THE IMPACT OF TANZANIA-ZAMBIA RAILWAY
ON DEVELOPMENT OF MBeya DISTRICT

BY

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DECLARATION.

This thesis is my original work and has not been presented for a degree in any other University.

........................................
Candidate.

This thesis has been submitted for Examination with our approval as University Supervisors.

........................................
B.K. Kapoor.
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I gratefully acknowledge my debt to the Lecturers in the Urban and Regional Planning Department for friendliness and encouragement which enabled me to undertake the study. I wish to express my gratitude to Mr. Z. Maleche and Mr. E. Petersen, Lecturers of the Urban and Regional Planning Department for their criticism and guidance during the collection of research materials; and to my supervisor Mr. B.K. Kapoor for his guidance and reading the draft reports. Special appreciation and thanks should be expressed to Dr. A. Laquian, Visiting Lecturer in Research Methodology for his overall interest in the study and guidance in field research techniques which enriched data presentation.
Lastly, thanks are due to Miss. Betty Kiwanuka who patiently and diligently typed this thesis.
ABSTRACT.

The rail transport in Tanzania is closely related with the history of economic development in the country. The railways have played a crucial role in the location of economic activities and in transporting commodities from the production zones to be exported to foreign markets. With the more government programmes aimed at increasing agricultural productivity in the country, the rail transport is required to provide more and efficient services to meet the demand in transportation.

The historical study of the origin and evolution of East African railways in Tanzania reveals that railways were responsible for perpetuating the export oriented economy and in doing so it caused regional development disparities. The north regions were being developed while the south which lacked rail transport facilities was left undeveloped. After Tanzania attained its independence, the whole outlook and motive force of the railway underwent radical change. The railways were called to serve the general public because it was the people of the Tanzania who would provide the revenue of railway and generate volume of traffic.

It is in the light of this new approach that the impact of the new Tanzania-Zambia Railway is being
is expected that increased productivity from economic activities in the district will create demand for rail transport facilities while at the same time stimulate rural development.
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CHAPTER 1
INTRODUCTION

A distinctive feature of resource allocation in most developing countries has been the large amount of capital being invested in transportation. In Nigeria, at one time transportation, consisted 46.5% of public sector investment\(^1\). In India in the first three development plans, expenditure on railways was 47% in the first plan, 67% in the second plan, and 60% in the third plan. Expenditure on roads was 24% in the first plan, 16% in the second plan and 20% in the third plan\(^2\). In the first five year Plan of Tanzania, transport and communications together accounted for 27% of the £130 million planned investment in the public sector\(^3\). The proposed third Five Year Plan for Mbeya Region anticipates that about 35% of the total expenditure in economic infrastructure will be spent on roads in the region\(^4\).

The increase of capital investment in transportation has been regarded as an indication of the size of the transportation problem existing in developing countries.

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3. Mkama, p. 7
4. Mbeya Regional Report, 1975, p. 6
Mkama in his study of Transportation Planning in Tanzania points out that the criteria for this type of investment are not based on historical analysis of the past performance of transportation but on the role transportation has played in the economic development of developed countries.

In Tanzania, the principal objectives of the party and the Government is to raise the standard of living in the country especially to increase the development of its rural areas and to strengthen its political independence. For economic reasons, the economic policy aims at distributing the benefits of economic development to more people in the less privileged areas of the country. With a view to making the nation self-sufficient and economically prosperous considerable changes have been and are being effected at national and regional levels. The regional administration is being strengthened in order to have an ordinarily person participate in plan preparation and also effect the development plans. Hence both in the region and at district level economic activities decisions are being done instead of waiting from the ministries in Dar-es-Salaam. It is hoped

5. The TANU, "Arusha Declaration and Policy on Socialism and Self-Reliance"

that the new administrative set up will accelerate decision making and reduce the time in processing development projects. The economic development decisions taken by the districts include a number of factors, economic activities such as agriculture, livestock, forestry, social services such as health education, water supply and proper utilization of transportation systems and resources. The government further provides the regions with Regional Development Fund which is divided among districts to implement development projects.

In the third Five Year Plan Mbeya District has been given considerable importance for intensive agriculture, advanced industrialization and also for the development of internal and external trade on an extensive scale. Small scale industries have also been encouraged to create employment for those who are under-employed in the District.

With this advancement in agriculture, industries and commerce, the pressure on transport, especially rail transport will increase to an even greater extent. For apart from providing a cheap and reliable means of transporting goods and agricultural products to the far off markets, the rail will also assist in stimulating further rural development in the settlements along the line. More productive investments
may be initiated or expanded while at the same time
the peoples income and consumptions pattern will
change. New supporting activities will also
emerge thus creating employment for the people along
the line. This probable multiplier effect of the
railway line is seen as an additional benefit which
if geared properly could create further development
in the district.

The study, therefore, looks at the influence of the
rail transport - the Tanzania - Zambia Railway and
now it has affected the development in Mbeya District.
Due to the short time that the railway has been in
operation and general lack of data, the study will not
quantify the impact nor deal with the social aspects.
The study will emphasize the physical and economic
aspects in order to show the impact. In this context
population growth, migration, increased productivity
in agricultural and industrial sectors are regarded
as direct effects after the construction of the rail,
while creation of employment, improvement of health
in the district are the indirect effects of the rail
project.

Further, for this study to have meaningful conclusions
the Eastern Africa Railway System has been analysed
and evaluate in view of past experience to provide an
insight of what is likely to happen in Mbeya District.
The evolution of East African Railways and its policies
reveals that the introduction of the railways in Tanzania was dictated not so much by economic but consideration by strategic reason and to facilitate administration of the colonial government. Soon after Tanzania attained independence, the whole outlook and motive force of the railway changed. While retaining the commercial bias, the railways have during the past years placed increasing emphasis on the utilitarian aspect of its activities. Their beneficial influence has been brought to the general public through steps calculated to enhance the usefulness of the railway organization for the common man who provides it with its revenues. Lower freight charges, periodical lowering of fares are some of the incentives the East African Railways provides to the general public.

THE CHOICE OF STUDY AREA.

Since 1974 most regional centres had masterplans. These plans showed development of the town in broad context and longer period of 20 years was always considered. During the preparation of the third Five Year Plan, it was realized that the regional plan proposals gave minor attention to physical aspects and development of settlements. It was also realized that regional and district plans need specific targets for settlement development as a means in stimulating rural development in resource areas. National object--

7. John Iliffe, Tanganyika under German Rule 1905-1912 pp. 49-81
ives alone were seen as inadequate guideline for practical planning at lower levels. The Ministry of Lands, Housing and Urban Development, therefore, decided to embark on pilot projects in Regional and District Physical Planning in various regions such as the Uhuru Corridor Project, Bukoba Region, Dar-es-Salaam Region, Handemi Physical Development Plan, Bagamoyo Physical Development Plan.

Following this government policy of having districts thoroughly planned, it is appropriate that the physical aspects be reviewed in order to come out with a realistic spatial development plan taking in account the socio-economic factors of districts instead of being purely economic. A modest study of Mbeya District is undertaken using transportation of rail as a factor for accelerating district development. Other reasons have also favoured the choice of the district and are described below:

1. Mbeya District is a typical representative of any district along the Tanzania-Zambia Railway where potentialities exists but have not been exploited to full use. The railway and its proposed branch line will make some of these mineral resources and agriculture potentials accessible.
2. The district is near the Tanzania-Zambia boarder and since similar impact studies are being proposed in Northern Zambia, this study will provide information which could be compared to those of Zambia. The experiences gained in one part of the country could be used in solving problems in the other country for such problems associated with the project.

3. The author has been working in this district for the last four years and throughout this period has observed developments in the district and how it has been affected with the completion of the Railway line. As a result of this interesting observation the author was prompted to carry out a research in that part.

RESEARCH HYPOTHESIS.

Following the above discussion, the following hypothesis is stated, "assuming all development variables being constant and available, rail transport passing through a populous region and in a rich agricultural country is likely to foster further development and attract other economic activities". Statistical methods to assert some of the differences will be used where available in illustrating changes likely to take place. Lack of data and limited time to carry out the surveys, some of the observed phenomenon will not
differ significantly hence some of the conclusions are not exhaustive.

**REVIEW OF RELATED LITERATURE.**

There are many economic books which have written on transportation as a factor necessary for development, but after a brief mention of the importance, most of them have concerned themselves with outlining organization and other general issues such as freight changes. Few authors have undertaken the transportation studies as influencing factor in district physical planning. In the United States, transportation studies have been directed at increasing the efficiency of movement between the resource zone and the consumption areas. In Latin America and Asia some attempts have been made in evaluating the major transportation routes, such studies include the Impact of the Road on Menonite Settlers in South America, changes which have taken place since the construction of the mongolian railway. These impact studies are relevant to Tanzania since the countries affected are in the group of developing countries, and hence their experiences could be utilized in assessing pattern of development likely to occur along a transportation infrastructure.

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In Tanzania, there has been very few studies undertaken on the role of transportation in regional development. Hence, in writing about the TanZam Railway various development factors are considered. It will be appropriate to look into previous research and relevant literature to understand variables underconsideration.

A.H.O'Connor's study on rail transport in Uganda asserts that railway transport is a major factor influencing the pattern of economic development in resource zones in Uganda. He points out that it was in the interest of colonial government to develop transport system for the sake of reinforcing the export market economy in which Uganda will be the producer of raw materials and export them to Europe for processing. In conclusion O'Connor suggests that railways should be extended into areas with potential but have not yet been developed.

Another study by J. Johnson on the Economics of Indian Rail Development asserts that railways play an important contributory factor in accelerating the pace of national building and also in economic development. He sees increased productivity in

agriculture and industrialization as consequences brought about by improved transportation facilities of the rail. For the rail transport to be efficient, there should be greater coordination with other modes of transport and agencies using the railway facilities. He sees better organization, improved traffic management as necessary conditions for creating greater operating efficiency. The important contribution of this study in relation to the present impact study is in recognizing the fact that the new Tanzania-Zambia Railway will have both direct and secondary benefits in the district.

In his unpublished M.A. (Planning) Thesis I.K. Madungha on the Role of Roads in Rural and Regional Development in East Africa sees transport systems, especially roads, had little to do with rural or regional development. After analysing the case studies located in Uganda and Kenya, he concludes by seeing the major transport routes as growth poles and rural areas as polarized regions. He suggests that good connectivity should be provided at convenient points to stimulate growth in rural areas. In Mbeya District the railway line and the road act like growth poles and the surrounding rural area as polarized regions. For both the rail and road transport to be effective in stimulating district development, the access roads connecting productive areas and the rail or road
facilities should be improved. It is envisaged that through better links at appropriate places the rail can contribute towards economic development.

In another recent study in Tanzania by Rolf Hofmeir on Transport and Economic Development in Tanzania road transport is related to the location of economic activities in the country. With the government programme of improving roads in rural resource areas, the government will automatically be stimulating further development in the area. He suggested that in less developed regions of the south and west, roads should be constructed to connected them to the national trunk roads to facilitate easy transportation and communication. In the study he sees railways development in Tanzania by colonialists as a means of creating an export economy from the resource zones in the country. During this time movement of cheap labour was also another motive in building railways. Large sisal estates were therefore established near the railways and further extensions of the rail were constructed in the agricultural potential areas.

It should be realized that the importance of road in undeveloped regions and large bulk carrying capacity of the rail should be coordinated to avoid competition between the two modes of transport.

Roads in this instance should act like feeder unit to the rail for goods to be transferred to distant markets.
facilities should be improved. It is envisaged that through better links at appropriate places the rail can contribute towards economic development.

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Literature from other African countries on the above subject is limited, the foregoing review of literature will enable us to understand our scope and limitation of the present study.

SCOPE OF THE STUDY.
The study will not concern itself with the social aspects or cost-benefit analysis in evaluating the railway performance though these will be important in comparing the rail transport with other modes of transportation.

The study will limit itself to analysing population distribution, expansion of agriculture, exploitation of mineral and natural resource potentials and increase of trade and need for improved transportation facilities in the district. The Tanzania-Zambia Railway as the major transportation link will in its indirect benefits help in productivity of agricultural products, create employment and attract population in nearby settlements.

OBJECTIVES OF THE STUDY.
It has been said that if the rail was constructed earlier in the south-western parts of Tanzania, these areas would be as developed as those of Kilimanjaro Region. The Tanzania-Zambia Railway was completed in 1975 at a cost of £1160 million. The railway passes
through Mbeya District which is regarded as one of the high agricultural potential district in Tanzania.

The objectives of the study, therefore, seek to:

i. To evaluate the contribution of the new rail as a development factor in stimulating economic development of Mbeya District.

ii. For the rail to stimulate further development in the district, it is necessary that spatial integration of resource zones in the district with improved feeder roads. Finally the objective will be to draw a proposed transportation linkages for the district.

iii. To formulate guideline framework for future sectoral plans which will integrate physical and economic factors based on rail transport.

RESEARCH METHODOLOGY.

In this study research methodologies aimed at testing an impact evaluation of the new Tanzania-Zambia Railway in Mbeya District. Several methods were, therefore, adopted in obtaining information. These included having informal conversation with government and party officials in Mbeya district headquarters, questionnaires, through reading of regional annual reports, survey maps and atlas.
The settlements to be interviewed were selected because of their proximity to the railway and were within easy to reach. For those settlements which were far from the rail, it was considered that their potential for further development due to the influence of the rail was very high. In all, eight settlement along the rail were selected representing the three ecological zones in the district. People to be interviewed were mainly from the commercial and industrial sectors and in most cases all the shopkeepers and factory owners were interviewed to determine change or increase in sales or productivity.

Three types of questionnaires are prepared covering the commercial and trade sector, industrial sector and inventory on the distribution of government services such as health, education, water supplies and communication facilities. The sample to be interviewed in each growth centre depended upon the size of the population but in case of large settlements a 10% sample was selected. This method had its limitation in that standard error varied according to the variation in the sample.

The questionnaires on entrepreneurs was intended to investigate how the influence of the people in the rail corridor has affected commercial or industrial business since the railway was completed. Questionnaire on government services was aimed at finding out
changes in different fields which have been brought about as a result of the railway, problems and opportunities arising from these changes.

In the analysis of data both maps, charts and statistical methods were used such as regression analysis, standard deviation and scatter methods. Further datas from past regional annual reports were also used in projecting future growth in various sectors. Although the above methods had their own limitation, they were useful in the study where there is very little data available.

**SOURCES OF DATA.**

Most of the data and maps on existing conditions were collected from the Regional Development Directors office in Mbeya. Statistical information on population, employment was obtained from Bureau of Statistics booklets in Dar-es-Salaam. Data on settlement population was obtained from the urban planning office in Mbeya. Other secondary data was obtained from journals and books at the University of Nairobi. A lot of background information on the Tanzania-Zambia Railway has been obtained from International Development Research Centre in Nairobi. Other data has been collected through direct interviews and through questionnaires.
CHAPTER ORGANIZATION.

This study has been divided into five chapters. The first chapter outlines the general purposes of the study the methodologies used in collecting data and evaluating the impact of the railway. Chapter two, gives a general background on former East African Railways, its development in Tanzania and contribution on economic development of the country. It further points out the inbalance of transportation network in the southern regions of Tanzania. The lack of rail transport in the south is seen as a bottleneck to development. To open up this part of the country, several feasibility studies are undertaken which culminate in the Chinese undertaking the project to construct the rail from Dar-es-Salaam to Kapiri Mposhi in Zambia. Chapter three gives the district's existing land uses potentialities which have not been exploited because of poor communication systems in the past. In the fourth chapter transportation is related to regional development in order to see how the rail transport will contribute to the development of Mbeya District. Development variables such as population distribution, distribution of economic activities, expansion of agricultural activities and services and correlated with rail transport to determine relationship and influence of the rail transport. In the following fifth chapter the impcat of the Tanzania-
Zambia Railway are stated such as change in settlement pattern, change in population and change in economic activities anticipated because of government programmes. In its conclusion it is seen that in order to stimulate further orderly development in the district it is necessary that development strategies should be formulated to increase productivity in agricultural and industrial sectors. Chapter six then points out problems and need for development strategies to reduce imbalance in development and thus stimulate rural development. The recommendation given are aimed at utilizing the rail transport in accelerating district development in Mbeya.
CHAPTER TWO.

THE DEVELOPMENT OF RAILWAYS IN TANZANIA.

The transportation situation before Tanganyika attained independence could be summed up in J.R. Farquharson words who later became the General Manager of East African Railways and Harbours as follows:

"The need for a satisfactory transport system is particularly important to Tanganyika, where productive areas are sparsely and widely separated and where the output of each area is relatively small. Transport is of paramount importance in determining the distribution of economic activities in binding together resources and markets into an integrated economy, in linking regions of different types and in ensuring, under reasonable travel conditions, the mobility of the Territory's human resources." 11

This statement of the importance of transport is hardly open to question although for the sake of this study, attention will be given to the extent to which

the new Tanzania-Zambia Railway will stimulate further pattern of economic growth activities in Mbeya District.

The first railway to be built was that leading from Tanga to Moshi between 1878 and 1911 by the German East Africa Company. Construction of the line was slow due to shortage of funds. In the end the German Imperial Government which had initially no interest in the line, had to come to the rescue of the railway.

The second railway project was between 1900 and 1914 when the central line was built from Dar-es-Salaam to Kigoma, a distance of 780 miles. Proper financial arrangements in which the railway company operated virtually as a corporation, ensured rapid construction of the railway. This line has remained the most important undertaking in the railway history of Tanzania.

Other railway projects proposed during the German Colonial administration were stopped by the outbreak of the First World War, after which the British Colonial Administration replaced the Germans. The


projected railways were from Tabora to the South West of Lake Victoria and to Ruanda and Burundi, and a line from Kilosa to Iringa and subsequently to Mbeya and Mbozi.

Between 1925 and 1966 a total of 851 miles of railways were built as shown on the Table below:

TABLE NO. 1

<table>
<thead>
<tr>
<th>Railway Line</th>
<th>Period of construction</th>
<th>Miles constructed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mwanza line</td>
<td>Feb. 1925-April 1928</td>
<td></td>
</tr>
<tr>
<td>2. Moshi-Arusha line</td>
<td>1929</td>
<td>236</td>
</tr>
<tr>
<td>3. Manyoni-Kinyangiri line</td>
<td>1930-1933</td>
<td>55</td>
</tr>
<tr>
<td>4. Mpanda line</td>
<td>1946-1950</td>
<td>93</td>
</tr>
<tr>
<td>5. Southern Line (Associate with Groundnut Scheme)</td>
<td>1948-1954</td>
<td>135</td>
</tr>
<tr>
<td>6. Ruvu-Munyusi Link Line</td>
<td>1960-1963</td>
<td>120</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1925-1966</td>
<td>851 miles</td>
</tr>
</tbody>
</table>

The Manyoni-Kinjangiri line which was intended to stimulate growth in the area now constituting Singida Region, proved uneconomical and was removed between 1944 and 1947\(^{14}\). A southern line was built simultaneously with Mtwara Port as part of the Groundnut Scheme. After the Scheme was abandoned, the line was retained with the hope that it would stimulate development in the area. Between 1955 and 1960 it operated at a loss of between £210,000 and £250,000 per annum\(^{15}\). The loss had to be paid by the Tanganyika Government as a subsidy to the Railway Administration. The line was removed in 1962.

Another shorter line from the Central line to Kongwa also associated with the Groundnut Scheme was removed and replaced by road.

In fact during this period railways were built with one assumption that they will stimulate economic development in the areas but the economic prospects were not very bright. Instead railways were a severe liability, and in 1939 the Tanganyika Railways handed only 32,900 ton miles of freight traffic per route mile compared with a figure of 265,000 ton mile in Kenya-


\(^{15}\) Ibid., p. 138
Uganda for that year\textsuperscript{16}, but as a result of more recent economic development they are now more fully utilized.

The Tanga line has had some effect on the pattern of economic activities largely through government action. The railway encouraged intensive agricultural development along the rail and the growth of towns of Moshi, Arusha as well as Tanga. Along the Central line there are pockets of development and towns of some importance have also grown up at Morogoro, Dodoma, Tabora and Kigoma. The railways have also contributed to the economic development of the Lake Regions as well as the growth of Dar-es-Salaam.

The correlation between the distribution of export crops and that of rail facilities is very close. In case of sisal estates, they are close to the railway line. Coffee is grown mainly in the Kilimanjaro area from where it is railed to Tanga and around Bukoba where it was formerly shipped via Kisumu and railed to Mombasa. Production is now increasing in the Southern Highlands and the South in Ruvuma Region. The coffee from these areas was moved 700 miles by road to Moshi for processing before export. Cotton cultivation is largely confined to

\textsuperscript{16} Ibid., P. 139
Mwanza and Dar-es-Salaam. Within the region, however, there is a marked concentration of production near railway or along the roads. Over half of the country's production of tea and tobacco takes place in Iringa and Mbeya Regions which were until recently dependent on road transport.

Mining is often associated with rail transport. In Tanzania minerals account for about 15% of the export earnings. The chief minerals are diamonds and gold both of which are despatched by air and the railway is of importance in bringing supplies from Dar-es-Salaam. The only mining activity for which rail transport was essential was the lead mines at Mpanda.

Looking at the export crop distribution map it will be observed that the southern areas of Tanzania were inadequately served with road facilities. Although there were plans to open the south with rail transport, these plans were not realized due to the enormous construction costs involved, but with the existing potentials in that area and especially the workable deposits of iron ore near the coal, steel production could be started in the south. As noted in an Economist Intelligence Unit Report:

"........this is a case in which transport
facilities become dominant as a factor governing development, although it should not be supposed that their improvement would necessarily bring such development.\textsuperscript{17}

It was with this notion that various plans of extending the railway to the south were proposed which are discussed below.

The Extension of Railway line to Kilombero Valley and the Southern Highlands.

Due to the gloomy picture presented by the failures of two Groundnut Schemes, a new railway extension which offered much brighter prospects was being considered in an area which was increasing in prosperity but was not served by any railway. Proposals were already existing for a line leading south from the central line and extending into Zambia linking up with Rhodesia Railways at Broken Hill.\textsuperscript{18}

The money involved to implement the 1000 miles link was considered to be enormous and the project was

\textsuperscript{17} Economist Intelligence Unit, The Economy of East Africa, East African Railways and Harbours (1955) p. 187.

\textsuperscript{18} Sir Alexander Gibbs and Partners, A Development Survey for the Central African Rail Link, Colonial Office London (1952)
not undertaken. As a follow up a branch line 40 miles from Kilosa on the central line to Mikumi was built. The branch line was later extended to Kidatu where great potential for agriculture development exists. During this time a report by the Food and Agriculture Organization mission noted that rail transport alone was not enough to bring about development unless this was accompanied by increased agricultural productivity. As the area is poorly served with road network it was supposed that most of the products would be carried by railway to and from Kilombero Areas.

The extension to Kidatu proved to be economically justified, for a large sugar estate was established and its production is increasing year after year.

The lack of rail facilities in the southern Highlands affected much of the economic activities which would have taken place had the rail been built. The two Southern Regions i.e. Mbeya and Iringa are leading in the production of tea, tobacco, pyrethrum and coffee are developing rapidly. It is an area where African cash economy in various sectors is expanding slowly. The Report by the East African Royal Commission on Southern Highlands in 1958 commented that,
'the whole area is remote and almost utterly lacking in communication'\textsuperscript{19}. Hence, soon after independence the need for a cheap and reliable means of transport to the south was given a priority in development plans. The opportunity to construct a rail through the south western parts of Tanzania from Dar-es-Salaam, presented itself in 1965 when the landlocked Zambia was in search for an outlet of its export trade after Rhodesia declared Unilateral Declaration of Independence. On 6th September, 1967, representatives of China, Zambia and Tanzania signed an agreement for a contract to construct a 1,162 miles rail from Dar-es-Salaam to Kapiri Moshi\textsuperscript{20}.

THE TANZANIA-ZAMBIA RAILWAY

Background:

It was not until Rhodesia's Unilateral Declaration of Independence in November 1965 that Zambia's need for a railway became paramount. The fact that Rhodesia came under trade sanction itself, punished its northern neighbour Zambia. An Anglo-American-Canadian air lift from Dar-es-Salaam was organized to supply Zambia with fuel but this was to be a

\textsuperscript{19} O'Connor, p. 146

\textsuperscript{20} Richard Hall & Hugh Peyman, The Great Uhuru Railway, p. 100
temporary measure. The possibility of a Zambia-Tanzania rail-link which had until then been a dream had to be given immediate and serious consideration.

The following year the World Bank presented the first report on the proposed railway. Its conclusions, rejected by both Tanzania and Zambia authorities, was that the envisaged project was expensive and not feasible. Later in 1966 the British and the Canadian carried out a joint feasibility survey and it was on the basis of their more encouraging findings that the two African Governments committed themselves to transmitting the dream of railway into reality.

Construction costs were estimated at £250 million and although both Governments made it clear that they would prefer Western capital assistance, no such offers were forthcoming. President Nyerere of Tanzania was later to remark, "It was not as if we had alternative proposal to choose from. The only firm offer we had was from China."  


For a capital intensive method of construction it was estimated that it would take four to five years to complete construction, in case of labour-intensive method about three years more. During the actual construction a combination of the two methods was applied depending upon the nature of work involved in a particular section. The construction work on the railway was started in 1970.


Early in 1968, the Chinese surveying team with their technicians had started surveying the alignment and work on the detail construction plan. The planning stage ended in 1970 when actual construction also commenced. The route cut through some of the most difficult terrain in the country, rising from the coast to the high mountainous areas of Tanzania plateau at 7000ft. with its bushland and savannah then gradually descending to the Zambia copper belt. Almost 89 million cubic metres of earth and rock were moved, 330 bridges spanning an aggregate of 16,500 metres were built in additional to the 22 tunnels. At the peak of the construction period in 1972 it was estimated that there were about

14,000 Chinese and 35,000 Tanzania workers involved in the construction of the Tanzanian section of the line and, about 2,000 Chinese and 10,000 Zambians working on the Zambian side. As from the beginning of 1972 it had been possible to transport goods from Dar-es-Salaam to Mlimba a point 300 miles on the way to Zambia by means of railway. The construction of the entire railway from Dar-es-Salaam to Kapiri Mposhi was completed in 1975 a year ahead of schedule.

**Trial operations.**

During the trail operations between 1975 and 1976, the railway earned more than £8.2 million. During the same period the Tanzania-Zambia Railway carried more than 293,000 passengers and 534,270 tonnes of cargo. About five trains were running each day from Dar-es-Salaam and this was to be increased.

From January 1976 to March 1977 the Tanzania-Zambia Railway had handled 814,000 tonnes of Zambian cargo, of which 371,000 tonnes was copper. The monthly averages are 58,000 tonnes and 26,500 tonnes respectively.

---


The main commodities hauled in the Tanzanian side are as follows:

TABLE NO. 2

COMMODITIES TRANSPORTED BY THE RAILWAY IN TANZANIA

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Tons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>13,000</td>
</tr>
<tr>
<td>Cement</td>
<td>9,500</td>
</tr>
<tr>
<td>Paddy</td>
<td>7,400</td>
</tr>
<tr>
<td>Bear</td>
<td>6,500</td>
</tr>
<tr>
<td>Timber</td>
<td>2,700</td>
</tr>
<tr>
<td>Rice</td>
<td>2,600</td>
</tr>
<tr>
<td>Empty bottle cases</td>
<td>2,400</td>
</tr>
<tr>
<td>Iron sheets.</td>
<td>1,200</td>
</tr>
</tbody>
</table>


The goods transportation is important only in three stations namely Dar-es-Salaam, Makembako and Mbeya. The traffic statistics by stations is:
GOODS HANDLED BY STATIONS.

<table>
<thead>
<tr>
<th>Stations</th>
<th>Forwarded July 1976-Feb. 1977</th>
<th>Tons Received Monthly July 1976</th>
<th>Tons Received Monthly Feb. 1977</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dar-es-Salaam</td>
<td>23,000</td>
<td>40,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Mbeya</td>
<td>20,000</td>
<td>11,800</td>
<td>1,500</td>
</tr>
<tr>
<td>Makambako</td>
<td>11,400</td>
<td>9,500</td>
<td>1,200</td>
</tr>
<tr>
<td></td>
<td>54,400</td>
<td>61,200</td>
<td>7,700</td>
</tr>
</tbody>
</table>


From the above figures, the main commodities transported are crops and timber from the southern highlands thus Mbeya and Iringa reffirm to Dar-es-Salaam, while construction material were transported from Dar-es-Salaam to the southern regions.

The monthly passenger flow between the main station was (July, 1976 - February, 1977)

Dar-es-Salaam - Mangula 13,400 passangers.
Mangula - Mlimba 11,300 "
Mlimba - Makambako 5,500 "
Makambako - Mbeya 5,700 "
Mbeya - Tundima 1,160 "

The average growth rate during 1976 was 11% per month and the total passanger volume in December, 1976 was
about 3.5 times that of January 1976. The passenger statistics show the great importance of the railway in Kilombero areas where it traverses in a densely populated areas where villages are close to the line and the accessibility to the line is easy.

From the above discussion it can be said that the first task of the Tanzania-Zambia Railway to provide a line of communication for the transportation of produce and other materials is being fulfilled. But the railway should not be treated as something independent it should be related and connected to its surroundings. The challenge here is whether the new Tanzania-Zambia Railway will stimulate development just as north American railways transformed its interiors in the nineteenth century. Failing in this challenge, the railway is likely to become one more means of transporting resources to the European markets as in the past.

Mbeya Region contained little dynamic force which could promote growth before the railway construction. Now that the railway is passing through the region the trend will therefore, change. With the government objectivity of developing agriculture and industrial activities in Mbeya Region, the imbalance with its other regions will be greatly reduced. A
clear examination of how the building of the railway will promote development and spread development is critically analysed in Mbeya District. Mbeya District is a key District in the Mbeya Regional Development Plan. With a population of quarter a million and with great agricultural and mineral potential, its development has in the past been prevented by its inaccessibility.
CHAPTER 3

MBEYA DISTRICT PHYSICAL BACKGROUND AND LAND USES.

National and Regional Setting.

Mbeya Town which is the headquarter of Mbeya District and capital of Mbeya Region is situated 1023 km. away from Dar-es-Salaam Capital city of Tanzania. The town is the administrative centre for Mbeya Region consisting of Rungwe, Mbeya, Chunya, Kyela, Mbozi and Ileje districts.

The town is linked to the national transportation network by the TanZam Highway from Dar-es-Salaam to Zambia and the Great North Road from Cairo to Cape Town. The town is also being served by the Tanzania Zambia Railway running in the south-west direction to Zambia. The major part of the rail in Mbeya Region lies within Mbeya District.

The district is bounded by the Chunya district to the north, Njombe district to the east, Rungwe district to the south and the west by Chunya and Mbozi districts. It is covering an area of 18,520 sq. km.

Physical factors.

Mbeya District contains the Mbeya range and Mporoto highlands to the south rising up to 9000 ft. and to the east are the Usanga Plains (Ruha River). To
the north lies the Chunya Plateau and towards north west lies Lake Rukwa. The District is drained by two rivers. From the Poroto highlands and Mbeya range the Ruaha River and its tributaries drain the Mbeya highlands towards the east later on its way to the Indian Ocean. Songwe river drains towards the west to Lake Rukwa from the Poroto highlands.

The District shows two distinct climatic conditions in that the highlands receive rain between 40-50 inches and decreases as one moves towards the east into Usangu plains. The Usangu plains experience hot savannah climatic conditions and it gets cool as one reaches the poroto and Mbeya ranges. In Uporoto frosts are common and temperate climatic conditions are experienced.

Similarly, natural vegetation follows the relief pattern. These could be grouped into three categories though it should be borne in mind that much of it has been interfered with by man and give rise to secondary vegetation.

1) The rain forests areas comprise of Mporoto and Mbeya Range, in their natural state they are covered with dense evergreen forest and bamboo at altitudes between 60,000ft. to 9000ft.
ii) The Miombo woodlands are scattered in Mbeya District and are between the altitudes of 30,000ft. to 6000ft. Usually they give rise to open grasslands and thorny bushes.

iii) The low rainfall areas of Usangu plans are covered by grasslands and bushes.

Soil conditions of the district can also be divided into two categories as below:

i) Soil with medium to high fertility cover the southern and the central highland of the district in the Isangate-Santilya Area and Utengule-Mbeya-Uyole Areas. In these areas crop potentials include coffee, wheat, pyrethrum, timber, potatoes, onion, temperate fruits and grass.

ii) Alluvial and colluvial soils occur around Lake Rukwa and Songwe river basin and in the Usangu Plains. These soils often require flood control, drainage and special management. Possible crops include onion, paddy, cotton, castor, sugar-cane and banana.

Ecological Zones.

a) Usangu Zone.
The most prominent crop is paddy, which with insufficient rainfall of 600-700mm is cultivated under irrigation. The surrounding highlands of Chunya escarpment, Mporoto and Chimala escarpment and Kipengere range discharge their water into Usangu where complicated system of dug canals and furrowed takes water from the rivers and distributes it into paddy fields.

The cultivation is concentrated in a 15km wide belt north and along the Tanzania-Zambia Railway, while the interior of the plains support big cattle herds. The Ministry of Agriculture is planning the Usangu plain as a livestock and grazing area. Already cattle rearing villages are being organized by the Regional Development Directorate office. The Mbarali Rice Scheme in Usangu is a government enterprise. The aim of the Ministry of Agriculture is to expand the irrigation scheme and to encourage surrounding villages to utilize the irrigation facilities to grow more rice.

Other crops are also cultivated in the plan and include a wide range of fruits such as mangoes, paw-paw, banana and citrus. These crops are at the moment not widely spread. The aim of Regional Agriculture Department is to expand the production of these fruits. Other crops are also found in Usangu but
in limited quantities, these include sugar-cane, onion and vegetables etc.. The great development potential do exist in this plain for increased production of rice, sugar-cane and other crops; but the problem facing this zone are proper infrastructure development such as roads, water supplies, communication irrigation planning so that surrounding villages will benefit from such existing irrigation schemes and organized marketing. The Regional Development Directorate recognizes these problems and it aims at developing these potential and utilize the bearing capacity of the Usangu plains extensively by providing roads and other infrastructures. The railway in this case will provide easy and cheap means of transporting these agriculture produce to distance markets in Dar-es-Salaam or Zambia.

b) The High altitude zone. (Mporoto and Umalila). This zone is characterized by low temperatures and by moderate but sufficient rainfall to support crops. There is one rainy season lasting for about six months and with a six month uninterrupted dry season.

The main cash crops are coffee, pyrethrum and round potatoes. The present acreage is small but it is the intention of the Region Development Directorate to expand and increase production by providing farmers with subsidise and loans.
c) The Lake Rukwa Valley.

The Lake Rukwa basin is dry but fertile and can support crops such as cotton and maize. This zone is poorly developed with infrastructure and hence production of crops has remained low. Cotton from this area feeds the ginnery in Mbeya.

Population distribution.

In 1967 the district had a total population of 192,687 persons distributed all over the district giving a population density of 10.4 persons per square km. The District is densely populated along the Tanzania-Zambia Highway with Mbeya Town as its centre. There are also population concentration on the southern arm of the District (see map). The Usangu plains are well populated south of the Ruaha River, while the northern parts of the district are sparsely populated because of frequent floods and lack of infrastructure in the area. Just as is the density of population in each area so is the amount of cultivation. In areas where the population is sparse, so also is there much original bush. In density populated areas, the original vegetation may have entirely disappeared.
### TABLE NO. 4

**POPULATION INCREASE IN MBeya DISTRICT 1948-67.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Increase</th>
<th>Annual growth as %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>109,700</td>
<td>22,700</td>
<td>2.1</td>
</tr>
<tr>
<td>1957</td>
<td>132,400</td>
<td>58,700</td>
<td>3.8</td>
</tr>
<tr>
<td>1967</td>
<td>191,100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: District Data based on 1967 population census of Tanzania. Note population of Mbeya Town is excluded.

The rapid growth in Mbeya District could be explained by the natural increase i.e. birth rate is higher than the death rate due to improved medical facilities and by migration either from other districts or from other regions and outside the country. The closing of mines in Chunya and local famine in some districts force people to migrate to Mbeya District where conditions for agriculture are suitable throughout the year. The last two decades Mbeya district has experienced considerable increase (as high as 3.8%) which is above the national growth rate of 2.4%. Urban growth also shows rapid increase of 7.5% per annum during the same period. The growth rate for all towns in Tanzania was for
the same period 6.7%

Population Characteristics.

TABLE NO. 5

DISTRIBUTION OF AGE GROUPS FOR MBeya DISTRICT, 1967 as %

<table>
<thead>
<tr>
<th>Age groups</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 14</td>
<td>46.4</td>
</tr>
<tr>
<td>15 - 19</td>
<td>9.6</td>
</tr>
<tr>
<td>20 - 44</td>
<td>32.0</td>
</tr>
<tr>
<td>45+</td>
<td>12.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Tanzania population census, 1967.

The population characteristics for 1967 shows that more than one third of the population was between 0 - 15 years and that there were more women in this district (sex ratio 101) while that of Mbeya Town shows there were less women and more men in urban areas (sex ratio 92).

There are no exact figures on migration, but a study on population of Tanzania by Bertil Egero and Roushdi A. Henin point out that the District has two types of migration pattern. One pattern shows migration from the rural area to urban (especially Mbeya Town and other growth centres). These migrants usually come from poor areas hoping to find
a better living. Often they settle down outside the township boundary thereby avoiding extra cost of legal building according to township regulations. This then creates large squatter areas without supplies of urban infrastructure i.e. piped water, refuse collection, health facilities and primary education. According to the Mbeya Master plan for Mbeya Town it is estimated that the actual population in Mbeya including squatter is probably four times bigger than official figure according to the 1967 enumeration areas.

TABLE NO. 6

POPULATION INCREASE IN MBeya TOWN 1948-67.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Increase in no.</th>
<th>Annual growth rate as %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>3,200</td>
<td>3700</td>
<td>9.1</td>
</tr>
<tr>
<td>1957</td>
<td>6,900</td>
<td>5600</td>
<td>6.1</td>
</tr>
<tr>
<td>1967</td>
<td>12,500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: District Data based on 1967 population census of Tanzania.

The second type of migration pattern is from other districts and neighbouring regions and countries such as Zambia and Malawi.
TABLE NO. 7

MBEYA DISTRICT POPULATION BY BIRTH CATEGORY, AS PER CENT, 1967.

<table>
<thead>
<tr>
<th>Mbeya District.</th>
<th></th>
<th></th>
<th></th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>same locality</td>
<td>62</td>
<td>27</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>same region</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>other regions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other countries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: District Data based on 1967 Population census of Tanzania.

Population projection

In order to be able to plan the development of the district it is essential to have some idea on the population growth. In the absence of accurate and reliable data, especially on migration, it is impossible to make a proper forecast. Instead a very simple projection has been made on growth rates based on the article written by J.E. Kocher on Social and Economic Development and Population change in Tanzania. Based on the above increase, the following growth rates trends are used:

a) 1967 -1970 the population growth increases from 2.7 % to 3.0% per year.
b) 1971 - 1981 the growth rate remain stable at 3.0% per year.

c) 1982 - 1990 the growth rate will drop to 2.5% per year.

This will give the following tentative population figures for Mbeya District.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>192683</td>
</tr>
<tr>
<td>1970</td>
<td>209300</td>
</tr>
<tr>
<td>1975</td>
<td>242100</td>
</tr>
<tr>
<td>1980</td>
<td>280700</td>
</tr>
<tr>
<td>1985</td>
<td>319100</td>
</tr>
<tr>
<td>1990</td>
<td>361000</td>
</tr>
</tbody>
</table>


Economic activities.

a) Agriculture and stockraising.

Agriculture is the cornerstone of the Tanzania economy, but land utilization is still inefficient. In Mbeya District land use figures show the following:

<table>
<thead>
<tr>
<th>TABLE NO. 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXISTING LAND USE MBeya DISTRICT , 1967.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land Use</th>
<th>ha.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small holder cultivation</td>
<td>35,800</td>
<td>2.0</td>
</tr>
<tr>
<td>Rough grazing</td>
<td>890,000</td>
<td>48.6</td>
</tr>
<tr>
<td>Large scale agriculture</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other woods, High altitude</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
contd.

<table>
<thead>
<tr>
<th>Forest/s</th>
<th>899.120</th>
<th>49.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others (urban rock, swamps)</td>
<td>5,120</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1830,040ha</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>


Small holders cultivate more than 80% of the area under crop production. Of the cultivated area one third is devoted to major export crop and two thirds is reserved for basic food crops. In Mbeya District important cash crops are potatoes, tobacco, rice, maize, coffee and pyrethrum. Large estates managed by government institutions produce rice, maize & wheat. The main food crops are maize, rice and cassava, finger millet and vegetables.

**TABLE NO. 9**

MARKETED AGRICULTURAL PRODUCTION 1966-1967, Mbeya DISTRICT.

<table>
<thead>
<tr>
<th>crops</th>
<th>1966 tons</th>
<th>tons</th>
<th>1967'000shs</th>
<th>% of region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton lint</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Coffee</td>
<td>700</td>
<td>700</td>
<td>2,900</td>
<td></td>
</tr>
<tr>
<td>Pyrethrum</td>
<td>1500</td>
<td>1500</td>
<td>8,300</td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee Buni</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total export crops:</td>
<td>11,200</td>
<td></td>
<td>26.9</td>
<td></td>
</tr>
</tbody>
</table>
contd.

<table>
<thead>
<tr>
<th>Crop</th>
<th>First</th>
<th>Second</th>
<th>Third</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>2500</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>Banana</td>
<td>400</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>Beans &amp; Pulses</td>
<td>200</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Paddy</td>
<td>4700</td>
<td>4800</td>
<td>2100</td>
</tr>
<tr>
<td>Wheat</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Oilseed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundnuts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetables</td>
<td>200</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Onion</td>
<td>200</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>400</td>
<td>400</td>
<td>100</td>
</tr>
<tr>
<td>Irish</td>
<td>400</td>
<td>500</td>
<td>200</td>
</tr>
</tbody>
</table>

TOTAL ALL CROPS 25,300

Source: District Data based on 1967 population census.

Development Strategy.

The government has placed a high priority on agriculture and rural development in its development strategy. The stimulation of agricultural production has several consequences through the income it generates. The income can be used to buy better seeds, fertilizers or implements which in turn will increase harvests or it can be consumed.

In the First Five-Year Plan (1964-69) priority was
directed to investment in infrastructure development and expansion of rural economy. The second Five-Year (Plan 1969-1974) laid great emphasis on Socialism and self-reliance giving high priority to rural development with the aim of improving utilization of land and man-power. During this period, stress was laid on the application of the principles of Ujamaa and agriculture cooperatives and need for improved production and marketing. The Iringa Declaration of 1972 called upon the Government to take steps to strengthen rural and agriculture development by ensuring availability of seeds pesticides, manure and chemical fertilizers to farmers, provision of other inputs and medium term credit. Training of farmers and research of crop diseases was to be intensified in order to increase production. The Third Five-Year Plan, now under preparation, also emphasizes and strengthens the objectives above.

In order to increase production of individual crops special projects were initiated in regions depending upon rainfall, climatic conditions and suitability of crop in the district. This project was started in 1975/76. Mbeya District is earmarked for the production of rice, maize and pyrethrum. In the Third Five Year Plan the Government aims at increasing the yield per unit by providing loans and subsidies on inputs. In case of maize, farmers will be taught to use improved
seed, hybrids which produce more per unit hectare.

Animal husbandry.

A proper census regarding livestock number was done in 1964. At that time the quantity of poultry in the district was not known. In 1964 it is indicated that there were approximately 226,000 cattle in Mbeya/Mbozi Districts.

**TABLE NO. 10**

**CATTLE POPULATION AND OTHER STOCKS IN MBeya/MBOZI, 1964**

<table>
<thead>
<tr>
<th>Stock</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>226,000</td>
</tr>
<tr>
<td>Sheep</td>
<td>21,400</td>
</tr>
<tr>
<td>Goats</td>
<td>26,800</td>
</tr>
<tr>
<td>Donkey</td>
<td>1,080</td>
</tr>
<tr>
<td>Pigs</td>
<td>600</td>
</tr>
</tbody>
</table>

Source: Mbeya Regional Socio-Economic Survey; Confidential Report.

Meat and milk produced is being encouraged and milk produced is presently being sold in Mbeya Town. In phase one (1975-80) of Diary Development and Animal Health Project Loan Application to the International Bank for Reconstruction and Development prepared by the Ministry of Agriculture in association with the Tanzania Rural
Development Bank, the following projects concerning Mbeya District were proposed.

1. Large scale Dairy Farms.
   a) Iwambi Diary FArm 2000 acres
   b) Salehe Haji Farm 735 "
   c) Kitulo State Farm 10,000 "
   d) Uyole Agricultural Research St.
   e) Chimala Ranch (Usambeco)
   f) Mbarali Breeding Station
   g) NARCO Ranching Scheme

2. New meat factory at Mbeya Town is now being constructed.

3. Slaughter house in Mbeya Town

As it can be observed from the map most of these projects lie within the Tanzania-Zambia Railway corridor and some of these areas can easily be provided with siding. With increased production and the development of more export trade with other regions and Zambia where there is shortage of meat, the railway will definitely play a vital role in transporting meat from Mbeya District to the distance markets. At the moment most of the sales of cattle are consumed within the region, and some of the recent figures estimated in 1975 give the following number.
TABLE NO. 11

POPULATION OF LIVESTOCK, 1975.

<table>
<thead>
<tr>
<th>Stock</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>335,000</td>
</tr>
<tr>
<td>Sheep</td>
<td>26,000</td>
</tr>
<tr>
<td>Goats</td>
<td>40,000</td>
</tr>
<tr>
<td>Pig</td>
<td>2,000</td>
</tr>
<tr>
<td>Poultry</td>
<td>50,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>453,000</td>
</tr>
</tbody>
</table>


The general quality of indigenous cattle is very low. But because of several cattle stations being constructed in the district as well as in the region the situation is supposed to change in the near future. To raise the quality of stock, the following measures are being undertaken by veterinary department:

a) encouraging regular dipping of cattle.
b) disease control
c) Construction of stock routes and holding grounds
d) Upgrading of indigenous cattle by bull camp and introducing artificial insemination.

In Usangu plains and some parts of Rukwa basin, there is scope for increasing livestock production for beef. In these areas the government efforts are to organize
Ujamaa villages into group ranching schemes. In the highlands of Mbeya District, diary development and meat is sent to Dar-es-Salaam and Zambia for consumption.

**TABLE NO. 12**

**LIVESTOCK 1967**

<table>
<thead>
<tr>
<th>Stock</th>
<th>Stock in '000 heads</th>
<th>sales '000shs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1965</td>
<td>1967</td>
</tr>
<tr>
<td>Cattle</td>
<td>121,000</td>
<td>136,000</td>
</tr>
<tr>
<td>Sheep</td>
<td>9,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Goats</td>
<td>11,000</td>
<td>13,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Tanzania District Data, 1967.

a) Sheep raising Project - Kitulo Plateau: This project was started in 1965 as a sheep and wheat scheme. There are 40,000 acres of natural grassland and the intention is to increase up to 100,000 acres under this project. The wheat production was not very successful and now the farm is being developed for sheep and diary production. The farm is situated about 45 miles from Mbeya Town at an altitude of 9000 ft. in the Mporoto highlands. It is poorly connected with roads and is far from urban centres.
In 1967 the production was 26,000 lbs of wool, in 1968 55,000 lbs and it was estimated that for 1971 it would be 400,000 lbs from 40,000 sheep. It is estimated that all the wool necessary for Tanzania could be produced in Kitulo. The quality is suitable for blanket production.

The cattle and sheep project is to be expanded further to one million acres and it is envisaged that this would provide a sound basis for the development of the plateau.

b) Ranching schemes: These are two ranching schemes being proposed in Mbeya District - one by the National Agriculture and Ranching Corporation north of Utengule, and the other by the District Development Corporation at Chimala. The total area for NARCO is 100,000 acres on which 14,000 - 15,000 cattle will be kept and bred. The Chimala Ranch is proposed to be 80,000 acres and is expected to keep up to 10,000 cattle.

c) Central abattoir and cold store in Mbeya Town: The abattoir is situated 7 miles from Mbeya Town along the Mbeya-Tunduma road. The construction of the plant is now in progress and is expected to be completed in 1980. It will have a total capacity of 125 carcasses and a cold stone 25 tons a week. The location of the abattoir is to serve ranches in Mbeya District,
Kitulo and Sumbawanga Region. Total investment expenditure is estimated at shs. 400 million. The main markets for the meat will be Dar-es-Salaam and Zambia.

d) Milk processing plant - Mbeya Town: Studies have been made about establishing a creamery in Mbeya District to be located in Mbeya Town. The plans have not yet been realised. There are two proposals which are still under discussion:

i) A creamery in Mbeya Town to cater for Mbeya, Chunya, Njombe and Rungwe Districts.

ii) A plan drawn up by the Nordic Centre to start at the Uyole Agriculture Training Centre diary farming and processing using locally and own produced milk.

* Socio-Economic Study of selected areas in the Mbeya Zone.

c) Industries.

Before the new transportation links with the rest of the country and also with Zambia were completed, Mbeya Region was regarded as quite remote and isolated in relation to outside markets. Poor roads have also hampered regional internal trade, particularly during the rainy season. Thus, the degree of
industrial development in Mbeya Region is low in comparison with other regions, taking into account the existing potentialities of natural resources, particularly in agriculture and hence processing industries.

The existing industrial activities in Mbeya District are on rather small scale and geared towards processing of local raw materials and agriculture products. The main processing activities are oil mills, rice mills and maize mills, carpentry workshops, blacksmithy and tinsmithy workshops, mechanical repairshops are scattered in the district. Mbeya Town is dominating the industrial sector with grain mills, cotton ginnery, bakeries, car repair workshops and other forms of service industries, brick making, electric plant, the TanZam Road service depot, National Cold Cain Storage and industrial training institution under construction.

The construction of the cement factory in Mbeya District located 12 miles on the Mbeya-Zambia road will also add and provide employment to the people in the district. The plant is under construction with investment of shs. 180 million and estimated production capacity of 200 thousand tons per annum.
d) Forestry.

Forests are of particular importance in Mbeya Region. About 70% of the region area is covered with forests mostly indigenous forest of various species of trees of which miombo is used for timber. There are also two soft wood plantation Kawetere forest in Mbeya District with 1200 hectares; and Kiwira of 2800 hectares. In Mbeya District there is still plenty of land which could be made more productive by afforestation.

The estimated annual product of Kawatere cultivated forest is 50,000 cubic meters which is so far not being utilized apart from providing fuel. Recently, the Tanzania Electricity Supply Company is constructing a wood impregnation plant in Mbeya Town for processing trees from Kawetere and Rungwe for electric poles. These poles were being ordered from India and Kenya. This will save a lot of foreign exchange which was being used in the purchase of these poles. The plant is to cater for Tanzania market.

e) Minerals.

The regions has great mineral potential. The known deposits include limestone, coal, iron, gold, silver, mica, carbonite, beryll, copper and salt. The nature and extent of these reserves have not yet been ascertained and prospecting is still being carried out.
At present some of these minerals are being mined on a small scale.

In Mbeya District there are a lot of minerals deposits but have not been economically exploited. Limestone, which is used in the production of cement has been discovered in large quantities around Songwe River Basin. This mineral is to be exploited soon when the construction of the cement factory is completed. Other minerals found in the district include:

i) Building materials found near Songwe Prison.

ii) Travertine found in Songwe River Basin. It is used for decorative purposes.

iii) Guano: Droppings from birds have formed guano in some parts of Songwe River basin. It is used in the production of Phosphorous.

iv) Iron deposits have been discovered around Chimala.

v) Gemstone: Some deposits are found around Mbeya, but proper investigation have not been undertaken.

vi) Niobium: Deposits are situated at Panda Hill near Songwe River. Because of low prices the resource is not exploited.

The discovery of coal in Ilima, Kyela and iron deposits in Chunya have destined Mbeya to grow into a future industrial district. It is likely that the steel-iron
plant will be located in Mbeya Town.

From the study of industries and minerals, there is very little which can be said of the influence of the industrial activities on the total economy of the district. Only a small part of production takes place in these industries and they employ only a small part of the population. Past experience has shown that these industries have had weak growth and as yet there is no clear policy towards industrial development by the region or government. It is therefore, assumed that the number of people connected to agriculture will increase in the years to come. If the coal-steel-iron industry is developed, the situation will change drastically. The building of both Tanzania-Zambia highway and the Railway has made the mineral resource in this zone accessible.

g) Transportation

The existing transportation system include the National Trunk Road from Dar-es-Salaam to Zambia and passing through Mbeya District. There is also the Mbeya-Kyela Tarmac road which acts as a collector road of products from Rungwe and Kyela which are exported to other regions and other countries.
Secondary roads in the district include roads to Chunya and road to Lake Rukwa and feeder roads are mostly concentrated in Usangu plains to the south of Ruaha River leaving the flooding plain without any roads. Apart from the Trunk roads, secondary and feeder roads are of poor nature. The regions target on feeder and secondary roads is to improve the existing roads and build new ones to areas which are developing economically. Hence, in future there will be need to open up new areas in Usangu plains with roads.

h) Water and irrigation.

The basic uses of water are for domestic and public purposes, for industry, agriculture (irrigation and livestock breeding), navigation, hydroelectric power, recreation and waste disposal. To meet some of these needs, adequate water must be supplied in an acceptable quality.

In Mbeya District, there are many rivers and streams which could provide water for the settlements along the railway line and Ujamaa Villages; but what is required is treatment and pipes to convey water from their sources to consumption areas. In other areas water is also used for irrigation purposes in Mbarali, Utongule and Songa Songa near Chimala.
i) Power supply.

The main sources of energy are mineral fuels (oil products) and hydro-electricity. The capacity of the existing plant is 790 kw. Of these 350 kw. is hydro-electric power. The plant employs about 60 persons. Half of the energy sold is used in homes and only 10% is used industrially in Mbeya Town. The market shows an increasing demand, and by 1980 it is estimated that 2000 kw will be required.

Kiwira River Hydro-Electric Dam in Rungwe is being developed with an estimated power output of 233 mw. Most of this power is intended to be used in supplying power to the proposed cement factory.

j) The existing of growth centres in the District.

In this section the settlements in the district are examined to determine their relationships and how much they affect the district development. Here it must be noted that Mbeya Town is the only big settlement with a population of over 55,000 people while other growth centres fall under 10,000 people.

Mbeya Town: This is the administrative headquarters of the district with a population of about 55,000. According to the government policy the town is to be a growth pole, and is blessed with good communi-
cation and transport routes to parts of the country.

It has developed as an educational centre with four secondary schools, Institute of Accountancy and an Agricultural Research Training Institute. A Technical training school and two vocational centres are now under construction.

With the mineral potential in the region and present government policy to decentralize activities from Dar-es-Salaam, Mbeya definitely stands a very good advantage of becoming an industrial town. The road and rail transport also adds for the location of more commercial and industrial activities.

Further, Mbeya has got a lot of tourist potential particularly because of its pleasant climate and scenic attractions in the region. The existing hotels are not adequate but with the proposed new hotel by the Tanzania Tourist Corporation, Mbeya will experience an influx of more tourists.

**Chimala:** This is a divisional headquarter and is next in importance with an estimated population of about 8,000 people. It is linked to Mbeya Town by rail and the Tanzania-Zambia highway.
The town is served with piped water and telephone link and has a fifty bed mission hospital with two primary schools. Chimala is good for commerce and marketing activities and the existing industries is rice mill and maize mills.

Rice growing appears to be thriving well in its hinterland and an irrigation scheme is operated for rice farms. Ranching may also become important once the projects are commenced in future.

**Rujewa:** Situated in the mid rice growing area shows signs of expanding and becoming an important centre for processing paddy. The settlement is well connected with rail and road transport. The Mbarali irrigation Scheme in its vicinity also attracts a lot of people who seek seasonal jobs in the rice fields.

**Madibira:** With a population of 3,000 people is also famous for rice production.

**Isangate:** is situated on south west areas of Mbeya District with a population of 2500 people. The settlement is connected by an all weather road to Mbeya but for heavy rains it is cut off from the rest of the District. Its growth and development are due to agricultural products such as coffee, pyrethrum, maize
and vegetables. Its future development will depend on improving communication between it and Mbeya.

Settlements along the line: Already large settlements around the railway station are growing up. These include Kangaga, Msesure, Igurusi, Nsonyanga, Ilomba, Ruiwa, Malembe and Inyala.

Inyala and Mbalizi on the outskirts of Mbeya Town are also growing very rapidly due to their markets and production of vegetables.

Ujamaa Villages: These are scattered all over the district. See map. The growth of the communities and development will depend upon the improvement of communication with existing growth centres.
MBEYA DISTRICT
EXISTING LAND USES - 1977

LEGEND

- MAIN ROADS
- OTHER ROADS
- RAILWAY
- RIVERS, PERMANENT
- DISTRICT BOUNDARIES

AGRICULTURE (small holdings)
(cash and subsistence)

LARGE SCALE ESTATES MAINLY
COFFEE, RICE, MAIZE AND WHEAT.

URBAN DEVELOPMENT LAND USE

FOREST RESERVES AND
REFORESTATION PROJECTS

RANCHES

CATTLE GRAZING AREA

FORESTS

SOURCE: ATLAS OF TANZANIA AND AERIAL PHOTOGRAPHS.

KASEGE, J.
DEPARTMENT OF URBAN
AND REGIONAL PLANNING
M.A PLANNING 1977/78

THESIS MAP No. 3

20 10 0 20 40 60 KMS.
10 5 0 10 20 30 40 MLS.

N
MBEYA DISTRICT
RELIEF AND DRAINAGE

LEGEND

- MAIN ROADS
- OTHER ROADS
- RAILWAY
- RIVERS, PERMANENT
- DISTRICT BOUNDARIES
- HEIGHT OVER 2000 metres
- HEIGHT BETWEEN 1500-2000 m.
- HEIGHT BETWEEN 1000-1500 m.
- HEIGHT BETWEEN 500-1000 m.

SOURCE: TOPOGRAPHICAL MAPS PUBLISHED BY SURVEY AND MAPPING DIVISION TANZANIA

KASEGE, J.
DEPARTMENT OF URBAN AND REGIONAL PLANNING
M.A PLANNING 1977/78

THESIS MAP No. 4

WAY ON DEVELOPMENT DISTRICT

N

MAFINGA

DISTRICT

RUJEWI

NGAVA

KANGANA

NJOMBE

DISTRICT

ENGULE

ITAMBAQ

MUSERE

IRUSI

CHIMALA

MADIBIRA

KIGIA

MAFINGA

DISTRICT

RI

500-1000m.

40 MLS.

60 KMS.
IMPACT OF RAILWAY ON THE DEVELOPMENT OF MBeya DISTRICT
MBEYA DISTRICT
SOIL POTENTIALS

LEGEND

- MAIN ROADS
- OTHER ROADS
- RAILWAY
- RIVERS, PERMANENT
- DISTRICT BOUNDARIES

SOILS OF MEDIUM TO HIGH FERTILITY WITH HIGH POTENTIAL (ARABIC COFFEE, WHEAT, PYRETHRUM, BANANA, TIMBER, ONION, POTATOES, VEGETABLES AND PASTURES)

VARIOUS ALLUVIUM OR COLLUVIAL SOILS WITH CONSIDERABLE POTENTIAL, BUT OFTEN REQUIRING FLOOD CONTROL DRAINAGE OR SPECIAL MANAGEMENT (COTTON, RICE, BANANA, LEGUMS, PASTURE & ONION)

SOILS OF LOW FERTILITY WITH MODERATE POTENTIAL (GROUNDNUTS, SORGUM, MAIZE, SOYA, CASTOR, COTTON, CASSAVA & PASTURE)

SOILS OF VERY LOW FERTILITY WITH MODERATE POTENTIAL (SORGUM, CASSAVA, CASTOR, SIMSIRI, TOBACCO, GROUNDNUTS, COTTON & PASTURE)

SOURCE: ATLAS OF TANZANIA

KASEGE, J.
DEPARTMENT OF URBAN AND REGIONAL PLANNING
M.A PLANNING 1977/78

THESIS MAP No. 5

N

20 10 0 20 40 60 KMS.
10 5 0 10 20 30 40 MLS.
CHAPTER 4

ANALYSIS OF DEVELOPMENT FACTORS.

The railways which in Tanzania preceded other modern modes of transportation reduced travelling time and costs, particularly between coastal and up-country stations. They marked the end of long caravan of porters to and from the coast which had been the feature of a pre-railway era.

During the colonial era, northern Tanzania was selected by colonising countries for development and these areas were, therefore, served with rails, roads and other social infrastructure which enhanced their development pace. The Southern parts of Tanzania located away from the East African Railway network were certainly not in the "privileged" area marked for development, though they possessed some of the most important natural resources which were not exploited during the colonial rule. The southern Tanzania was looked upon as a reserve labour pool where its natives would be taken to work in the large farms of the europeans along the central line or the northern regions. Here they worked for long periods without their families for very meagre wages. This system of taking labourers from the southern regions had a disadvantage of reducing the number of able-bodied men from their local areas.
who could have produced more agricultural food and cash crops for marketing.

Until 1967 Mbeya District was severely isolated from the rest of the country because of poor communication and transportation links to the district. In 1969 the Daily Standard Paper produced in Dar-es-Salaam used to arrive in Mbeya three days after the paper had been produced. A journey by bus used to take two to three days with connections at Iringa or Higi. The number of buses were limited to twice a week until recently when they were made daily. Hence for sometime the district remained undeveloped despite the rich soils and mineral potential which existed in the district.

Soon after independence, it was realized that the district could grow and earn more from cash crops and marketed food crops, but its productivity depended upon provision of adequate transportation system to the markets as well as to the production areas. Thus lightweight crops such as tea, coffee, tobacco and pyrethrum were introduced and grown in order to elevate transportation costs.

In 1971 this isolation was reduced when the Tanzania-Zambia Road was completed from Tunduma to
Dar-es-Salaam, thus linking Mbeya District with a first class tarmac road to the sea port and other regions. Before that the district was linked by a compacted dry weather road with an elevation of about half a metre above local terrain level. Because of its nature vehicles were prevented from travelling on the road during the rainy periods. The new Tanzania-Zambia Highway though providing an improved transportation link from Mbeya District with the rest of the country is still suffering from heavy tonnage beyond the designed weight planned for the road. From time to time the road experiences temporary closures when it is being repaired. The other problem associated with the new road was that there was lack of vehicles to take all the produce from production areas in the district straight to Dar-es-Salaam for processing. The road carried through traffic from Dar-es-Salaam to Zambia and did not generate much traffic from the district. Hence some of the commodities had to wait or get spoiled because of inadequate vehicles.

The completion of the Tanzania-Zambia Railway in mid 1975 promised the turning point in agriculture, industry and transportation systems in the district.

Transport and Regional Development.

The present transportation system in Tanzania as it
has already been analysed presents both regional and district disparities which should be reduced to bring more equitable development in all areas in the country. As pointed out, the originally favoured zones are growing richer and the lagging areas in terms of transportation are becoming less developed. This is illustrated when comparing the northern regions distribution of monetary agriculture with the southern regions. It is assumed that the northern regions are three times higher than the average income in the southern areas. The government of Tanzania has identified this problem and has in its development plans emphasized the need for decentralization of economic activities in order to create job opportunities and development to lagging areas. The second Five Year Plan 1969-74 emphasized the need for regional planning as a means of promoting development on a wider scale and mobilization of peoples efforts. It was also argued that development tended to become polarized and concentrate in areas which had some initial advantages to the neglect of other areas which were decline. Hence during this period regional planning was pursued and trunk roads and railways were constructed to reach the whole country to assist social and economic
growth. There are three transportation modes passing through Mbeya District namely, the Tanzania Zambia Pipe Line, the Tanzania-Zambia Highway and the Railway Line. Our study will concentrate on analysing the railway impact on development of the district.

Economic Activities along the Railway.

The railway line within Mbeya District is 110 km. built at an approximate cost of shs. 2.2 millions. There are 11 stations namely Rujewa, Msesure, Chimala, Igurusi, Ilongo, Malamba, Inyale, Uyole, Mbeya, Mbalizi and Songwe located along the line. Among these 3 stations Malamba, Msesewa and Songwe are new settlements, which were in 1971 just bushes and grasslands. Today these settlements are experiencing population growth, agriculture activities around them and self-help projects are now being undertaken to improve their social conditions.

General activities along the railway include subsistence agriculture and livestock rearing. On Mbeya town industrial activities are being undertaken along a 12km. section of the railway towards Mbalizi and Songwe stations. There are two industrial areas proposed, one medium industrial area and in Songwe Mbalizi will be the heavy industrial projects.
These economic activities are analysed below to find their relationship with the railway and how they affect development along the railway.

Agriculture.

The total figures concerning the transportation of the agricultural products are difficult to obtain without origin-destination studies. In this section, therefore, figures are based on agricultural products transported by railway in 1976 in Mbeya Station, and discussion with the District Agriculture Officer.

In case of cash crops these are transported from cultivation areas to marketing places in the rural area and then they are sent for storage in Mbeya Town where they are forwarded to manufacturing or processing or consumption centres outside the district. With food crops, part of the crops are consumed locally and part transported to marketing centres. Thus it can be seen that the marketed food crops and cash crops in the district represent the transportation demand of the agricultural sector. The requirements on the transportation network will be:

- In production areas there must be good tertiary road network for collection of crops;
in marketing centres, there must be good tertiary and secondary roads to allow quick movement of commodities to the processing or consumption areas;

only the cash crops and part of the marketed good crops need the primary system and the railway.

Agricultural activity therefore sets some form of a transportation network in the district. The villages, farms, wards and divisions are served by tertiary system; while the division centres, district godown are served by tertiary as well as secondary system of roads. At the district level, the primary system and railway link the district headquarters with other regional godowns and factories.

TABLE NO. 13

TRANSPORTATION DEMAND OF FOOD AND CASH CROPS MARKETED AMOUNTS PER YEAR IN MBEYA DISTRICT.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Ton/year</th>
<th>Transport model.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>4,000</td>
<td>Lorries , Buses</td>
</tr>
<tr>
<td>Rice</td>
<td>4,000</td>
<td>&quot;</td>
</tr>
<tr>
<td>Potatoes</td>
<td>3,000</td>
<td>&quot;</td>
</tr>
<tr>
<td>Wheat</td>
<td>1,100</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sugar</td>
<td>1,700</td>
<td>Train , Lorries</td>
</tr>
<tr>
<td>Coffee</td>
<td>1,300</td>
<td>&quot;</td>
</tr>
</tbody>
</table>
Nearly all of the marketed agricultural produce is sent either by lorries or buses within the district. For those commodities which come from outside the district are transported either by lorries or train.

In the second Five Year Plan programmes for agricultural development and irrigation were given the priority in the region. Agriculture and community development accounted for 44% of the total estimated budget. In the proposed third Five Year Plan agricultural development in the region is to be diversified as indicated by the distribution below:

**TABLE NO. 14**

**DISTRIBUTION OF AGRICULTURE ACTIVITIES IN 3RD FIVE YEAR PLAN.**

<table>
<thead>
<tr>
<th>Item</th>
<th>3rd Five Year Plan Proposed million</th>
<th>As %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>77.6</td>
<td>76.8</td>
</tr>
<tr>
<td>Horticulture</td>
<td>1.9</td>
<td>1.9</td>
</tr>
</tbody>
</table>
The principal targets of agricultural production in the plan are as given in the table below:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Unit</th>
<th>Development cost in million shs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total food grains</td>
<td>Tons</td>
<td>43.56</td>
</tr>
<tr>
<td>Tobacco</td>
<td>&quot;</td>
<td>2.62</td>
</tr>
<tr>
<td>Oil crops</td>
<td>&quot;</td>
<td>0.7</td>
</tr>
<tr>
<td>Coffee</td>
<td>&quot;</td>
<td>1.0</td>
</tr>
<tr>
<td>Pyrethrum</td>
<td>&quot;</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>&quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>Cocoa</td>
<td>&quot;</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Major agricultural projects are located in Usangu where there is a Mbalari State Farm for production of rice and maize, and also a sorghum project in Usangu is now under experimentation. The promotion of fruits is another project which is being initiated in Usangu.

**TABLE NO. 16**

**LOCATION OF AGRICULTURAL PROJECTS 1977.**

<table>
<thead>
<tr>
<th>Location</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usangu</td>
<td>Mbalari rice State Farm.</td>
</tr>
<tr>
<td></td>
<td>Maize Project</td>
</tr>
<tr>
<td></td>
<td>Fruit Promotion Project</td>
</tr>
<tr>
<td></td>
<td>Sorghum and Millet</td>
</tr>
<tr>
<td>Uyole</td>
<td>Vegetable production</td>
</tr>
<tr>
<td></td>
<td>Agriculture Research Station</td>
</tr>
<tr>
<td>Santilya</td>
<td>Pyrethrum and coffee.</td>
</tr>
<tr>
<td>Mbalizi</td>
<td>Coffee and maize.</td>
</tr>
<tr>
<td>Songwe</td>
<td>Prison Maize Farm.</td>
</tr>
</tbody>
</table>

All these items of agricultural production and their distribution in the district indicate to some extent the magnitude of road and rail transport requirement for effective transportation of agriculture produce. The table below show how the railway has
contributed in carrying some of the goods. About 80% agricultural products to Dar es Salaam for a period of 12 months.

**TABLE NO. 17**

**TONNAGE DISPATCHED AND RECEIVED FROM JULY 14, 1976 - JUNE 14, 1977.**

<table>
<thead>
<tr>
<th>Month</th>
<th>Tonnage Dispatched</th>
<th>Revenue</th>
<th>Tonnage received</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>903.0</td>
<td>113421.4</td>
<td>1635.8</td>
</tr>
<tr>
<td>August</td>
<td>2939.3</td>
<td>429177.3</td>
<td>4089.0</td>
</tr>
<tr>
<td>September</td>
<td>1231.5</td>
<td>243893.3</td>
<td>1181.0</td>
</tr>
<tr>
<td>October</td>
<td>1657.6</td>
<td>233889.5</td>
<td>723.0</td>
</tr>
<tr>
<td>November</td>
<td>2116.3</td>
<td>333095.0</td>
<td>2147.0</td>
</tr>
<tr>
<td>December</td>
<td>3021.0</td>
<td>392700.0</td>
<td>1541.0</td>
</tr>
<tr>
<td>January</td>
<td>3778.9</td>
<td>399996.6</td>
<td>12341.0</td>
</tr>
<tr>
<td>February</td>
<td>2703.0</td>
<td>316826.4</td>
<td>1808.0</td>
</tr>
<tr>
<td>March</td>
<td>2474.9</td>
<td>335305.1</td>
<td>2569.0</td>
</tr>
<tr>
<td>April</td>
<td>1135.9</td>
<td>148406.2</td>
<td>2367.0</td>
</tr>
<tr>
<td>May</td>
<td>1708.9</td>
<td>217980.6</td>
<td>1480.0</td>
</tr>
<tr>
<td>June</td>
<td>850.8</td>
<td>96657.3</td>
<td>1325.0</td>
</tr>
</tbody>
</table>

**TOTAL** 24,522.4 3,264,348.7 47,986

Source: Mbeya Railway Station monthly report 1977.

The Railway Authority can handle more agricultural
commodities and the following stations were used as transhipment stations in 1976.

**TABLE NO. 18**

**GOODS FORWARDED IN 1976 FROM JANUARY TO DECEMBER.**

<table>
<thead>
<tr>
<th>Station</th>
<th>Commodity</th>
<th>Tonnage</th>
<th>Value in shs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mbeya</td>
<td>Maize</td>
<td>6,054.7</td>
<td>890,085.00</td>
</tr>
<tr>
<td></td>
<td>Rice</td>
<td>2,097.0</td>
<td>692,010.00</td>
</tr>
<tr>
<td></td>
<td>Cotton</td>
<td>497.0</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Paddy</td>
<td>639.5</td>
<td>254,045.00</td>
</tr>
<tr>
<td></td>
<td>Wheat</td>
<td>178.7</td>
<td>33,820.00</td>
</tr>
<tr>
<td></td>
<td>Berley</td>
<td>90.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stock feeds</td>
<td>181.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oil caves</td>
<td>177.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sun flower</td>
<td>92.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Finga millet</td>
<td>74.9</td>
<td>224,70.00</td>
</tr>
<tr>
<td></td>
<td>Potatoes</td>
<td>48.4</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Banana</td>
<td>29.4</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Sorghum</td>
<td>13.4</td>
<td>22257.40</td>
</tr>
<tr>
<td></td>
<td>Pineapple</td>
<td>15.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beans</td>
<td>5.0</td>
<td>2205.00</td>
</tr>
<tr>
<td></td>
<td>Cabbage</td>
<td>3.3</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>14,642.8</strong></td>
<td><strong>1,916,892.40</strong></td>
</tr>
</tbody>
</table>

| Rujewa | Paddy        | 765.0   | 118,766.00    |
|        | Rice         | 2235.0  | 737,550.00    |
|        | Maize        | 900.0   | 132,300.00    |
75

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3900.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>988,616.00</td>
</tr>
<tr>
<td>Uyole</td>
<td>Coal</td>
<td>500.0</td>
</tr>
<tr>
<td>Chimala</td>
<td>Paddy</td>
<td>1376.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>29,346.0</td>
</tr>
</tbody>
</table>

Source: Mbeya Railway Station, monthly reports.

Livestock rearing.

Mbeya District is one of the areas where the government has earmarked for dairy development. Most of the rearing is done in Usangu Plains where the grass does not get dry during the dry seasons. This has therefore attracted many cattle keeping tribes in other regions to come and settle in Usangu. It is estimated there are about 600,000 heads of cattle in the area and the Ruaha basin is now overstocked.

Three ranching areas have been started in Ilongo, Chimala and Mbabari along the railway and about 250 cattle are transported to Dar es Salaam for onward shipping to Saudi Arabia. It is further estimated that more beef cattle would be transported to the coast when the other ranches are fully operational.
Industries.

The existing industrial activities in the district are centred around Mbeya town where agricultural produce are processed for consumption in the district. These are of small-scale in nature and included grain mills, cotton ginnery, bakeries, car-repair workshops, electrical plant, a cold store, and TanZam road service depot.

Since the completion of the railway, the pace of establishing new industrial activities near the railway station and heavy industries towards Mbalizi-Songwe area has gained momentum. The present proposed industrial activities include:

A. INDUSTRIAL PROJECTS IN SONGWE-MBALIZI AREA.
   1. Cement factory (under construction) 980ha.
   2. Tanganyika Meat Packers 1000ha.
   3. Construction of new airport 120ha.
   4. Planned Steel Mill 1000ha.
      TOTAL 3150ha.

B. IYUNGA INDUSTRIAL AREA NEAR RAILWAY STATION.
   1. Proposed canning factory 20ha.
   4. KJ Motors soap factory (under construction) 15ha.
5. Tanzania Brewries Ltd. storage 5 ha.
6. Farm Implements Factory 20 ha.
7. Wood pole impregnation plant 15 ha.
8. Other reserved area 100 ha.

TOTAL 225 ha.


The decision to locate these industries in Mbeya are influenced by the presence of the rail transport, good climate and abundant labour found in the region. The presence of large quantities of limestone in Songwe has encouraged the building of a cement factory in the area. The location of the steel mill in Mbeya is planned because iron ore from Chunya and coal from Kiwira, Tukuyu will be transported to a central location for processing and where there is an already railway system existing. In this connection, therefore, both the cement and steel mills are to be provided with branch lines to their sources of materials.

The raw materials for Farm implements factory and plastic pipe plant are supposed to be imported from outside Tanzania. Both the transportation of these raw materials and their finished products will have to be brought and forwarded through the railroad to consumption centres. The railway therefore, is providing not only a transportation system for materials and finished products but it also assists in
the exploitation of raw materials.

Because of lack of production figures on the above industries, the industrial transportation demand could only be explained theoretically. It is assumed that transportation facilities, tonnage transported and demand for electricity and water reflect the relative differences between industries and therefore indicates some of the requirements which have to be met when locating industries. In Mbeya District heavy industrial projects in Songwe-Mbalizi area which will be producing more than 1000 tons per day will definitely require special transportation connections such as railway siding and good access roads. For medium industrial projects located in Iyunga, these will require to be connected with a trunk road and railway. The railway is therefore called upon to play an important role in assisting to develop industrial activities in Mbeya. For light and service industry the transportation demand requires all weather road.

TABLE NO. 19

<table>
<thead>
<tr>
<th>Pland location</th>
<th>Main product</th>
<th>Present Transport patten.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mbeya Saw Mills</td>
<td>Wood products</td>
<td>Road/Rail</td>
</tr>
<tr>
<td>Agricultural products (canning factory)</td>
<td>Food, Flour</td>
<td>Road/Rail</td>
</tr>
</tbody>
</table>
Transportation.

Transport modes along the major district roads include lorries, buses, motor-cars and motor cycles. These ply between the rural centres or other district towns to Mbeya. In 1975, there were about 350 vehicles registered in Mbeya and these were travelling in either directions. Of these vehicles lorries and buses were in majority.

In 1978, there were 515 registered vehicles registered in Mbeya showing an increase of 15 vehicles per year. Most of these were 7 ton lorries which were to be used in transporting goods from one direction to another. In Mbeya town it was observed that for the past two years 1976 and 1977 there has been increase on traffic mainly operating between the railway station and the main storage houses in town.
About 92% of the bus stop in Mbeya Town. These buses are used for the transportation of passengers as well as goods from rural areas. At the bus station there was an average of 45 buses per day using the bus. The survey showed that about 92% of the buses stopped in Mbeya, 3% were in transit 5% were town buses and 2% come from other regions. Within the district the main bus routes were the TanZam Highway, Santilya - Isangate road, Rugewa and Rwiwa roads. The carrying capacity for each bus was 55 persons.

**TABLE NO. 20**

**AVERAGE DAILY TRAFFIC TO AND FROM MBeya - 1978.**

<table>
<thead>
<tr>
<th>Road name</th>
<th>Date</th>
<th>Cars</th>
<th>LandRover</th>
<th>Lorries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mbeya-Tunduna</td>
<td>March 28</td>
<td>18</td>
<td>14</td>
<td>60</td>
</tr>
<tr>
<td>Mbeya-Tukuyu</td>
<td></td>
<td>30</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Mbeya-Isangate</td>
<td>&quot;</td>
<td>28</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Mbeya-Chuya</td>
<td>&quot;</td>
<td>28</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Buses**

<table>
<thead>
<tr>
<th>Total</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Census at Mbalizi</td>
</tr>
<tr>
<td>27</td>
<td>Uyole</td>
</tr>
<tr>
<td>2</td>
<td>Estimates from bus station</td>
</tr>
<tr>
<td>3</td>
<td>Bus station.</td>
</tr>
</tbody>
</table>

Roads in the district could be classified according to the role they play in the network as follows:

i. Primary system
   - trunk territorial main road
   - major link roads

ii. Tertiarily system.
   - unclassified roads
   - village access roads.

Primary roads link the regional capitals and neighbouring countries. Their traffic volumes varies but their standard of construction is good, durable and are always bitumenized. The Tanzania Zambia Highway and the Mbeya Kyela roads are under this category. These are maintained by Ministry of Works. The secondary roads serve as main access roads to an agricultural area, connect towns and villages and link them to primary system. Depending upon the quality of the road, the maintenance responsibility is shared by the Ministry and regional authorities. These are usually earth surface. The Santilya-Isangate road, road leading to Chunya and Rujewa-Madibira road belong to this category.

The tertiary roads serve smaller producing areas and connect farms, co-operative societies and villages to the secondary system. These roads are of poor condition and normally closed during rainy season.
The construction and maintenance is the responsibility of the region. These roads are scattered all over except the northern areas of the district.

Road transportation as emphasized in the second Five Year Plan is an important element in regional development. It facilitates the growth of economic activities and commercial trade; and stimulates expansion of agricultural and industrial sectors. Transportation also helps in interacting people those in rural areas and urban areas, exchange of goods and provides markets for agricultural produce. Hence it is important that transportation systems are planned in such a manner that they complement other sectors. In Mbeya District, roads were concentrated along the railway corridor leaving the rural deep zone without transport facilities. The remote areas in the north and east along the Ruaha River are inaccessible without a four wheel drive vehicle. From the soils map, these areas are fertile and could produce high yield crops.

In order to exploit the unutilized agricultural resources, these areas should be provided with roads. To facilitate movement of good from the production areas to far off markets, a good all weather road and well connected to railway stations should be planned so that the rail transport could
help further in reducing costs of transportation. Such stations as Uyole, Chimala, Rujewa, Iiongo and Mbalizi were found ideal as connecting points.

Conclusion on the main activities along the line.

The influence of the railway on the activities along the line is limited within those settlements close to the railway. Thus, agricultural and industrial activities will benefit more if located along the railway line. The present state of feeder roads and their poor connectivity to the railway discourage the railway influence to penetrate further into rural area.

Development along the railway.

Population distribution, distribution of health, education and service centres and the accompanying industrial establishments were analysed by physical survey and questionnaires in order to see the changes that have taken place since the railway was completed. These results are given below:

Population distribution.

Four major population zones can be identified along the railway line. The Mbeya Mbalizi zone where you have highest population densities especially in
Mbeya town and the surrounding urban centres reaching up to 50 person per square km.. The population decrease towards Uyole and Luyala where it is 20 persons per sq.km. and further down into Usangu plains it is 10 persons per sq.km. and finally becoming less and less to 1 person per sq.km. in the Ruaha basin. With the coming of the railway changes have been noticed in the Usangu plans especially in settlements along the railway. Msesure, Malamba and Kangaga were before the railway construction one man homestead. Now that the station has been constructed, its population has risen from 20 people to more than 1000 people. This has been so because of the Government policy to concentrate people in settlements along the railway and the implementation of Ujamaa Concept.

TABLE NO. 21

POPULATION INCREASE IN SOME OF THE SETTLEMENTS ALONG THE RAILWAY.

<table>
<thead>
<tr>
<th>Location</th>
<th>Population 1972</th>
<th>Population 1976</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kangaga</td>
<td>-</td>
<td>3,000</td>
</tr>
<tr>
<td>Msesure-Mbuyuni</td>
<td>120</td>
<td>4,500</td>
</tr>
<tr>
<td>Chimala</td>
<td>2,360</td>
<td>7,000</td>
</tr>
<tr>
<td>Igurusi</td>
<td>2,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Malamba</td>
<td>-</td>
<td>900</td>
</tr>
<tr>
<td>Uyole</td>
<td>1,500</td>
<td>3,000</td>
</tr>
<tr>
<td>Mbeya Urban</td>
<td>45,000</td>
<td>70,000</td>
</tr>
</tbody>
</table>
MBEYA DISTRICT

POPULATION DENSITY

LEGEND

- MAIN ROADS
- OTHER ROADS
- RAILWAY
- RIVERS, PERMANENT
- DISTRICT BOUNDARIES

BETWEEN 10 - 4.9 SQ KM
BETWEEN 5.0 - 9.9 "
BETWEEN 10.0 - 19.9 "
BETWEEN 20.0 - 49.9 "
OVER 49.9 SQ KM

SOURCE: TANZANIA POPULATION CENSUS, 1967

KASEGE, J.
DEPARTMENT OF URBAN AND REGIONAL PLANNING
M.A. PLANNING 1977/78

THESIS MAP No. 8

20 10 0 20 40 60 KMS.
10 5 0 10 20 30 40 MLS.
The new population census to be done this year will undoubtedly give more realistic figures for the whole district. During our survey the Northern side of the district and along the Ruaha river there was scattered population.

**Distribution of Government Facilities.**

In 1971 there were 41 primary schools in Mbeya District with school going age enrolment in standard one of 46%. With the national target of Universal Primary Education for all seven-year old children by 1977 means that more schools have been started in every corner of the district. Nearly 80% of the Primary schools are located with a 10km. width of the railway. See map

It is the policy of the government to provide each Ujamaa Village with a dispensary. In this connection, villagers are urged to make bricks and construct their own buildings for health purposes. In Mbeya Government Hospital, a medical Assistants training course was started in 1976 with the aim of these people working in these dispensaries.
TABLE NO.22

REQUIREMENTS FOR FACILITIES BY 1980 IN MBEYA DISTRICT.

<table>
<thead>
<tr>
<th></th>
<th>Existing in 1975</th>
<th>Proposed requirement by 1980</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Beds</td>
<td>399</td>
<td>64</td>
</tr>
<tr>
<td>Rural Health Centre</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Dispensary</td>
<td>20</td>
<td>28</td>
</tr>
</tbody>
</table>

Source: Regional Medical Office Mbeya.

Hospitals are located in Mbeya and Chimala while two rural health centres are located about 5km. away from the railway. In order to increase the number of beds these will have to be added with more beds. Dispensaries are scattered over the district but about 70% are located within 10km. distance of the railway. With increased population along the line, it is very likely that future development of health services will be along the railway. Other government services provided by this district follow similar pattern as health and education, and it is now being emphasized that intensive services should be provided to the people newly settled in villages along the railway.
MBEYA DISTRICT
EDUCATIONAL FACILITIES

LEGEND

 MAIN ROADS
 OTHER ROADS
 RAILWAY
 RIVERS, PERMANENT
 DISTRICT BOUNDARIES
 PRIMARY SCHOOLS
 NUMBER OF PRIMARY SCHOOLS
 NUMBER OF SECONDARY SCHOOLS

AREA POORLY SERVED WITH EDUCATIONAL FACILITIES

PRIMARY SCHOOLS — 43
SECONDARY SCHOOLS — 4

SOURCE: DISTRICT EDUCATION OFFICE AND OWN SURVEY.

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AND REGIONAL PLANNING
M.A. PLANNING 1977/78

THESIS, MAP No. 9
MBEYA DISTRICT
DISTRIBUTION OF HEALTH FACILITIES

LEGEND

- MAIN ROADS
- OTHER ROADS
- RAILWAY
- RIVERS, PERMANENT
- DISTRICT BOUNDARIES
- HOSPITALS
- HEALTH CENTRES
- DISPENSARIES

AREAS NOT SERVED BY HEALTH FACILITIES

SOURCE: THE REGIONAL MEDICAL OFFICE AND OWN SURVEY

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M.A PLANNING 1977/78

THESIS MAP No. 10
MBEYA DISTRICT WATER RESOURCES 1976

LEGEND

- MAIN ROADS
- OTHER ROADS
- RAILWAY
- RIVERS, PERMANENT
- DISTRICT BOUNDARIES

EXISTING PIPED WATER SUPPLY
WATER SUPPLIES UNDER CONSTRUCTION

Source: Water Department Annual Report 1976

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M.A PLANNING 1977/78

THESIS MAP No. 11
Service centres.

Urban centres in Mbeya district include Mbeya Town, Chimala, Rujewa, and Isangate which are either district or divisional headquarters. The rest are either rural centres or trading centres along the transport routes. Growth centres along the railway are Igawa, Igurusi, Ilongo, Uyole, Inyala, Mbalizi, and those along secondary roads include Madibira, Isagate and Santilya. Since the railway was completed new centres have come up, these are Kangago, Msesure, Ilongo and Malamba.

The new growth centres are planned with plots showing different uses of land in the village. They are provided with public facilities plots such as school, dispensary, market and area industrial activities. At the moment people are undertaking self-help projects to implement some of plan proposals such as building a school block, teachers quarters etc..

With the completion of the railway line Mbeya town is experiencing a fast rate of growth of more than 7% because of the industrial activities taking place. In Mbeya town new areas have had to be designed to cope with housing demand for plots. New residential areas which have come up since 1975 include:
1. New Mwakibete Residential layout under site and service scheme. 900
2. Forest area (residential) 890
3. Iyunga Residential area 1060
4. Mwakibete-Uyole Residential area 2000

The demand for residential plots was 8000 plots in the waiting list. With this high growth rate Mbeya is attracting a lot of migrants from the rural areas as well as the surrounding district. Most of these people are seeking jobs in the new industries and the railway-station has created a lot of employment for young people. The railway authority is expected to construct 250 residential quarters for its staff.

Construction of development projects.

**TABLE NO. 23**

**DEVELOPMENT PROJECTS IN MBeya IN 1978.**

<table>
<thead>
<tr>
<th>Name of project</th>
<th>Location</th>
<th>Year constructed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mbalari Rice Scheme</td>
<td>Rujewa</td>
<td>1969</td>
</tr>
<tr>
<td>Bull Centre</td>
<td>&quot;</td>
<td>1971</td>
</tr>
<tr>
<td>Irrigation Schemes</td>
<td>Chimala</td>
<td>1969</td>
</tr>
<tr>
<td>Usambeco Ranching</td>
<td>&quot;</td>
<td>1974</td>
</tr>
<tr>
<td>Narco Ranch</td>
<td>Ilongo</td>
<td>1974</td>
</tr>
<tr>
<td>Cold storage</td>
<td>Mbeya</td>
<td>1975</td>
</tr>
<tr>
<td>Farm implements</td>
<td>&quot;</td>
<td>1976</td>
</tr>
</tbody>
</table>
Conclusions on development factors along the railway.

The analysis on the development factors has shown that only people within 15km. wide distance of the railway benefit from it further inland the influence of the railway decreases gradually. Since the completion of the railway, new growth centres have risen with populations growing very fast more than the assumed rates. In other centres such as Rujewa and Chimala the population of growth rate is high because of migration from rural areas to new facilities being provided along the railway. Changes of land uses in town is taking place indicating town development and expansion.
Because of the increased population in the settlements along the railway the government is forced to provide more socio-economic facilities in order to raise the standard of living of people living within the railway corridor. Increase health and education facilities in the area means more health people who can contribute more in better improved agricultural activities. Increased food productivity will add more nutrients and calories to people bodies who will contribute more in economic development of the district.
CHAPTER FIVE.

THE IMPACT AND CONCLUSION.

The previous chapter examined the development factors and economic activities and how they can contribute to the development of Mbeya District. The study evaluated development trends in order to predict what is likely to happen along the railway line in twenty years time. The analysis revealed that the impact of the railway could be classified into the following:

1. **Change in population and settlement pattern.**

The present development trend shows that people are moving from the deep rural areas into the railroad corridor because of the services and facilities being offered by settlements along the railroad. During the construction period of the railway a string of working camps were set up along the present alignment of the railway. Some of these camps have turned into villages with a growing population. Kangaga, one of the railway stations was a working camp when a bridge was being constructed, but today it is an Ujamaa Village with a population of 2000 people. Inyala station near Mbeya was working camp for tunnel construction team, today the population is growing and estimated at 500 people. Msesure was a cattle rearing village with 10 families in 1974.
It was also a site for a working camp when two bridges were being constructed across two river valleys. When it was visited in 1978 its population had increased to 110 families.

In old settlements such as Songwe, Iwambi, Uyole, Nsonyanga, Igurusi, Chimala and Rujewa, the increase in population could be seen at the new houses which were constructed after 1975. For example in Igurusi, it was observed that about a half of the houses in the village were constructed after 1975 indicating new people who have migrated to the village. In Mbeya town during the two years 1975 and 1976 a programme was initiated to cope with the increasing demand of residential plots. The programme was also aimed at combating squatters especially those who were settling near the railway station.

Away from the railway line it was found that the population in the settlements did not change much. Along the road leading to Utengule and Mishewe it was found no change had taken place. On the eastern side of the district it was observed that people were being moved from their scattered homesteads in concentrated villages near the railway line. Future increase in population and settlement distribution is likely to concentrate along the two
major transportation routes in the district. The expansion of Mbeya due to economic activities being located in the town, it is likely that it will link with Uyole and Mbalizi with residential units being located along the line. As people move into these residential areas, the town authority will be pressurized to provide services such as education, health, roads and lights.

2. Change in Economic Activities.

a) New industries: The location of new industries in Mbeya is being undertaken because of the presence of rail transport passing through the town. A medium industrial area is now developing near the railway station and industries such as Farm Implements Factory, Soap Factory, TANESCO wood impregnation plants and godowns are being constructed. Further west heavy industrial area is being planned where cement factory and steel mill plant will be located. To tap the coal from Kiwara in Rugwe District and iron ore from Chunya District two branch railway lines are being proposed in the two directions.

The greatest development thrust will be the construction of the steel mill in Mbeya. It is expected that when the mill is in operation it
94 will generate a lot of employment opportunities and also increase the countries earning by over £50 million. The allied industries connected with steel production could also make Tanzania self reliant in coal-based chemical industries and serve the country £1.23 million a year. The end products from factories will be transported by rail to markets within the country or in neighbouring countries of Zambia, Angola and Zaire.

b) Agriculture: In order to utilize the rail transport efficiently, massive agricultural programmes are being planned on the assumption that the railway will provide lower transportaton costs than the road transport. It is the intention of the Regional Directorate that all crops are transported by rail because of its reliability and safety.

The expansion of Mbarali Rice Scheme in Rujewa, the development ranches in Usangu Plains and increased agricultural production in maize and wheat are aimed at increasing the quantities which can be transported by rail to distant markets. The National Ranching Company is exporting cattle to Saudi Arabia at a rate of 200 heads each week. These are loaded in the railway wagons at Ilomba to Dar-es-Salaam and
shipped to Saudi Arabia.

The Railway Authority also provides cold storage wagons where meat, fruits and vegetables can be kept and forwarded to other regional markets. Already mutton and beef from Kitulo are being forwarded to Dar-es-Salaam for consumption. These railway facilities have an impact of stimulating increased agricultural production in the district because of the rail link between the consumption centres and production areas.

For the farmers in the district, part of the food crop will be consumed locally and the surplus together with cash crop will be sold to earn money. The improved methods of cultivation and animal keeping will increase both incomes and food value in diets of the people.

3. Improved Transportation.

The Tanzania-Zambia Railway and the TanZam Highway form a very strong transportation link between Dar-es-Salaam and the Southern regions. For efficient use of these facilities requires the elimination of unnecessary competition between the rail and road. In the pre-railway period, the journey from Mbeya
to Dar-es-Salaam - a distance of 550 miles could be undertaken in four days by lorry. Letters used to take one week. Today the express train covers the same distance in 17 hours. Goods trains take up to 27 hours depending upon the traffic on the line. In this respect the railway has reduced time for passenger travel as well as time for transporting goods to Dar-es-Salaam. Commodities can now move much faster to Dar-es-Salaam where there is an available market and for export. The future role of transportation in the district should be that the rail forms a backbone of transportation while the road transport complements the railway especially in transportation of express services for perishable commodities and high value goods. The road improvement programme in the district is aimed at improving connection between production areas with transportation centres along the railway.

4. Increased demand of government services.

The Ujamaa villages are seen as injection points of innovations and where rural society can be transformed into a developing community. The completion of the railway has accelerated the process of villagization to such an extent that most of them have not been provided with the necessary services. In order to make the villages along the line more attractive
places to live in the District Development Directorate is required to provide these services as primary education, health and clean water to the people. To help them to develop other services from agriculture extension workers and veterinary services are being provided to the settlement along the line.

It is the intention of the government to provide prosperous villages with electricity in which more economic activities could be encouraged. With provision of electricity simple workshops and small scale industries can be started. These will provide some employment to the young people and hence reduce the drift to town. The young people will stay to develop the improverished rural area.

5. Employment.

The impact of the railway in creating employment could be seen in two different periods. During the construction of the railway up to 2000 young men were estimated to have come from Mbeya Region. Some were engaged as casual labourers and others were on semi-skilled jobs as masons, carpenters plumbers and electricians. All these workers earned a steady income from which they could meet some of their commitments at home. Some of the income earned was used in purchasing new farms or in purchasing building materials. Thus the rural areas started
having buildings with permanent materials, more goods as a result of the wages earned from the railway project.

After the completion of the railway project some of the workers were absorbed permanently in the railway Authority in different fields. Today the railway provides jobs to about 1500 people in Mbeya District. With the expansion of the railway activities, more school leavers are being trained to handle various jobs in the administration and technical fields.


In 1977 the railway authority started the construction of its staff quarters all along the line. In Mbeya 250 staff quarters are being erected at Iyunga. This will give employment to many people engaged in the building industry such as masons, carpenters and transporters during the period of construction. The overall effect will be increase in income of the people and standard of living of the people in the district.

CONCLUSION.

The study has shown the general impact of the rail transport as one of the factors which could affect and accelerate development in Mbeya District. It has
been revealed that the influence of the railway is limited to settlements within 15km. wide corridor and it decreases gradually away from the corridor. In order that the whole districts benefits from the rail facility it is proposed that good access and all weather roads be constructed to link the productive rural areas and the rail stations. The road improvement programme as devised in the third Five Year Plan should be implemented to improve accessibility to some of the rural areas.

The study also identified several problems in the study area which are arising since the railway construction was completed:

a) There is disparity in district development in that the southern areas are more developed in terms of services, facilities and in distribution of settlements than the northern areas where the population is scattered.

b) The area south of railway line is developed in respect of transportation facilities while the north has very few roads.

c) The influence zone of the Tanzania-Zambia railway is limited close to the railway and protrudes along the main trunk roads.
d) There is uneven distribution of settlements in northern areas of the district due to scattered population.

e) Social services are lacking in the northern parts of the district.

f) Economic activities such as industries and agriculture are concentrated to the south.

The completion of the railway seems to widen the gap of development between the north and south even further. The impact of the railway favours the southern areas to attract more population, locate economic activities and services. We have seen also that the northern areas have some of the best soils for growing tobacco, maize, rice, finger millet and plenty of grazing land. The existing poor quality of roads and poor accessibility has hindered development in those parts.

The study has also shown that it is not enough to construct main trunk lines of transportation without considering how the railway or road is going to be fed with anticipated volume of goods from the rural productive areas. To resolve the above-mentioned problems development strategies are therefore proposed with the aim of reducing development imbalance.
between the northern and southern areas through the injection of improvement programmes as outlined in the following chapter.
CHAPTER SIX.

DEVELOPMENT STRATEGIES AND RECOMMENDATIONS.

The analysis in chapter three reveals that there is great concentration of population, settlements, services and road network in the rail-road corridor in the district. If the present trend of development is allowed to continue there will be development problems in the corridor associated with congestion of population, services and economic activities. At the same time with the completion of the railway project the rural areas are gradually being depopulated because of the many facilities being injected into the settlements along the line. In order to stimulate district development and reduce the migration of people into the corridor, it is proposed that various strategies should be adopted which will balance development in the district.

The development strategies are based on two assumptions. One, urban areas are expanding and development is taking place at the peripheries of existing towns and minor trading centres in the corridor. Two, the urbanization process which is attributed to the settling of railway labourers after the railway project was completed and the formation of Ujamaa Villages when quite large population was moved from their scattered homesteads
and settled near the major transportation routes. In both cases the government has failed to provide the new population with the necessary services.

**Development strategies.**

The Third Five Year Development Plan for the region and this study envisages tremendous progress in the development of productive sectors which will increase the need for railway facilities and equipment. Experiences from other railways have shown that if the TanZam Railway is to operate economically in Mbeya District, the district must generate a year round traffic and be able to produce more marketable goods and crops to use the railway facilities efficiently. The challenge of the region as well as Mbeya district is facing is that of increasing its productivity in marketable goods in order to generate the volume of rail traffic and meet the district transportation needs. In doing so it is necessary to look and study the district's resources and potentialities to be able to devise programmes and projects that will increase the economic activities in the district. These economic activities will in turn use rail facilities to meet the transportation requirements. This study, therefore, suggests some of the development strategies to be adopted to increase productivity and efficiency of
transportation in the district.

Agriculture:

The most important natural resource in the district where more than 90% of its people depend is agricultural land. The climatic conditions are favourable for both intensive and extensive agricultural production and cattle breeding. The agricultural research station at Uyole has come with better yields per hectare by good cultivation methods, use of fertilizers and insecticides and better seeds. Farmers' yields could be increased by use of the above methods and inputs. This strategy could be applied in the higher terrain around Santilya, Mbalizi/Songwe, Uporoto highlands and Inyala areas where soils are fertile with sufficient rainfall.

In the lower parts of Usangu plain, agriculture policy should aim at intensifying irrigation practices especially during the dry season. With irrigation more crops can be grown in the area, instead of one harvest a year, two harvests could be realized. Diversification of crops should also be encouraged instead of relying on rice as the main crop of cultivation.

Around Mbeya within a 15km. radius and where there is cool climate and soils are fertile, vegetable
cultivation should be encouraged to feed the Mbeya urban population as well as selling some to other regional centres. Already cabbages from the district are being transported to Dar-es-Salaam in the cold storage wagons. Through better gardening methods and use of better seeds, the land can be made to produce throughout the year. With the market for vegetables, the railway could still lower the transportation costs to encourage farmers to produce more. The areas which will be devoted for this programme are Mbalizi, Utegule, Uyole, Inyala and Iwindi.

Cattle rearing along the railway should aim at encouraging the local people to take new cattle hybrids which are now being introduced in ranching schemes. This will increase the production of beef and milk in the district. The Usangu plain which is underutilized should be opened up with more ranching activities either on cooperative basis or the government. In the upper parts of the district, dairy cattle and sheep rearing should be encouraged since conditions for such activities are readily available.

**Spatial distribution of centres and services.**

Although no growth centre policy exists for
IMPACT OF RAILWAY ON DEVELOPMENT OF MBeya DISTRICT
Tanzania like the one outlined in the 1974-78 Kenya Development Plan, it was observed that certain settlements had higher level of services than others. Settlements with higher level of services attracted more population from its surrounding rural areas. Further it was found that accessibility was a major factor in location and in attracting development to growth centres. The greatest concentration of settlement was along the railway line where the road network is well developed.

The future pattern of settlement should aim at the strategy of balanced distribution of population, employment opportunities assist in stimulating rural development. The designation of centres should aim at easing administrative processes and facilitate provision of services in growth centres.

It is therefore, proposed that Rujewa, Chimala, Santilya, Igona, and Madibira should be provided with more services to be able to serve bigger hinterland around them. In this case additional facilities could be provided shops, cooperative godown and wholesale facilities. The rural centres should have all necessary services with a shopping centre as proposed in the service centre map.
IMPACT OF RAILWAY ON DEVELOPMENT OF MBEeya DISTRICT
Roads and Railways.

The development strategy for transportation should aim at improving the quality feeder roads to villages and secondary roads which connect the production areas with the railway stations. The roads should be improved to all-weather standards by putting murrum on the surface, building culvets and bridges so that they are passable throughout the year.

The following roads are therefore suggested in the improvement programme to be undertaken in the third Five Year Plan.

Feeder roads needing improvement are:

**TABLE NO. 24**

**FEEDER ROAD NEEDING IMPROVEMENT AS PER 1978.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Remarks</th>
<th>Length</th>
<th>Cost '000 shs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Igawa-Madibira</td>
<td>Poor condition. About 24km. is under construction. Rujewa-Madibira impassable during wet season. Benefit: Ranching, paddy.</td>
<td>53</td>
<td>795</td>
</tr>
<tr>
<td>2. Igwusi-Utengule</td>
<td>Utengule-Ukweheri, 30km. not passable during wet season. Area partly flooded. Benefit: transport of maize and cattle.</td>
<td>45</td>
<td>675</td>
</tr>
<tr>
<td>No.</td>
<td>Road Name</td>
<td>Description</td>
<td>Priority</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>3</td>
<td>Santilya-Mbozi border Humba</td>
<td>This project is a priority, impassable during wet season. Benefit: transport of pyrethrum, coffee, tea, maize.</td>
<td>54</td>
</tr>
<tr>
<td>4</td>
<td>Mjele-Ikukwa</td>
<td>Track, impassable during rainy season Benefit: Transport of cotton from Ikukwa and Chunya District.</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>Mbalizi-Galula</td>
<td>Impassable during wet season. Needs gravelling Benefit: Transport of maize and cotton.</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Isenyela-Msangaji</td>
<td>Impassable: Benefit: To open up the area for tobacco and ranching.</td>
<td>70</td>
</tr>
<tr>
<td>7</td>
<td>Ilongo-Ruiwa Narco Ranch</td>
<td>Road in poor condition Benefit: ranching, paddy</td>
<td>32</td>
</tr>
<tr>
<td>8</td>
<td>Rujewa-Mbalari</td>
<td>Road to be improved. Benefit: Rice Scheme</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Chimala-Masari</td>
<td>Impassable during wet seasons - needs gravel and culvets. Benefit: paddy, maize, livestock, veterinary centre</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>Isangati-Ilindi</td>
<td>Impassable during wet season. Benefit: maize, Pyrethrum</td>
<td>9</td>
</tr>
<tr>
<td>11</td>
<td>Mbalizi-Iwindi</td>
<td>Road in poor condition Benefit: coffee from nearby villages.</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Ulenje loop road (Igurusi-Nyapanda)</td>
<td>Impassable. Needs bridges and culvets Benefit: pyrethrum, paddy</td>
<td>40</td>
</tr>
</tbody>
</table>
Road improvement generate both direct and indirect benefits. The direct benefit arise because of the reduction of total transport cost by reducing carriage charges and travelling time and by making road transport more reliable. The indirect benefit arise due to improved performance of other sectors in the economy.

Most of the roads in the above-mentioned programme are feeder roads with minor traffic. The areas they serve have poor transport services. The presence or an all weather road in the area can have an effect of linking the isolated rural areas with distant markets. For bulk transportation of inputs such as fertilizers the railway with low transport changes over long distances could being these up to railway station where they can be unloaded and delivered to the villages by lorries and buses.

The transportation strategy also aims at opening up the northern section of the district by constructing new roads where its agricultural potential is lying idle. This area has great potential for livestock keeping and tobacco production; but due to poor accessibility and poor quality roads, its resources have not been exploited. Hence, in order to stimulate agricultural programmes in this area, it is proposed that an access road should be constructed.
IMPACT OF RAILWAY ON DEVELOPMENT OF MBeya DISTRICT
The policy should also aim for a balanced relationship between the road and railway where rail transport will take care in transportation of bulk commodities and the road transport will be used in shorter and express services. The rail transport should therefore play the following role:

1. Transportation of passenger and passenger parcel services.
2. Transportation of heavy loads or bulk commodities.
3. Express services between Mbeya and Dar-es-Salaam for milk products and vegetables.

Industrialization.

The location of major industries is along the railway line due to ease loading and unloading facilities of both raw materials and finished goods. The industrial development strategy should also aim at locating small scale industries in rural areas to create employment and use of local materials. The strategy could also help in decongesting industries along the railway especially in Mbeya town. It is expected that the products from these small scale industries such as carpentry, pottery will generate enough transportation demand to use the rail facility and indirectly the railway will enhance rural development.
Implication of development strategies.

It is expected that the suggested development strategies will enhance further rural and district development as whole. The purpose of this study was to examine the influence of the railway on development factors and how it has affected development and economic activities in the district. Transport as means to an end should be made to serve the needs of transport in productive sectors. The impact of the railway will be felt more if good connections between the railway stations and the rural productive are improved to all weather standard. The increased agricultural production and industrial activities will only benefit the district if cost of transportation are lowered by improving feeder road and reducing time of loading or unloading at railway stations.

The railway Authority calls for coordination of other factors in production and road maintenance to increase their activities. There is also a need for a district coordination committee to see that efficient road transport is maintained between the rural markets to transshipment stations along the railway line. The committee will be helped in its work if there is a district development plan to coordinate proposals from each sector. The District Planning
committees being a big body dealing with the general activities in the district could appoint a sub-committee which could be charged with the responsibility of formulating district development physical plan. The sub-committee should consist of technical department concerned with development and a physical planning officer from Town Planning Department in Mbeya.

Recommendation.

The present influence of the railway is limited to 15km. wide along the line. The need for the exploitation of the district potentials in agriculture, livestock and minerals can only be done if the access roads to production areas are improved to more stable standards. These feeder roads will then feed the railway line with goods to be transported. It is, therefore, recommended that:–

1. Priority should be given to improvement of rural roads especially the lower roads to improve movement of crops from production areas to markets. These roads include:

   1. Chimala-Matamba 21km.
   2. Chimala-Masasi 6km.
   3. Igawa-Madibira 53km.
   4. Igurusi-Ukweheri 45km.
2. The roads leading to transhipment stations should be connected with secondary roads and be all-weather road to minimize delays and might increase volume of traffic.

3. Lower level centres should be increased to be able to deliver more services and facilities to surrounding rural areas. It is proposed that the north-western part of the district around Msangaji should be developed with growth centres to exploit tobacco and ranching activities. Along the Igawa-Madibira road, the Ikoga settlement should be upgraded to provide more services to surrounding Ujamaa Villages. Utengule in Usangu should also be upgraded to rural centre and injected with more facilities in order to serve villages in the plain. Santilya and Ilembo should also be provided with wholesale facilities to reduce people coming to Mbeya for essential commodities.

4. To increase the efficiency of the railway...
services the following station should be provided with more loading and unloading facilities; Igawa, Chimala, Ilongo Mbeya and Mbalizi.

Scope for future research.

Although the study set out to study the impact of the TanZam Railway in district development, resource use and possible settlement re-organization, it has not been exhaustive. Transportation as a means to an end should be made to serve areas and for purposes it is intended. It is necessary that reappraisals of transportation problems are reviewed periodically for the facility to be of benefit. It is, therefore, suggested that further research should be done in:

1. The evaluation of growth centres policy in fostering rural and district development.
2. The engineering problems connected with development of feeder roads in Usangu Plains.
3. The problems of promoting ranching schemes in Usangu Plains.
4. Development problems of the northern parts of Mbeya District.
IMPACT OF RAILWAY ON DEVELOPMENT OF MBeya DISTRICT


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