the main Dar-es-Salaam – Kisarawe road, and along the regional road to Mzenga.

The roads are maintained using both equipment and labour-based techniques. But donors insist that all road works using their financing, must have a labour-base component. Furthermore the labour-base works must preferably be executed by local labaour-base. Contractors. Donors are also encouraging district council to employ local consultants to assist them with managing the road network. The DED further stated that when he was at Mwanza, the local contractors to be employed by the District Council, had to be those who had undergone training under the NIGP/UNCDF training programme – directed by the NCC. The District engineer's staff was also given labour-base technical training at Mbeya ATTI.

In his opinion, although local communities are being involved in maintaining their transport infrastructure, their enthusiasm for this work has declined considerably in recent years.

The DED also stressed that the Road Fund Board are very strict with proper use and accountability of the funds issued by the Board to the district.

APPENDIX D: KIBAHA DISTRICT COUNCIL 20/06/2003

RESPONDENTS:

- Zackery F. Killo : Acting District Executive Director
- Godfrey Chambo: Acting District Planning Officer

1. ***Current Status and condition of road network***
   - The road network is poor as all are earth roads (district and feeder roads)
   - They need frequent maintenance especially before and after rain seasons.

2. ***Management of road infrastructure in the district***
   - District and feeder roads are managed by the district Engineer and financed by the Road Fund Board.
   - Village paths, trails and tracks are managed and financed by the villagers through community mobilization. Sometimes the district council contribute in the construction of small bridges in the form of materials.

3. ***Rural Transport Policy and Poverty Reduction Strategy Paper awareness***
   - **Rural Transport Policy:** All have not read the policy
   - **PRSP:** They have read

4. ***District involvement on the documents:***
   No one was involved from the district in preparing or adopting the documents.

5. ***Specific instructions on the implementation of RTP and PRSP:***
   There is none

6. ***Priorities in implementing the RTP:***
   There is none

7. ***Long term and short term transport plan:***
   The district has a long term and short term transport plan as follows:
   - **Long term plan:** To improve all earth roads to gravel
   - **Short-term plan:** To make all roads passable

8. ***Services:***
   Services are available everyday but largely depend on road condition and demand for services.

9. ***Kind of vehicles operating on the district infrastructure:***
   - **Vehicles:** Land Rovers and Lorries (for carrying charcoal)
   - **IMT:** Bicycles, hand driven carts, animal carts and canoes (river)
   - Density of IMTs:
     - Bicycles are many
     - Hand carts are few and available in semi-urban centers only.
     - Animal carts are also few and restricted to places where Maasai li

APPENDIX E: VISIT TO BAGAMOYO

Mr. N.H.N. Ndelilio visited Bagamoyo on 2nd July, 2003

Meeting with Mr. H. Salala – District Engineer and
Mr. B.S. Mbiyalu – District Personnel Officer
Bagamoyo District Council 2/7/2003

The District roads-particularly the feeder road network are mostly in poor condition as Bagamoyo district has not received any funds from the Road Fund Board in the last two financial years.

The District Engineer (DE) has heard that the **National Transport Policy (NTP) exists at MoW headquarters. But the DE has never read it.** No copy of NTP has ever been sent to the district. The DE has read the Poverty Reduction Strategy Paper (PRSP) and is aware of its main areas of emphasis. The DE has a long-term rolling plan for the District's road network. The main thrust of the plan is to make all roads passable by making strategic interventions at trouble spots. The district is receiving assistance from SDC (Swiss Agency for Development and Co-operation) for rehabilitation of some roads. But this work is very expensive, shs. 200 million per 17 km road.

The district council manages only the district road network and major feeder roads. The minor feeder roads are left to the community to maintain.

The community does not maintain community roads and paths on self help basis. What occurs is that community members are selected by village leaders to provide paid labour for road maintenance (i.e. to engage on labour-based road works). The funds for paying the labour are provided by SATF (Social Action Trust Fund). The labour is paid at the rate of shs. 1,000/= per day per person. Over the past two years Bagamoyo district got shs.91 million p.a. from SATF. Each road maintenance project undertaken with SATF funds should have at least 40% labour-base component.

No traffic counts are done on Bagamoyo district roads. The DE feels that **the traffic count exercise maybe uneconomic as sometimes a whole week may pass without any motor vehicle passing on a given road section.**

What the DE, does therefore, is to undertake a rapid road condition survey (RRCS) which relies on obtaining the opinion of the user community on the importance of undertaking maintenance on a given road section. **Nobody licenses Vehicles at district level. All vehicles are licensed at national or regional government offices.**

Regular passenger transport services are found on the trunk and regional road network only. These services are provided by private bus operators. There are no services on the district and feeder road network. There are also very few motor vehicles in the district and feeder road network. Bicycles are many; even in the villages. **But there are no carts of any kind in the villages. This is because the area has no animals to pull them.** There are also no wheelbarrows in the villages.

There are adequate facilities for maintaining bicycles and carts in Bagamoyo Town.

Firewood is easily available in Bagamoyo. Grain milling facilities are found almost in each village. But water is not easily available, particularly in the dry season. Marketing facilities and health centers are generally available within the reach of villagers. However, market centres in the village are very rudimentary.

APPENDIX F: MKURANGA DISTRICT COUNCIL 24-06-2003

Respondents:

- Frederick Balijuye: Acting District Executive Director
- Mang'ara Maguti: District Engineer

1. ***Current status and condition of road network***
   - **Status:** All are earth roads
   - **Condition:** With the exception of a few, many are in poor condition.
     * Out of 436kms of district's road network, only 100kms are in good condition.

2. ***Transport Infrastructure Management***
   - District and feeder roads are managed by funds from the Road Fund Board.
   - The Board provides about 100 million TSHS. per annum but on installments.
   - Village roads are managed by the communities concerned.

3. ***Rural Transport Policy (RTP)/Poverty Reduction Strategy Paper (PRSP)***
   - **RTP:**
     - District Engineer has read it
     - Acting DED has not read it
   - **PRSP:**
     - Acting DED has read it
     - District Engineer has not read it.
   - No one was involved from the district in preparing and adopting the documents (RTP & PRSP)

4. ***Instructions on the implementation of the RTP and PRSP***

   There are no specific instructions on the implementation of RTP and PRSP.

5. ***Priorities in RTP implementation***

   Priority is placed on areas, which are economically potential. Development and maintenance of roads in those areas is given greater emphasis.

6. ***Long term and Short term Transport Plan***
   - **Long term Plan:** There is none.
   - **Short term Plan:** To make all roads passable using funds from Road Fund Board.

7. ***Transport Project's Undertaken***
   - Currently there are no projects undertaken. All projects are complete since May this year.
   - Tenders for other projects have been floated and will commence upon appointment of contractors.

8. ***Road Network Development Plan***
   - There is a road network development plan for the district.

- Source for the development and maintenance is Road Fund Board.
- The copy of the plan was not obtained.

9. Does the District Council manage the whole transport infrastructure?

- The District Council manages district and feeder roads. Work on those roads is done using both machines and labour.
- Villages/communities manage village roads, path, trails and tracks.
- There are no other participants in transport infrastructure management.

10. Local Communities involvement

- Local communities are not involved in infrastructure development and maintenance.
- People are reluctant to get involved for; they consider these activities to be the responsibility of the government (district council).

11. Traffic Counts:

- Was done in the year 2000 but reports are missing.
- The purpose was to know which roads need greater emphasis on development and maintenance.

12. Passenger and Freight transport services:

These services are regular on two roads only:

(a) DSM - Kibiti road
(b) Mkuranga – Kisiju road

- Vehicles that ply on those roads are, buses, mini-buses, lorries and pick-ups.
- Vehicles on other roads are, pick-ups and lorries (for carrying charcoal).
- **Ownership:** Private
- **Frequency:** Everyday.

13. Intermediate Means of Transport

- Bicycles are mostly used.
- Wheelbarrows are rarely used – they are very few.
- There are no carts (hand and animal)

14. Facilities for producing/maintaining IMTs:

There are no facilities for producing IMTs. There are local workshops for maintaining bicycles – people with skills to maintain bicycles

15. Availability of Water and Firewood

Water:

- Not easily available. Water is fetched from shallow wells.
- People travel up to 15kms to seek water.

Firewood:

- Is easily available within short distances (0.5 to 1km)

Milling Machines:

- There are no milling machines.

Health Facilities:

- Every village has a dispensary – people do not travel much to reach those services.

Markets:

- There are no markets but what they call "magenge" (small markets)

16. Capacity of District Engineer's Office

1 Civil Engineer
1 Senior Technician
3 Civil Technician
1 Auxiliary Technician.
* The district does not employ Consulting Engineers, but local contractors and labour based technology.

APPENDIX G: BIBLIOGRAPHY

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