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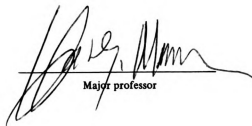
The Development of Socio-Economic Impact of  
Transportation in Tanzania, 1884-present.

presented by

Frank M. Chiteji

has been accepted towards fulfillment  
of the requirements for

Ph.D. degree in History



Major professor

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THE DEVELOPMENT AND SOCIO-ECONOMIC  
IMPACT OF TRANSPORTATION IN  
TANZANIA, 1884 - PRESENT

By

Frank Matthew Chiteji

A DISSERTATION

Submitted to  
Michigan State University  
in partial fulfillment of the requirements  
for the degree of

DOCTOR OF PHILOSOPHY

Department of History  
College of Arts and Letters

1979



## DEDICATION

I wish to dedicate this study to the memory of my very loving father, Mzee Richard E. Chiteji, who was killed in Tanzania on January 29, 1977, while I was in the United States. I also wish to dedicate this study to the memory of my dear friend and professor, James R. Hooker, who passed away in the United States in May 1976, while I was in Tanzania doing my field work for this study.

## ABSTRACT

### THE DEVELOPMENT AND SOCIO-ECONOMIC IMPACT OF TRANSPORTATION IN TANZANIA, 1884 - PRESENT

By

Frank Matthew Chiteji

#### Statement of the Problem

This study was conducted to determine the impact of transport development in Tanzania with particular emphasis on Uluguru. The study covers the period between 1884 and the present. Since the impact over the years has varied in degree and intensity, this study was planned to identify the effect of specific transport networks on socio-economic and political development. The impact of railways and roads has been more closely studied than other modes of transport, such as the pipeline, airline, and waterways.

#### Data

Primary data were gathered through personal interviews, as well as from the Tanzania National Archives in Dar Es Salaam. Various government documents, research papers, and minutes of proceedings of the district and regional meetings have also been used.

Secondary information, consisting mainly of books, articles, and unpublished works on Uluguru, was also used. In addition, the writer observed numerous activities related to transport development which

are fully discussed in the study.

### Major Findings of the Study

An analysis of the data collected reveals that transport networks had the following important effects on the region's socio-economic and political development: they raised agricultural output and stimulated a progressive switch from subsistence to large-scale commercial production. There consequently developed a system of markets throughout the region, the biggest and busiest one in Morogoro. Other small periodic markets are situated in various settlements.

The introduction of the railways in the 1900's undoubtedly set criteria for the economic development of the region and the country as a whole. The central railway reduced the high transport costs of porterage traffic prevailing until then. The railway made possible the bulk transport which was the pre-condition for the creation of an export-oriented agricultural production which, in turn, provided the foundation for all further economic development.

This study also involved researching the impact of roads on the development of Uluguru. In terms of practical development of transportation, it began slowly in the 1870's but progress accelerated after 1905, and changed the transport system that had, until then, been characterized by the existence of head-porterage. This ability of road transport to create much denser networks in the region introduced an entirely new element into the transport pattern. Roads, more than the railways, expedited the replacement of head-porterage. Roads were instrumental in the establishment of certain rural settlements,

also a necessary pre-condition for the beginning of commercial agriculture. Roads, and in particular feeder roads, have played a significant role in the improvement of some of the settlements which were being served by poor ungraded roads. Recent Ujamaa villages also have benefited from roads, and many are located today along some of the major feeder roads.

Roads have also contributed significantly to changes in the ways of life for thousands of people in the region. In areas where there were no schools, and no provision for other social services because of inadequate transport networks, such services are now being provided as new roads are constructed, and old ones are improved. Such roads have also resulted in greater mobility for the people and have enabled modernizing ideas to be introduced into areas where people had remained isolated from the rest of the country. Rural people are also now capable of maintaining regular contact through available means of communications: they visit each other often and can carry more gifts to their distant relatives, gifts which include foodstuffs which they carry along on the buses or lorries.

## TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES . . . . .	viii
LIST OF MAPS . . . . .	ix
LIST OF FIGURES . . . . .	x
ABBREVIATIONS . . . . .	xi
 INTRODUCTION . . . . .	 1
Review of Literature . . . . .	3
 CHAPTER	
I. THE LAND AND ITS PEOPLE . . . . .	6
People . . . . .	8
Social/Political Systems . . . . .	10
Economic Structure . . . . .	16
II. HISTORICAL OVERVIEW OF TRANSPORT DEVELOPMENT IN TANZANIA . . . . .	22
Early Attempt to Establish a Modern Transport System: The German Period (1884-1918) . . . . .	25
The Railways . . . . .	29
Roads . . . . .	37
Transport Development During the British Period . . . . .	41
Development of Roads . . . . .	45
Air Transport . . . . .	54

CHAPTER	Page
Historical Outline . . . . .	54
Transport Development Since Independence . . . . .	58
III. SPECIFIC TRANSPORT PROBLEMS AND REMEDIES IN MOROGORO . . . . .	61
IV. TRANSPORT CONSTRAINTS ON RURAL DEVELOPMENT IN ULUGURU . . . . .	76
Introduction . . . . .	76
CONSTRAINTS ON DEVELOPMENT, GENERAL TRANSPORT PROBLEMS IN TANZANIA . . . . .	77
Transportation of Agricultural Produce and Other Goods . . . . .	85
Relationship of Road Development and Production Output of Some Crops . . . . .	94
Some Classified Feeder Roads . . . . .	97
THE TRANSPORT CONSTRAINT ON RURAL DEVELOPMENT IN MOROGORO REGION . . . . .	105
Problems of Rural Transport . . . . .	106
Transport Demand in Rural Areas . . . . .	107
Supply of Rural Transport . . . . .	112
Transport as a Limitation to Rural Development . . . . .	116
Improvement of Rural Accessibility . . . . .	116
V. THE IMPACT OF TRANSPORT ON SOCIAL, POLITICAL AND ECONOMIC DEVELOPMENT IN ULUGURU . . . . .	119
The Impact of the Railways . . . . .	119
The Impact of the Roads . . . . .	122
The Impact of Roads on "Ujamaa" Villages . . . . .	128
Bus Transport . . . . .	129

CHA

APP

APP

BIB

CHAPTER	Page
General Evaluation of the Influence of Roads on Stimulation of Economic Activities.....	131
VI. SUMMARY AND CONCLUSION.....	134
APPENDIX A.....Morogoro: Areas of personal interviews and observations.	
APPENDIX B....Names of the Luguru clans.	
BIBLIOGRAPHY.....	140



## LIST OF TABLES

Table	Page
I. Tanzania Government Expenditure in Development (1969-1974) . . . . .	22
II. Total Value of Chief Crops Grown in the Region (1909-1913) . . . . .	40
III. Railway Lines Constructed Between 1925-1966 . . . . .	43
IV. Classification of the Railway Line, 1966 . . . . .	46
V. Roads Existing in 1938 by Mileage . . . . .	48
VI. Number of Licenced Holders and of Licenced Vehicles in Morogoro in 1965 . . . . .	71
VII. Accumulated Number of People Within One to Five Miles Reach of the Major Feeder Roads in Morogoro . . . . .	75
VIII. Estimated Marketed Production in Morogoro, 1960-1966 . . . . .	87
IX. Value of Crops Transported Over Various Segments of the Morogoro-Kisaki Road, 1962-1969 . . . . .	100
X. Four Major Segments of Morogoro-Kisaki Road Showing Mileage, and the Average Daily Traffic Over Each Segment . . . . .	101
XI. Distance of Uluguru Farms to Motorable Roads and/or Markets . . . . .	109
XII. Hectares and Settlements Over the Four Major Segments of the Morogoro-Kisaki Road, 1929-1946 and 1964 . . . . .	110
XIII. Type of Transport Used in Going to Farm by People in Four Selected Settlements, 1975 . . . . .	113

## LIST OF MAPS

### MAP

- I. Tanzania: Morogoro Region and the Adjacent Dar Es Salaam Region.
- II. Morogoro: Morogoro's Three Districts: Kilosa, Morogoro, and Wanga.
- III. Morogoro: Morogoro's Three Major Rivers: Wami, Great Ruaha, and Kilombero.
- IV. Tanzania: Coast-Interior Trade Routes.
- V. Tanzania: Railway Construction from 1893-1914, between Tanga (on the Indian Ocean port) and Moshi (a coffee growing area).
- VI. Tanzania: Railway Between Moshi and Arusha and Tabora and Mwanza Sections; extension of local feeder roads in the hinterland of the two ports, around major railway towns.
- VII. Tanzania: Railroad Penetration into the Sisal Growing Area from Kingolwire to Kimamba.
- VIII. Tanzania: Railways Built Between 1895 and 1965 (dates show time of completion).
- IX. Tanzania: First attempts by provision of trunk roads for interconnections between the main traffic axis and for opening up the southern parts of the country.
- X. Tanzania: Further expansion of interconnections between the various main axis of transport system.
- XI. Tanzania: Existing airports and aerodromes.
- XII. Morogoro: Major and Minor Roads.
- XIII. Tanzania: Movements of Agricultural Produce by Road, 1967.

## LIST OF FIGURES

### Figures

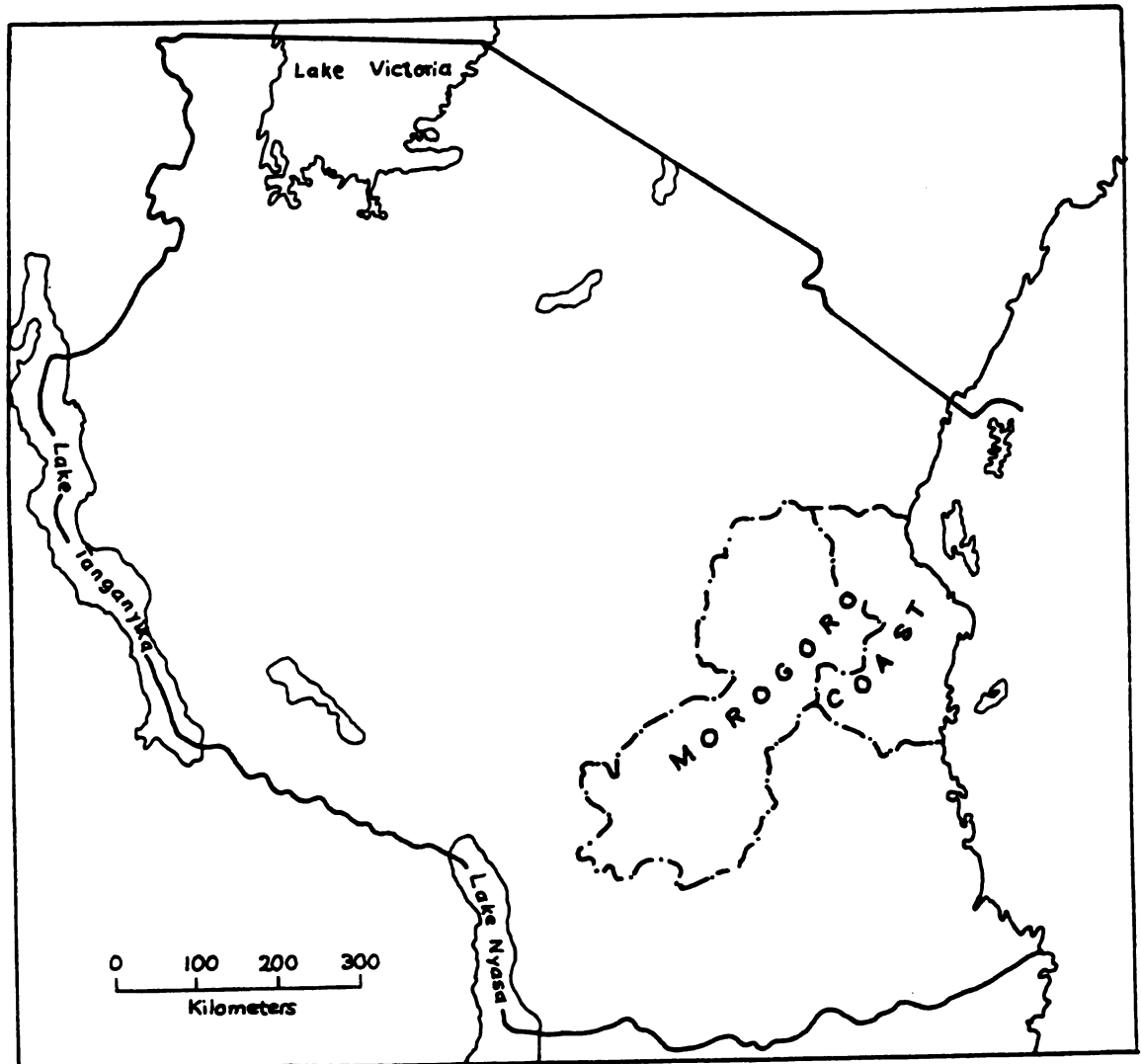
- I. Average Traffic on Morogoro Roads (Daily Bus Trips).
- II. Average Traffic on Morogoro Roads (Volume of Goods in 100 tons).

## ABBREVIATIONS

B.R.A.L.U.P. . . . .	Bureau of Resources Assessment and Land Use Planning
D.D.D. . . . .	District Development Director
E.R.B. . . . .	Economic Research Bureau
E.A.R.H. . . . .	East African Railways and Harbours
G.E.A. . . . .	German East Africa
M.S.E. . . . .	Mtibwa Sugar Estates
M.S.U. . . . .	Michigan State University
R.C. . . . .	Roman Catholic
R.D.D. . . . .	Regional Development Director
Shs. . . . .	Shillings
T.N.A. . . . .	Tanzania National Archives
T.L.A. . . . .	Tanzania Licencing Authority
T.G.A. . . . .	Tanzania Growers Association
U.D.I. . . . .	Unilateral Declaration of Independence
U.L.U.S. . . . .	Uluguru Land Usage Scheme

# TANZANIA

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## INTRODUCTION

In a number of recent studies regarding African development, economic history has been neglected, and the history of transport development has not been treated the same way other fields such as political development, African cultures and European colonialism have been treated by scholars. This study will, therefore, examine the historical development of transport in Tanzania, from the pre-colonial period until the present, with particular emphasis on the Morogoro region. The study will show that with the advent of colonialism, modern systems of transport, particularly roads and railways, have played a crucial role in the development of the Morogoro economy.

This study of transport was undertaken for three main reasons: first, to open the field to others who might wish to do more research on this area which hitherto has received a minimal level of scholarly attention, as my review of existing literature will show; second, to examine Tanzania transport history and to determine the extent to which past transport plans have affected the country's socio-economic development. My undertaking will assist in providing a background for careful future transport planning and prevent the national government from the duplication of past mistakes. Finally, I hope to identify and evaluate the factors which have led the Morogoro region to participate in the development of the wider nation-state and to explain the impact of modern

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physical communication systems on the population.

This dissertation is divided into six chapters, the first of which describes the geography and the people of the region. An understanding of the more important physical features is important because of the setting they provide for transport development. The people and their socio-political systems are also discussed as well as their economic structures (both pre-colonial and colonial) and the relationship of these to transport development. The second chapter presents an historical overview of transport development in Tanzania, and focuses on three major periods: the German colonial period, 1884-1918; the British period, 1919-1960; and the post-colonial period, 1961 to present. Also examined are the preceding pre-colonial and the Arab phases. Specific problems of transport development in Morogoro and their suggested solutions are studied in the third chapter. The fourth chapter investigates transport and the related problems of rural development, and chapter five focuses on the impact of transport. Chapter six provides the summary and conclusion of this study.

Information for this study was collected in Tanzania during a two-and-one-half-year period of fieldwork. Personal interviews served as a major method of data collection and were conducted in those areas listed in Appendix A. Other materials were taken from documents contained in the Tanzania National Archives in Dar Es Salaam. This repository contains much material relevant to the understanding of the German and British colonial periods and those development schemes which introduced modern transport systems as an agent of change. Still other materials were obtained from the reports compiled by the Bureau of

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Resources Assessment and Land Use Planning (BRALUP) and the Economic Research Bureau (ERB) at the University of Dar Es Salaam. Most of the data obtained from bureaus consisted of transport and economic feasibility studies undertaken by foreign firms between 1960 and 1975. In addition, the writer acquired access to specific ministerial reports from various government offices in Dar Es Salaam and in Morogoro. In Morogoro, moreover, the writer was given permission to examine and draw some information from diaries preserved in the archives of the Morogoro Roman Catholic Church.

### Review of the Literature

This author is familiar with some published works on the development of transport in Tanzania. None, however, has examined the historical aspects of transport development, and its impact on people has been ignored or discussed only in general terms. What this study hopes to do, therefore, is to bring together all of these fragmented materials.

Generally speaking, there are few studies on the Uluguru, with the exception of two anthropological works: Young and Fosbrooke's Land and Politics Among the Luguru of Tanganyika<sup>1</sup> and T.O. Beidelman's The Matrilineal Peoples of Eastern Tanzania.<sup>2</sup> In both studies, the authors concerned themselves with general societal development and change, which they concluded was facilitated by the advent of European rule.<sup>3</sup> In the

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<sup>1</sup>Roland Young and Henry Fosbrooke, Land and Politics Among the Luguru of Tanganyika (London, 1960).

<sup>2</sup>T.O. Beidelman, Matrilineal Peoples of Eastern Tanzania (London, 1967).

<sup>3</sup>Young and Fosbrooke, Land and Politics, p. 5.

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1950's the British Native Authority commissioned the Catholic priest, Canuti Mzuanda, to write a local history of the Luguru. His Historia ya Waluguru relies primarily on locally obtained traditions.<sup>4</sup> A brief survey of the geography of Uluguru is contained in E.W. Bovill's "Notes from East Africa: The Uluguru Mountains and the Rufiji Plains."<sup>5</sup>

In addition, two general works containing references to Uluguru are To the Central African Lakes and Back<sup>6</sup> and How I Found Dr. Livingstone.<sup>7</sup> Both provide useful descriptions of the early contacts between Europeans and the Luguru, but Thomson's interesting remarks about Uluguru physical features, and Stanley's praise of land and people apparently had the effect of attracting numerous subsequent European explorers to the region. Stanley wrote enthusiastically about the "walled city," which was the seat of the Luguru ruler:

The first view of the walled city at the western foot of the Uluguru Mountains, with its full valley abundantly beautiful, watered by two rivers, and several pellucid streams of water distilled by the dew and cloud enriched heights around was one that we did not anticipate to meet in Eastern Africa.<sup>8</sup>

F.D. Lugard's The Rise of Our East African Empire,<sup>9</sup> contained important commentary on Uluguru and served as a guide to many European

<sup>4</sup>Reverend Canuti Mzuanda, Historia ya Waluguru (Dar Es Salaam, 1958).

<sup>5</sup>E.W. Bovill, "Notes From East Africa: The Uluguru Mountains and the Rufiji Plains." The Geographical Journal, 50(1917):277-283.

<sup>6</sup>Joseph Thomson, To the Central African Lakes and Back (London, 1881).

<sup>7</sup>Henry M. Stanley, How I Found Dr. Livingstone (London, 1899).

<sup>8</sup>Stanley, Dr. Livingstone, p. 115.

<sup>9</sup>F.D. Lugard, The Rise of Our East African Empire (Edinburgh, 1893).

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explorers because it discussed those areas which the author believed were suitable rest stations for travelers to Nyasaland and beyond. There are several other accounts containing passing references to the Luguru.<sup>10</sup> W.O. Henderson, Studies in German Colonial History, A History of German Foreign Policy 1870-1814; and Hermann Kratschell, Carl Peters, 1856-1918 Ein Beitrag zur Publizistick des Imperialistischen Nationalismus in Deutschland, which devotes an entire section to the discussion of Peter's early treaty-signing expedition in Usagara, Uluguru and the rest of the eastern part of Tanzania. None of the works cited deals with the subject matter under examination in this study. In this respect, the present work constitutes an original study. The author's claim is to move away from political history, and instead attend to issues relating to economic history.

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<sup>10</sup>H.O. Henderson, Studies in German Colonial History (London, 1962); Erich Brandenburg, From Bismark to the World War (London, 1927); Herman Kratscheu, Carl Peters, 1856-1918 (Berlin, 1959).

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## CHAPTER I

### THE LAND AND ITS PEOPLE

The eastern third of Uluguru lies in the rolling coastal plains, although the core-area of the region is composed of rough hills and precipitous mountains. E.W. Bovill described these Uluguru Mountains:

[They] are of extraordinary beauty, and have been compared to those of Kashmir, though lacking the floral riverine of the east. Great rocks drop out on the floors of the valleys as well as on the hillsides, but nowhere does this ruggedness meet the eye, for the whole landscape is clothed in dense tropical vegetation, through which only an occasional gaunt peak rises above the general conformation of the hills. The rising sun turns the brilliant green of the virgin forest to a wonderful medley of soft shades of pink and manre and violet; but during the heat of the day the heights are enveloped in a veil of the softest blue. To the south, where the greatest elevation is reached, the mountains rise to the 7,000 feet contour over a considerable area.<sup>11</sup>

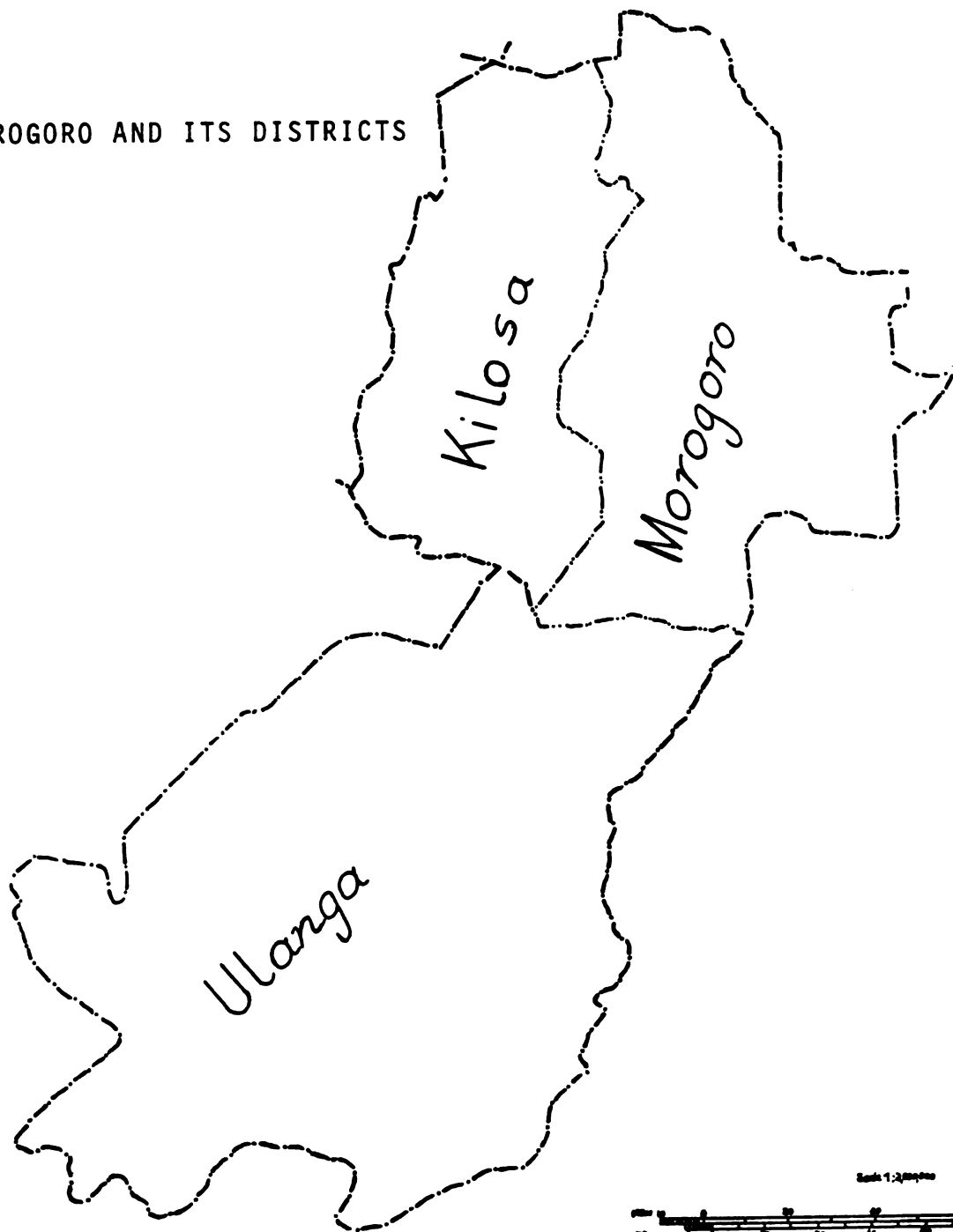
The Morogoro region is situated 1628 feet above sea level at the foot of the Uluguru Mountain range, whose highest peak reaches 8,000 feet. It contains an area of 19.296 square kilometres, composed largely of vast plains and plateaus. Its proximity to the equator, in combination with other factors such as elevation, rainfall and soil, results in a climate which ranges from tropical to temperate. The region's

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<sup>11</sup>Bovill, "Notes From East Africa," p. 277-283, See also R.C. Northcote "Native Land Tenure for Morogoro" (Dar Es Salaam, 1945).

## II

## MOROGORO AND ITS DISTRICTS



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rainy season extends normally from October to May, with heaviest rains in March, April and May. Total rainfall is approximately 35 inches, which is the minimum required for dependable cultivation. Along the hills where about 60 percent of the Luguru dwell, more rain falls than on the plains, occasionally as much as 70-80 inches. This precipitation falls on high quality terrain, including the fertile "black-cotton" soil scattered throughout the region.

There are many rivers but only three are large enough to warrant any mention in this study. The Wami River originates in the Mkata plains in the north and flows north of Dar Es Salaam. The Ruru River, together with the small Mgeta and Ngerengere Rivers, drains from the western Uluguru Mountains and flows northeast to reach the Indian Ocean just north of the Ulanga District where it connects with the Rufiji River system. On the whole, the topography provides no major obstacle to economic growth, including transport development (see Map III).<sup>12</sup>

### People

The Morogoro region is inhabited largely by the Luguru people, although the Kami, Kutu and Doe individuals have been absorbed through marriage.<sup>13</sup> The Luguru's place-of-origin is reportedly the Palaulanga

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<sup>12</sup>This conclusion was observed by a team of economists for the International Bank for Development. See The Economic Development of Tanganyika (Baltimore, 1961) p. 77.

<sup>13</sup>An observation made in four villages of Njiapanda, Kidete, Msowero and Rudewa in the northwestern part of Morogoro. At least six to ten persons out of forty-seven interviewees traced their origins to grandparents outside of northwestern Tanzania. Personal interviews, March 17, 1975.

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The introduction of the railways in the 1900's undoubtedly set criteria for the economic development of the region and the country as a whole. The central railway reduced the high transport costs of portage traffic prevailing until then. The railway made possible the bulk transport which was the pre-condition for the creation of an export-oriented agricultural production which, in turn, provided the foundation for all further economic development.

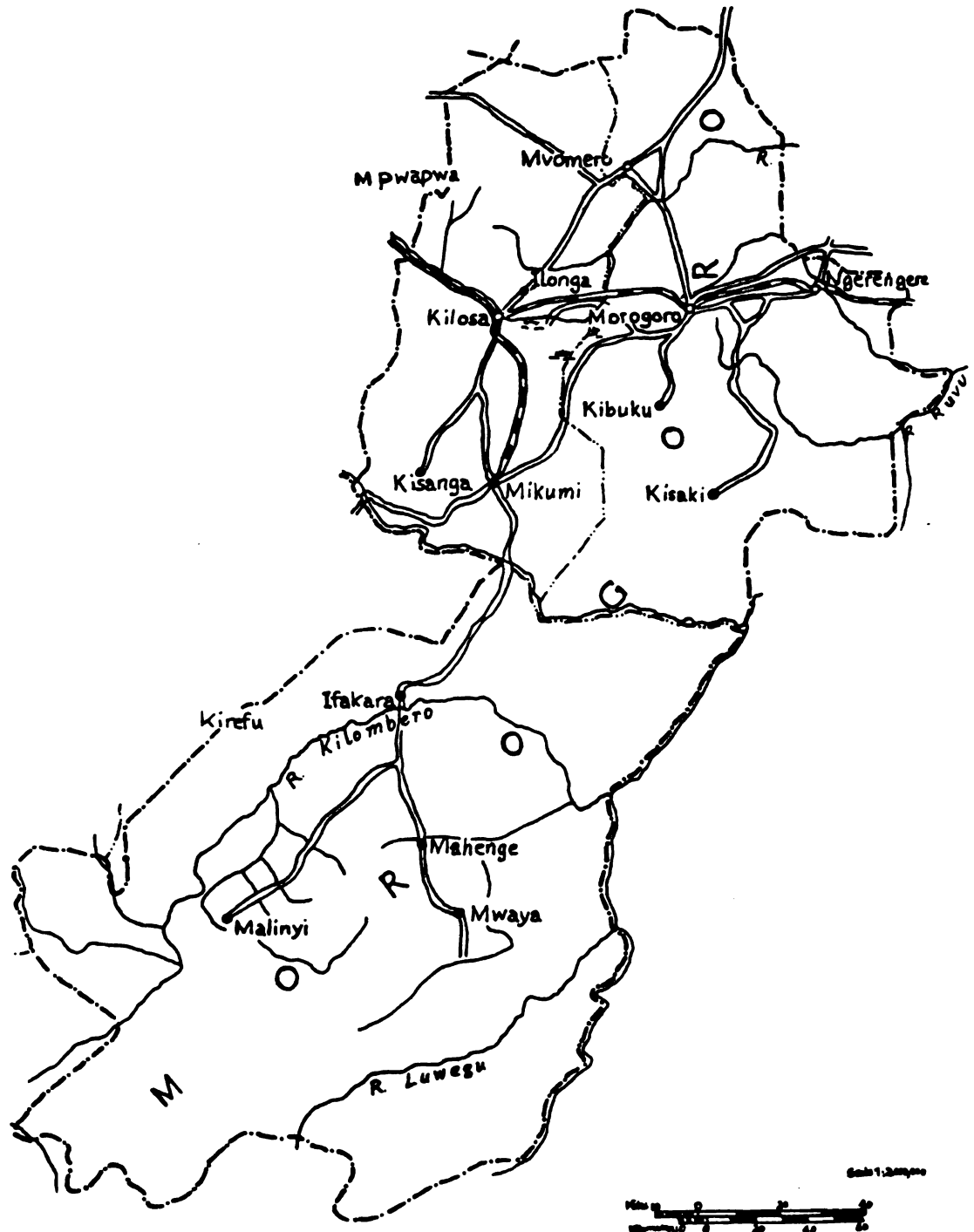
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areas of southwestern Tanzania, a claim supported by local tradition.<sup>14</sup> They came to their present homes as a result of Ngoni raids after the 1830's. Since settling their present homelands, the Luguru have kept to the mountain areas to protect themselves against the Ngoni and, subsequently, against slave raiders.<sup>15</sup> Still later, these inaccessible mountain areas were used to avoid governmental control, both colonial and post-colonial.<sup>16</sup> During the last ten years, the national government has been able to persuade some Luguru to descend into the valleys, but not before encountering strong resistance.<sup>17</sup> (This will be discussed later.)

### Social/Political Systems

Luguru society is matrilineal with a strong lineage organization. Culturally, it merges with the Zaramo society to the east and the Zigua to the north. Linguistically, the differences between the Luguru and adjacent societies are only in dialect, since the languages are mutually understandable. The Luguru are divided into over fifty exogamous clans (lukolo), with histories and traditions which associate them with certain

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<sup>14</sup>Reverend Mzuanda, personal interview, Morogoro, September 8, 1975. Much of this is also discussed in his book Historia ya Waluguru, p. 81.

<sup>15</sup>From stories, it appears that the Ngoni raiders gave the Luguru a very bad time, leaving most of them homeless. Memories of this incursion were recorded in great detail by the representatives of the Holy Ghost Mission in Morogoro. Reverend Mzuanda, Morogoro, personal interview, September 8, 1975.

<sup>16</sup>Reverend Mzuanda, Morogoro, personal interview, September 8, 1975.

<sup>17</sup>C.R. Ingle, "From Colonialism to Ujamaa: Case Studies in Tanzania's Search for Independence," Dar Es Salaam, Bralup. University of Dar Es Salaam, 1971 (unpublished research paper).

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general areas, although they are not land-owning units.<sup>18</sup> Some of the clans are linked with one another, but members may not intermarry. Since the clan is Luguru's strongest unit, the direct form of formalized authority was not accepted during the colonial rule, and the only answer was to impose a system of "indirect rule."<sup>19</sup> Since the family unit was the basis of organization, the colonial administration found it convenient to transform the family head into the village chief when "indirect rule" was introduced.<sup>20</sup>

The Luguru enjoy living in compact villages where people of several lineages reside together. The great majority of villages today contain people living side by side who, when they came together, had been total strangers. There is no reason, however, to think that these composite villages are twentieth-century innovations. Within traditional villages, and stretching beyond them, are networks of marriage connections, relations through women and links through blood which overlap in a complex way to produce tightly woven communities rather than loose collections of separate lineages. Young and Forsbrooke estimate that

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<sup>18</sup>J. Lewis Barnes, "A Digest of Uluguru Customary Law" (unpublished manuscript), (Morogoro, n.d.) p. 20.

<sup>19</sup>Ibid. For a discussion of some of the problems encountered in establishing African local government, see Lucy P. Mair, "Representative Local Government As A Problem in Social Change, "Human Problems in British Central Africa, XXI (March, 1957), pp. 1-17.

<sup>20</sup>Barnes, "A Digest of Uluguru Customary Law," p. 22.

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there are approximately eight hundred such lineages,<sup>21</sup> each of which possesses its own insigniae such as a stoll (mkunga), an axe (mambasa), a hat (fia), a hatband (kilemba), a wristbangle (mhande), staff (tenge) and a drum.<sup>22</sup> Lineage heads are usually men of the female line; only under unusual and temporary circumstances are women or sons of men of the lineage chosen as heads. The lineage leader is in charge of arranging the important rites for propitiating ancestors for fertility, rain, and relief from misfortune and other problems.<sup>23</sup> In addition, lineage leaders are also in charge of land allocation and other matters of possible dispute. In the past, slaves taken as captives or received as indemnities for various wrong doings, were often married and absorbed into the lineages. However, descendents of female slaves were never entirely absorbed and still have a quasi-alien status regarding rights to land and office.<sup>24</sup>

The political terms of traditional African societies vary from very small groups with simple leadership to large states with intricately

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<sup>21</sup>Young and Fosbrooke, Land and Politics Among the Luguru, pp. 23-26. At the introduction of British administration, the power of lineage heads were reduced in favor of the akidas, and the lineage heads were made to function as assistants to the akidas. Memorandum from the Governor of Tanganyika, Sir Richard Turnbull to the Provincial Commissioner of Morogoro, instructing him to expedite the process of power transfer from the traditional rulers to the akidas. Document 19/5/462 T.N.A.

<sup>22</sup>Reverend Mzuanda, Morogoro, personal interview, October 6, 1974.

<sup>23</sup>Mzuanda, Historia ya Waluguru, p. 46.

<sup>24</sup>J.R. Pitblado's "A Review of Agricultural Land Use and Land Tenure in Tanzania" BRALUP No. 7, (June 1970).



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organized systems of government. In West Africa, iron weaponry and international trade made the development of large states possible,<sup>25</sup> but most of East Africa and Tanzania, in particular, falls under the former category. Prior to colonial rule, each Tanzanian matrilineage formed the core of an independent political unit. Occasionally, however, an outstanding rain-maker or lineage leader exerted influence beyond his kin group and obtained tribute (chami, landege or sengwa) from other groups.<sup>26</sup> Such a trend was not, apparently, completely institutionalized. There was no formal unification of this highly acephalous society until the advent of colonial rule.<sup>27</sup>

Notwithstanding the advent of the German colonial administration and the introduction of alien political systems, the Luguru lineage system continued to play an important role in allocating land.<sup>28</sup> Its value in modern government was restricted, however, and traditional authorities were unable to function for the German administration. Thus, the Germans resorted to the "akida" system of direct administration, which had previously been used by the Arabs in areas under their political hegemony.<sup>29</sup> These akidas were brought into Uluguru from the

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<sup>25</sup>Roland Oliver and Brian M. Fagan, Africa in the Iron Age (London, 1975), pp. 59-69. See also M. Fortes and E.E. Evans-Prichard African Political Systems (Oxford, 1940), p. 17. The later work provides discussion about the rise of African states.

<sup>26</sup>Reverend Mzuanda, Historia ya Waluguru, p. 35.

<sup>27</sup>Young and Fosbrooke, Land and Politics Among the Luguru, p. 15. It is a view also held by Reverend Mzuanda in his study of Luguru society, op. cit., p. 65.

<sup>28</sup>Pitblado, "A Review of Agricultural Land Use," op. cit., p. 13.

<sup>29</sup>The akida was the principal administrative and judicial officer for urban and rural Africans.

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coastal towns to collect poll-taxes, procure laborers, and enforce native legislations.<sup>30</sup> In general, the Germans found their work more satisfactory than that of the heads of lineages, who were often used as assistants to the akidas.

With the advent of German colonial administration, three prominent Uluguru political figures came to prominence, one of whom was Mbago, who ruled the western arid highlands. However, his prestige stood high in other areas, including the western plains and the hills of the southwest inhabited by people of different clans. In the southern area of the Uluguru Mountains, political leadership was in the hands of Hega, and in the eastern area, it was in the hands of Kingalu. During this period, one of the Kingalus moved to exert his power as rainmaker.<sup>31</sup> His sacrifices did not supplant the efforts of other lineages, but because of a run of speedy answers to his prayers, Kingalu came to be regarded as more efficacious. All the lineage heads were the recipients of a token payment called "ngoto," but Kingalu received more tribute than his counterparts because he was believed to possess greater supernatural powers responsible for bringing the rains and a successful harvest.<sup>32</sup>

While the names of these three leaders frequently appear in the local traditions, there was another ruler, Kisabengo, who was equally

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<sup>30</sup>Document 71/122 T.N.A.

<sup>31</sup>Reverend Mzuanda, Morogoro, personal interview, November 21, 22, 23, 1975.

<sup>32</sup>Mzuanda, Historia ya Waluguru, p. 67.

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famous, but who figures less prominently in the local histories because of his alien origin. A few Morogoro town residents still remember Kisabengo and say that he came from Uzigua, to the north of the Usambara Mountains.<sup>33</sup> This tradition is complemented by Stanley's account, which described Kisabengo as a Zigua of humble ancestry who gained ascendancy over fugitive slaves on the coast.<sup>34</sup> When he failed to pay tribute to the Sultan of Zanzibar, he was forced to flee to the Uluguru Mountains, where he established his rule over the lowlanders. Kisabengo's authority was centered around his quadrangular "walled city," about half a mile square, with an estimated population of between 3,000 and 5,000.<sup>35</sup>

Shortly after Stanley's visit in 1879, the town was struck by high winds and hard rains, resulting in a heavy loss of life. The Luguru villages in the hills were washed away, and the fortified city badly damaged. Kisabengo reportedly fled, and his stronghold disappeared.<sup>36</sup> No visible remnants of the walled city exist in Morogoro today, and Kisabengo is almost forgotten, although his grave and that of his first wife are located in Morogoro near the railway station. Reverend Mzuanda accompanied this writer to the grave site, which is surrounded by tall grass and completely neglected, probably because Kisabengo was an interloper.

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<sup>33</sup>See Stanley, How I Found Dr. Livingstone, p. 211, in which Kisabengo is frequently mentioned as the most "generous African ruler we have ever encountered in East Africa."

<sup>34</sup>Stanley, How I Found Dr. Livingstone, p. 218.

<sup>35</sup>Ibid., p. 308.

<sup>36</sup>Ibid., p. 309.

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### Economic Structure

Since their arrival at their present home, the Luguru have been hoe cultivators, first using wooden implements (kibode) and digging sticks (muhaya) for cereal cultivation because there was a shortage of metal.<sup>37</sup> Cultivation was done by both sexes, with the women sowing the seeds.<sup>38</sup> Preparation of land for cultivation is most commonly accomplished by the so-called "slash-and-burn" technique, and other techniques of fertilization are not generally practiced, although the Luguru occasionally employ a system of crop rotation.

In Uluguru, land is cleared shortly before the November rains, and agricultural work among the Luguru is generally done individually or by households. Group work is sometimes required for clearing bush or for housebuilding, and cultivation and weeding continue until the cessation of the rains in the month of June. Maize is the staple crop, supplemented by beans, groundnuts, bananas and cassava (a potential famine crop). Some cotton and sugarcane have also been grown for local use, but the German colonial administration converted them into cash crops.

The Luguru divide arable land into three categories: malulu (house farms), for vegetables, tobacco, etc.; migunda (ordinary farms) in higher and well-watered areas for grains, beans, pumpkins; and miteme (cleared bush), good for only a few years and often poorly watered and requiring much labor to clear. Prior to the Arab period,

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<sup>37</sup>Young and Fosbrooke, Land and Politics, p. 26.

<sup>38</sup>This method is still being practiced today.



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few Luguru were commercially adept or interested in trading goods outside the region. They were content to trade with aliens only at local markets, although some goods were sold to Zaramo or Zigua traders who carried on transactions further afield.

During the German and British periods, and to some degree under the present national government, most cash crops were marketed to Asian and African merchants. Now, however, grain and oil seeds must be sold to the government. Tobacco and sugarcane, on the other hand, can be marketed locally.<sup>39</sup>

Luguru women continue to play, as they did in the past, a very important economic role.<sup>40</sup> Their most common economic activities have been potting, beer-brewing, and basket-weaving, from which most cash is derived. Traditionally, pots, baskets and mats were sold or traded to neighbors and visitors in the front yards of women's homes. Beer was also sold there, usually in enclosed backyards. In recent years, however, with the introduction of modern transportation, and especially with the opening up of the rural areas to feeder roads, most products are now displayed and sold along the roadsides. This writer did observe activities among the women of Mkata, 23 miles south of Morogoro, on the main Tanzania-Zambia highway. Eight out of eleven families interviewed have moved there since construction of the road started, most from distances of five to nine miles. Before they moved, income derived from

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<sup>39</sup>Reverend Mzuanda, Morogoro, personal interview, November 23, 1975. See also J. Moffet Tanganyika Review of Its Resources and Their Development (Dar Es Salaam, London, 1955), p. 22.

<sup>40</sup>This discussion of the participation of women in the economy is based on personal observation by the writer in four separate settlements: Mkata, Doma, Kiberege and Ifakara, December 2, 3, 4, 1975.

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their work averaged about 35.00 shs. per month, but after they relocated, their income increased three to four times, owing to the increasing number of travelers on the new road, including tourists.

The consumption of home brew has also increased. This beverage is popular among lorry drivers and bus passengers who travel between Dar Es Salaam and Lusaka. Buses make regular stops at beer-huts, which also sell foodstuffs. Between Morogoro and Ifakara, a distance of 130 miles, the bus makes about four major refreshment stops. There are, therefore, many women along this road who have accumulated some "wealth," as have women along the region's other roads.

With regard to agriculture, the Luguru have retained their traditional methods of farming, with very few changes.<sup>42</sup> Past efforts to introduce modern farming resulted in major riots throughout Uluguru. After World War II, for instance, the British colonial administration tried to replace the unproductive agricultural systems with new agricultural practices aimed at improving output.<sup>43</sup> The plan was called the Uluguru Land Usage Scheme (ULUS). A Mr. R.H. Gower, who was appointed district commissioner for Morogoro in 1952, immediately initiated a scheme aimed at providing agricultural education to the local

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<sup>42</sup>Department of Agriculture, District Data, Morogoro, 1959.

<sup>43</sup>A.H. Savile, "Soil Erosion in the Uluguru Mountains," (Dar Es Salaam, 1947), (typescript). Savile, "The Study of River Alterations in the Flood Regions of Three Important Flood Regions in Tanganyika," East African Agricultural Journal, XI (October, 1945).

population to encourage the adoption of modern farming methods.<sup>44</sup> As anticipated, the Luguru actively resisted these new policies. In an attempt to suppress what they considered a rebellion, the local administrators sent "askaris" into the distant mountain areas. In addition to suppressing the rebellion, the "askaris" were also instructed to force some of the mountain dwellers to move into the valleys below. Through this move, the administrators hoped to place the mountain people under the closer observation and control of the police. Maintaining law and order had been difficult in the mountainous areas because communications were poor.

A second part of the scheme involved the use of a large number of African agricultural instructors. The administrators incorrectly assumed that the Luguru would readily accept these instructors. Instead, the latter encouraged intense resistance and were derisively referred to as "wazungu weusi" (Black Europeans).<sup>46</sup> The reasons for this resistance are numerous. For example, several of the agricultural instructors were men who had been discourteous to and highly critical of the local populations. A second important reason was that the British administrators underestimated the gravity of the conflict between the educated outsiders and the local peasant farmers. A third

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<sup>44</sup>Village headmen throughout the region were summoned to Morogoro, where they spent four days receiving instructions on implementation of the scheme. Morogoro District Book, p. 18. Reactions varied: there were those who had no choice but to comply out of fear of police action. The few who objected moved to the mountainsides where they could not be reached easily.

<sup>45</sup>District Police Commander Report, July 8, 1955. Document 19/5/462 Volume II T.N.A.

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source of the conflict, and perhaps most important, was the Luguru's objections to the imposed system of authority and land allocation, which they viewed as threats to their way of life.

The colonial administration, on the other hand, favored the scheme because of its economic implications. In their shortsightedness they chose to overlook or ignore the cultural values involved. The primary fact, as far as the colonial administration was concerned, was that the mountain land was carrying a heavier population than could be sustained by the traditional system. Furthermore, the soil was eroding, and, as the people extended their holdings, they were destroying the forests. This process, in turn, had a harmful effect on the water supply, not only for the town of Morogoro, but also for most of the other valleys because the headwaters of several of the major rivers of Tanzania are located in the Uluguru Mountains.

As a result of the continued mistrust between African officials and African peasants on the one hand, and between Africans and Europeans on the other, in the summer of 1955 riots broke out in Uluguru.<sup>46</sup> The whole of the mountain area was set ablaze and thousands of good farms were destroyed, including most of those which had been earmarked for pilot programs in the scheme. Once again, the askaris were deployed to quell the disturbances.<sup>47</sup> Four deaths were reported along with hundreds of injuries. By the time the riots were over, the colonial administrators scrapped the scheme, allowing the Luguru to go on with their "desturi za zamani" (old customs).

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<sup>46</sup>Young and Fosbrooke, p. .

<sup>47</sup>Document 19/5/462 Volume II T.N.A.

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It appears that the Luguru's opposition to British agricultural reforms was precipitated mainly by their desire to refuse to comply with alien policies in the hope that they would be able to retain some degree of independence. When it became obvious that they had failed, the Luguru had no alternative but to accept a minimum level of external domination.

One immediate colonial requirement was a self-supporting economy, a need which compelled the colonial civil servants to impose a tax system. The only way the Luguru could pay their taxes was to engage themselves in cash-crop production. This was encouraged and supported by the agricultural officers who provided seeds and other materials.<sup>48</sup> People increased their acreage to an unprecedented degree; however, transport problems have hindered the amount of production which the government would have liked in order to meet Luguru demand.<sup>49</sup>

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<sup>48</sup>IBDR, The Economic Development of Tanganyika, p. 96.

<sup>49</sup>Ibid., p. 96.

## CHAPTER II

### HISTORICAL OVERVIEW OF TRANSPORT DEVELOPMENT IN TANZANIA

Developing countries of today are necessarily in the arduous business of increasing their level of economic growth. The majority of these nations have chosen to tackle this problem through planned development, based upon set priorities involving purposeful allocation of resources.<sup>1</sup> One distinctive feature of such resource allocation has been the large amount of funds being channeled into transportation. (For the Tanzanian example, see Table I below, which demonstrates how significant transport and communication are to the country and the development of all sectors of the economy). Transport expenditures, as can be

Table I. Tanzania Government Expenditure in Development 1969-1974  
(in Tz shillings millions)

Transport	Industry	Transport and Communication	Education and Health
99,423,300	32,142,240	817,000,000	328,161,800

Source: 2nd Five-Year Plan 1969-1974

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<sup>1</sup>This was first recognized and adopted in the First-Five Year Development Plan. For details see Tanganyika: Development Plan for Tanganyika 1961/1962-1963/1964 (Dar Es Salaam, 1962).

observed in the table, are 63% higher than for all other development sectors. This high level of capital investment can be regarded as a direct indication of the magnitude of the transportation problem existing in developing countries. As Owen has pointed out,<sup>2</sup> criteria for this type of investment are not based upon historical evidence of past performance, but on the role that transportation is observed to have played in the economic growth of developed countries.<sup>3</sup> This chapter will provide an historical overview of transport development in Tanzania. Although concentration will center on the German and British colonial periods and the post-colonial era, the pre-colonial and Arab periods will also be examined in order to provide a complete historical picture.<sup>4</sup>

The mode of transportation first used by Africans in Tanzania was head porterage. The Nyamwezi of central Tanzania are the people best known for this system of human carriage. It was the Nyamwezi whom the Arabs eventually hired as porters throughout the period of caravan trade.<sup>5</sup> Although there existed no systematic precision of head porterage in Uluguru at this time, as many as 200,000 porters per year were reported to pass through this area around the turn of the century.<sup>6</sup>

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<sup>2</sup>W. Owen, Strategy for Mobility, (Washington 1965), p. 18.

<sup>3</sup>I.B.R.D. The Economic Development of Tanganyika (Baltimore, 1961) pp. 177-179. A similar discussion can be found in P.R. Gould, The Development of Transportation Pattern in Ghana, Studies in Geography, No. 5 (Evanston 1960), p. 77.

<sup>4</sup>The Arab period in particular played an important role in the opening up of the country. See Richard F. Burton, The Lake Regions of Central Africa (London, 1860) II, p. 224.

<sup>5</sup>Ibid.

<sup>6</sup>Thomson, To the Central African Lakes and Back, p. 257.

Around November 1885, a German priest observed over 300 Luguru porters descending from Uluguru mountains in route from Kisaki to Mikese.<sup>7</sup> To this day, the residents of Mikese often refer to a "barabara y Wapagazi," or porter's highway, when giving a visitor directions.<sup>8</sup> These "highways," as the local population often referred to them, became so popular and were so effective that they provided the initial foundation for later German efforts to "open up" the interior.<sup>9</sup>

According to missionary records in the town of Morogoro, the porters were recruited from various Uluguru villages such as Mgeta, Matombo and Mkata. Notwithstanding its widespread usage and effectiveness, Lord Lugard denounced this system of goods conveyance:

it it, however, economically unsound, especially a country where labor is scarce, to employ men merely as beasts of burden...it therefore becomes the first duty of a government to provide a better means of transport, and it seems indefensible that forced labor should be used for such a purpose....

So Lugard urged the government to set an example by abandoning this archaic and wasteful form of transport.<sup>10</sup> In addition to the opinion

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<sup>7</sup>From the reports collected by Reverend Mzuanda (personal papers now at R.C.M. in Morogoro).

<sup>8</sup>Personal observation, December 1974. In the days of exploration, various attempts were made to penetrate the interior of Tanzania by rivers, these met with very little success. The basic method of transport was therefore by manpower, which was organized in caravans, made up primarily of porters (wapagazi). E.W. Smith "An African Odyssey: The Story of Two Porters, Mombai and Mabmki. (R.C.S.) (unpublished typescript) n.d.

<sup>9</sup>Frederick L. Maitland Moir, "Eastern Route to Central Africa," The Scottish Geographical Magazine I (1885) 110-111. This area had long been a prey of Arab slavers. See Reginald Coupland, The Exploitation of East Africa, 1856-1890; The Slave Trade and The Scramble (London 1938).

<sup>10</sup>F.D. Lugard, The Dual Mandate in British Tropical Africa, (London, 1926) pp. 422-423.

of Lord Lugard, there was also substantial African resentment of the system.<sup>11</sup> Carriers were discouraged by the hardships their families suffered in their absences each year during the portage season (a period of six to twelve months). Moreover, the carriers began to realize that the work lacked sufficient reward for the dangers involved.<sup>12</sup> Such resentment contributed to the decline of the system, and when other modes of transportation, such as ox-drawn carts, were introduced, their use increased even though the oxen suffered from tsetse fly and other animal diseases.<sup>13</sup>

Early Attempt to Establish a Modern Transport System:  
The German Period (1884 - 1918)

The first attempt to establish a modern transport system in Tanzania dates from the 1870's. In 1876, Sir William Mackinnon<sup>14</sup> and his associates undertook the construction of a road from Dar Es Salaam to Lake Nyasa in their attempt to open up mainland Tanzania to modern commerce.<sup>15</sup> The resulting road extended inland seventy miles but proved of little use because of the tsetse fly. Mackinnon, a leading

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<sup>11</sup>Ibid., p. 474.

<sup>12</sup>Ibid., p. 478.

<sup>13</sup>E.W. Smith, "The Earliest Ox-wagons in Tanganyika: An Experiment Which Failed" TNR 40. (September 1955), pp. 1-14.

<sup>14</sup>Sir William Mackinnon was the British shipping-line owner. His biggest ambition in establishing modern transport system was to control commerce of the Congo basin.

<sup>15</sup>John S. Galbraith, Mackinnon and East Africa 1878-1895. A Study in the New Imperialism (Cambridge 1972) p. 68.

Scottish shipping magnate, later founded the British East India African Association. In 1887, the association reached an agreement with the Sultan of Zanzibar and obtained political rights over the stretch of coast north and south of Mombaso. This was done in return for annually paying the sultan the accounts previously received in custom duties.

The next year, the association was granted a royal charter and became the Imperial British East Africa Company.<sup>16</sup> It was after this period that there appeared signs of development of modern infrastructure. The urgent and widely recognized need to introduce transport facilities was clearly emphasized at this time. Mackinnon saw transportation as the sine qua non of penetration of the interior and the extension of settlement in the Great Lakes Region.<sup>17</sup> This occurred following the Heligoland Treaty in 1890, when Tanganyika became a German colony.<sup>18</sup> The initial development of the colony was undertaken by the German East African Company.<sup>19</sup> The German East African Company created a dramatic change in the economic and social structure of the country. The basic change in transport conditions derived mainly from the construction of the railways.

Throughout the early phase of German control over Tanzania, the transport and communication systems were completely inadequate, and

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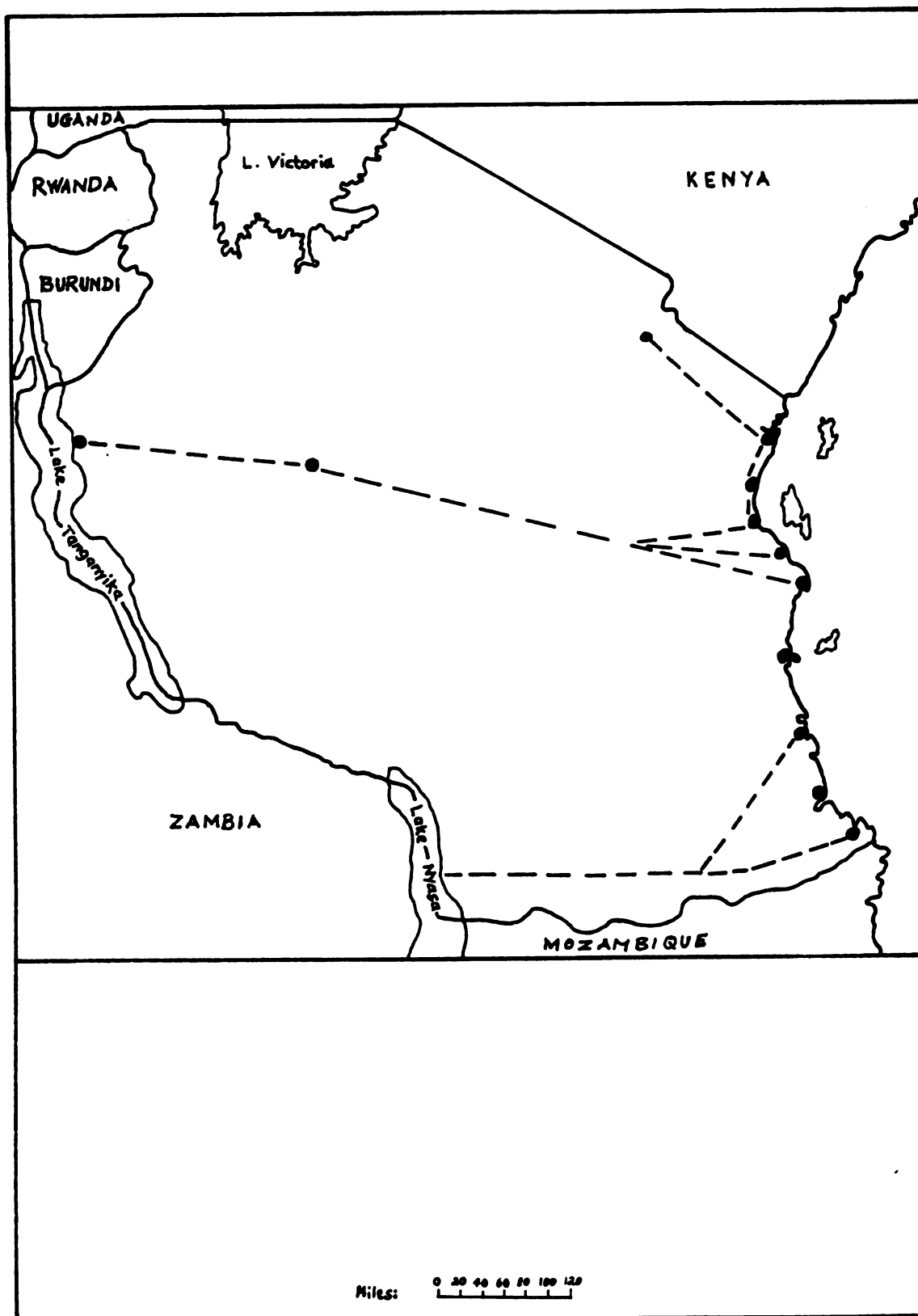
<sup>16</sup>Ibid.

<sup>17</sup>Ibid., p. 121.

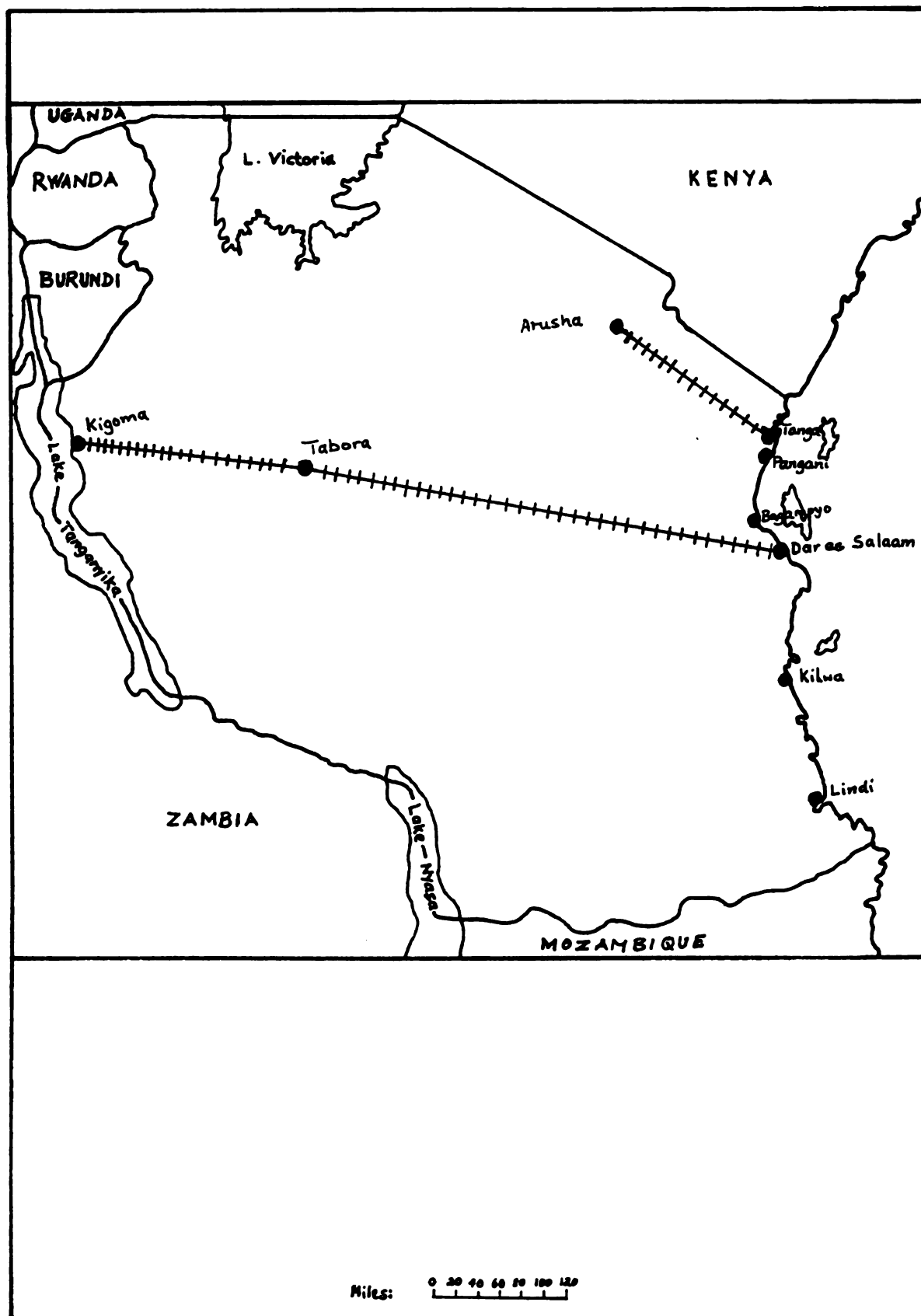
<sup>18</sup>Ibid., p. 124.

<sup>19</sup>Ibid., p. 74.

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were based on the caravan routes which had been introduced by the Nyamwezi, later used extensively by the Arabs. The Germans needed to improve the country's economy and to consolidate their political hegemony, requirements which made the creation of adequate transport arteries mandatory.

German engineers were brought to Tanzania to plan and construct modern roads. The engineers worked from maps which Mackinnon had drawn in the 1870's,<sup>20</sup> and planned the construction of a road and railway line from Dar Es Salaam to Morogoro, which was undertaken in 1887. In 1895, the colonial department of the German Foreign Office, the Deutsche Ost Afrikanische Gessellschaft, and the Deutsche Bank formed a committee to consider a proposed central railway line which would start at Dar Es Salaam and run to Kigoma on Lake Tanganyika and to Mwanza on Lake Victoria. In effect this was an extension of the line from Morogoro. Submitted to the chancellery in June 1896, the report recommended the immediate construction of a railway line from Dar Es Salaam and Bagamoyo to Morogoro, as the first section of the link to the lakes.<sup>21</sup>

### The Railways

Although the railway system was not very highly developed before the war, the policy initiated was progressive and far-reaching. The main objectives of the German railway plans were to effectively occupy

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<sup>20</sup>Ibid., p. 172.

<sup>21</sup>C. Gillman, "A Short History of Tanganyika Railways" TNR 13, (June, 1942). See also M.F. Hill Permanent Way Volume II The Story of Tanganyika Railways (Nairobi, 1962).

the hinterland, and to draw the trade and mineral exports of the southern and eastern parts of the former Belgium Congo to an outlet on the Indian Ocean.

As a result of several deliberations, the immediate railway policy evolved during the first decade of the century. This development extended the Tanga Railway to the foot of Kilimanjaro, and pushed the central railway to Lake Tanganyika.

The first railway line, from Tanga to Moshi was built by the German East African Company between 1896 and 1911. Construction had been delayed from 1891 to 1896 because of a shortage of funds, but the problem was overcome when the German imperial government finally supported the project.<sup>22</sup> The project was administered by a chartered company which had founded a subsidiary company to administer yet another project: the construction of the line from Dar Es Salaam, which was finally begun in 1900. Work on this project was almost started, when events took an unfavorable turn<sup>23</sup> with the retirement of Herr Kayser, the director of the colonial department of the foreign office and a strong supporter of the central line. His successor, having different priorities, urged that the Tanga-Moshi line, instead of the central, should receive top priority.<sup>24</sup>

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<sup>22</sup>U. Martzsch, Moderne Verkehrswege in Tropischen Negroafrika (Würzburg, 1939) p. 124.

<sup>23</sup>Mary E. Townsend, "The Contemporary Colonial Movement in Germany" Political Science Quarterly: XLIII (March 1928) 64-68. See also H. Schnee (ed) German Colonization Past and Future: The Truth About the German Colonies (London 1926) p. 139.

<sup>24</sup>M.F. Hill, Permanent Way, p. 73.

Herr Kayser, it was alleged, retired, because of his frustrations over lack of support for his plans. He had strongly defended the construction of a central line as a means of securing the port of Dar Es Salaam and the vast potential markets in the hinterland. In the process, he became convinced that his plan would counter competitive inroads from the Nile, Congo (Zaire) and Zambezi Rivers, and hoped that Tanganyika would acquire the traffic from the central African lakes basin to Dar Es Salaam.<sup>25</sup> Herr Kayser strongly objected to the Tanga-Moshi line on the grounds that it was uneconomic and possessed no direct benefits to the reich.

Both the central and the Tanga-Moshi lines were delayed for three years due to financial troubles. Finally in October 1899, the Kolonial Rath (colonial council) resolved that the central line be built and urged that the 1900 budget include an adequate sum of money for its survey.<sup>26</sup> Despite opposition from the anti-colonial elements in the rath, a resolution was passed in November 1901, advocating "a railway policy fully conscious of its aim to counter the competition of the neighboring colonies,"<sup>27</sup> and, in turn, the Reichstag enacted the necessary enabling legislation. In 1903, a further survey expedition, financed by a syndicate headed by the Deutsche Bank, once again studied

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<sup>25</sup>Kayser's Memo to the Chancellor dated April 7, 1908, Document 97/44/20 TNA.

<sup>26</sup>Wilhelm Arning, Deutsche Ostafrika Gestern and Heute (Berlin 1942) p. 309. R.G. Eberlie, "The German Achievement in East Africa" TNR 50 (September 1960) p. 48.

<sup>27</sup>Eberlie, "The German Achievement" p. 56.

the alignment between Dar Es Salaam and Morogoro. As a result, early in 1904, the Kolonialwirtschaftliche Komite, a private group representing colonial commercial, industrial and agricultural interests convinced the Reichstag of the importance of the line for increased agricultural production, especially the production of cash crops.<sup>28</sup> At long last, construction was approved by the legislature on 29th June 1904, and the Ost Afrikanische Eisenbahn Gesellschaft was founded in Berlin with a capital of 21 million German marks. The following day, it received corporation status from the imperial government, together with its concession to construct and operate a railway from Dar Es Salaam to Morogoro.<sup>29</sup> The reich also guaranteed the company a concession entitling it to choose from a zone of one hundred kilometers wide on either side of the line for exclusive prospecting and mining purposes. To administer these lands, the company founded a sub-concern, the Ost-Afrikanische Gesellschaft, which was given the jurisdiction of operating a chain of hotels in the most important towns along the railway line.<sup>30</sup>

The contract for the line from Dar Es Salaam to Kigoma was given to the Phillip Holzmann and Company of Frankfurt-am-Main, a firm of

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<sup>28</sup>Mary E. Townsend, "The Economic Impact of Imperial Germany: Commercial and Colonial Policies," Journal of Economic History: III (December 1943) p. 133.

<sup>29</sup>Ibid., p. 134.

<sup>30</sup>In Morogoro, two hotels, the Savoy and Acropol were opened and operated under the management of the railway company. See Leonard Woolf, Empire and Commerce in Africa: A Study in Economic Imperialism (London, 1919) p. 218.

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international reputation, which had just completed the first part of the Baghdad railway through Asia Minor and was thus in a position to transfer its organizational skill and trained personnel to East Africa. However, before work could start, the territory experienced yet another rebellion, the "maji-maji," an indigenous uprising against ruthless German colonization efforts. This two-year uprising (1905-1907), which was led by African chiefs and medicine men, broke out in the hills near Kilwa.<sup>31</sup> Since one of the effects of the Maji-Maji rebellion was the creation of a temporary labor shortage, progress on the railway lines was slowed down. The temporary solution, however, of recruiting some Chinese workers, who had been employed by the British Uganda Railway Company, was developed.<sup>32</sup> The more permanent solution consisted of the recruiting of Nyamwezi workers,<sup>33</sup> whose cheerful sturdiness under the influence of good wages and an ample ration of Bombay rice, spurred the line's construction.<sup>34</sup>

Following the Maji-Maji uprising, considerable administrative reorganization took place in German East Africa. In May 1907, responsibility for Tanganyika policy was transferred to the new colonial

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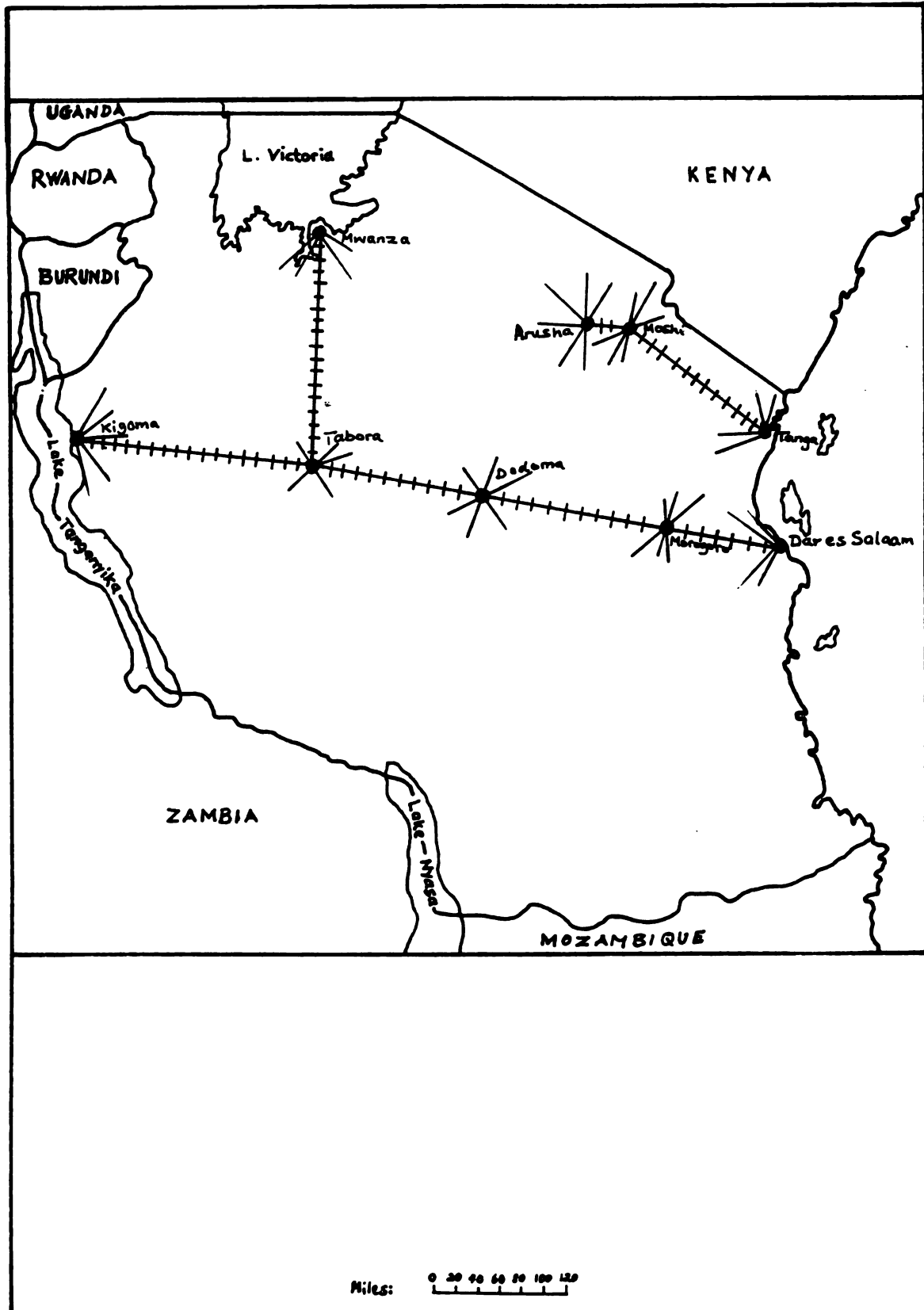
<sup>31</sup>R.M. Bell, "Maji-Maji Rebellion in Liwali District," Dar Es Salaam TNR: XXII (1950) pp. 38-57.

<sup>32</sup>Hill, Permanent Way, p. 97.

<sup>33</sup>Ibid., see also Albert F. Calvert, German East Africa (New York 1917) p. 49.

<sup>34</sup>Gillman, "History of Tanganyika Railways:" p. 18; see also Andrew Roberts, "The Nyamwezi," in Tanzania Before 1900 (Nairobi, 1963) pp. 125-126.

## VI





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office in Berlin, under Dr. Dernburg, a well-known industrialist.<sup>35</sup> He soon sailed to East Africa to widen his experience, arriving at Morogoro in October 1907, just as the first locomotive steamed into the town. Dr. Dernburg was accompanied by young and ambitious representatives of German financial and industrial companies. The latter were impressed with the business potentials of the territory, particularly along the railway lines.<sup>36</sup> Dr. Dernburg was also responsible for plans to extend the central line from Tabora to Mwanza. Plans were submitted to the reich in May 1908, and approved the same year in July. The reich also appropriated over 80 million marks for the extension of the line from Tabora to Mwanza. As a result of increased subsidies, the railway company virtually became a state company operated by the "Ost Afrikanische Eisenbahn Gesellschaft" as a public utility.<sup>37</sup>

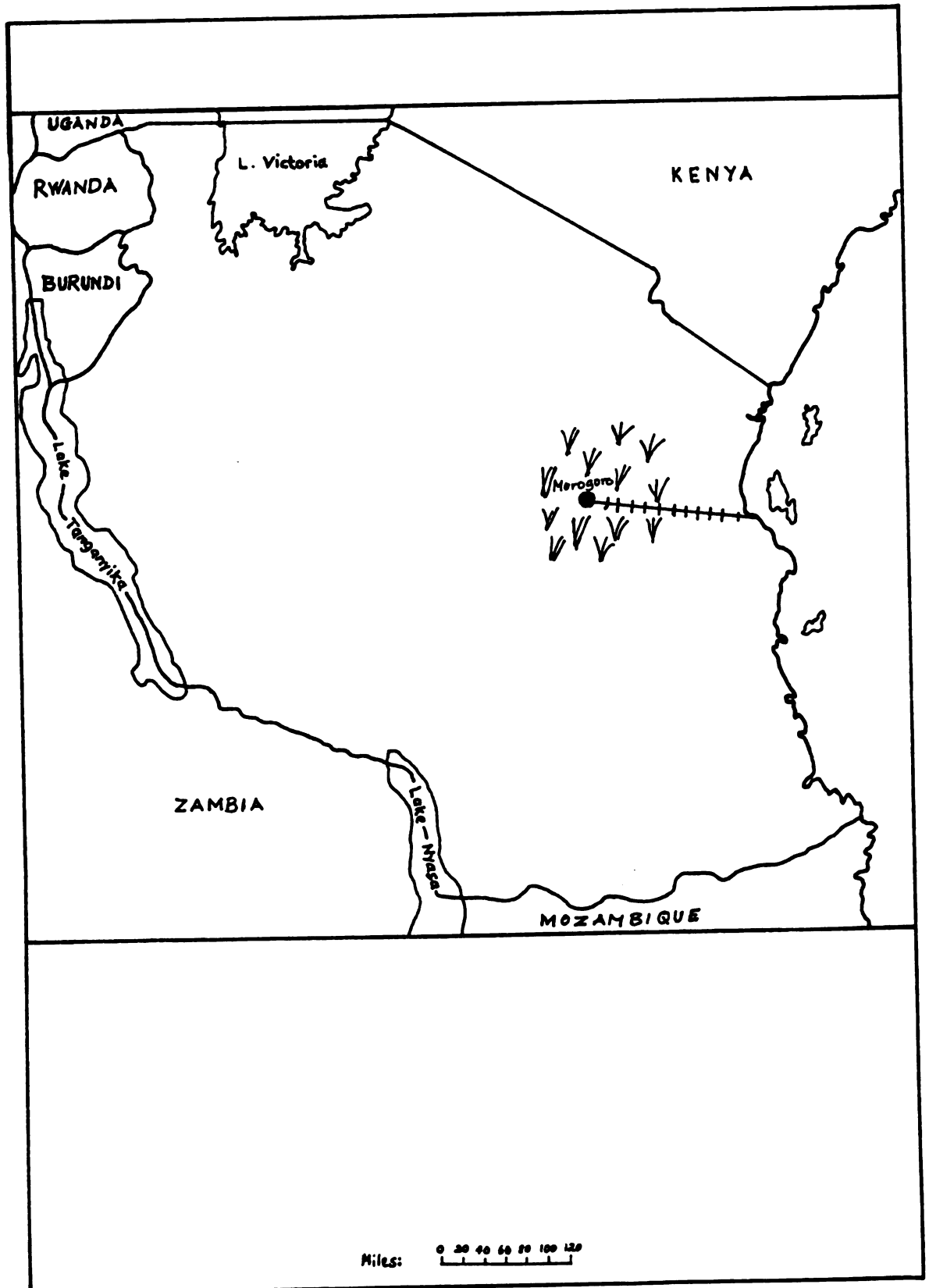
As a result of this far-reaching financial backing, the railway company made detailed surveys on the remainder of the central line. By July 1, 1912 the railway reached Tabora, and on February 1, 1914, the line arrived at Kigoma, almost fourteen months ahead of contract

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<sup>35</sup>Calvert, German East Africa pp. 15-17, Dr. Dernburg instituted a number of far-reaching reforms which were intended to transform the colonial empire into a genuine national asset, instead of a liability. For a more detailed treatment of the Dernburg colonial program see Townsend, Rise and Fall of Germany's Colonial Empire 1884-1918 (New York 1930) chapters 9 and 10. A good study of the Dernburg reforms in East Africa is badly needed.

<sup>36</sup>Dernburg encouraged the rapid economic development of the areas along the lines as sources of raw materials and food stuffs for Germany and markets for German manufactured goods. As a result, he cooperated closely with the colonial economic cotton growing program and many of its other ventures as well.

<sup>37</sup>Gillman, "A History of Tanganyika Railways," p. 12.



time.<sup>38</sup> These lines, completed before the outbreak of World War I, managed to fulfill the objectives of strategic penetration into the interior and of economic stimulation. But, from a purely financial viewpoint, they were a failure, since traffic volume did not generate enough revenue to cover interest and depreciation.<sup>39</sup> Yet, there existed some optimism regarding the long-run prospects and the development of the latent wealth of the colony. In the case of the central railway, there was the hope of attracting copper from Zaire as well as business to and from Burundi and Rwanda. With the outbreak of the war, only a few months after their coveted goal had been reached, the Germans were doomed to lose what fruit their perseverance might have borne, and in 1916, they set about to destroy what they had built with such effort and conspicuous success, when their retreating forces had to abandon the railway.

### Roads

As progress in the construction of railways was realized, the Germans turned their attention to other modes of transport. They concentrated on the caravan routes, providing bridges, ferries, and rest houses, as well as settling "askaris" on small holdings which supplied food to travellers. Finally, they devoted some attention to a Morogoro-Dar Es Salaam road, the first trunk road in a projected colony-wide system.

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<sup>38</sup>Hill, Permanent Way II, p. 147.

<sup>39</sup>A.M. O'Connor, "Railway Construction and the Pattern of Economic Development in East Africa," Transactions of the Institute of British Geographers 36, 1965, p. 37.

The first thirty miles of the road was surfaced with gravel, and passed through the hills to the village of Kola, where branches to Maneromango and Utete began. From this point, the road dropped through undulating country, dry and sparsely wooded, to the Ruvu Valley and River, crossed by a pontoon bridge. From the river, the road ran through comparatively flat, open bush country to the Ngerengere River, and then to the junction of the Mikese-Kisaki road in Tanzania. Apart from this one road, there were no other specific motor roads, but a whole number of ordinary roads and tracks were built which were motorable during the dry season. The most important was the Mombo-Lushoto road, whereas most others were only local, such as those between Morogoro and Mgeta and Kisaki and Mvomero.<sup>41</sup> These were not much more than broad, graded paths that were cleared of bush and had lateral ditches to let the water run off. Most of these roads were in the hinterland of Tanga and Morogoro, where most Europeans had settled.<sup>42</sup> Since about 1894, most of the original footpaths and caravan routes had been gradually improved through widening, the provision of bough-holes, permanent bridges, etc.<sup>43</sup> In that way, an extensive system of

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<sup>40</sup>H.M.S.O., German African Possessions, (New York 1920) pp. 45-47.

<sup>41</sup>Most of these roads were built in order to facilitate agriculture in the rural areas. A further improvement of these was recommended by the United Research Company of Boston. See "A Study of Feeder Road Development in Six Areas of Tanzania" (Boston, September 1969).

<sup>42</sup>J. Farguharson, Tanganyika Transport A Review (Dar Es Salaam, 1945) Chapter 3.

<sup>43</sup>J.P. Moffett, Handbook of Tanganyika (Dar Es Salaam, 1958) p. 89.

routes had developed which linked all the more important centers of the colonial administration.

It goes without saying that improved communications fostered the development of the colony. The economic progress achieved by 1914, owed much to the direct colonial support and encouragement. By then, only thirty years had passed since Carl Peters had first set foot in East Africa. In that short period of time, what had once seemed to be a singularly unpromising field for colonial expansion turned into a flourishing territory<sup>44</sup> (see Table II). Altogether, the thirty years of the German colonial period in Tanzania were characterized by dramatic changes in the economic and social structure of the country. The basic change in transport conditions made a significant contribution, mainly through the construction of the railways and improved tracks, which had replaced the footpaths used by head-porters.

All the measures taken in the field of transport and those that were planned were largely based on strategic and economic considerations.<sup>45</sup> It is said that if the existing German economic plans had been carried out and had not been stopped by the war, then the present regional structure of the country would look quite different today, and the necessary transport infrastructure on which an accelerated economic growth could have been based already would have been in place.<sup>46</sup>

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<sup>44</sup>Townsend, "The Economic Impact of Imperial Germany," pp. 125-127.

<sup>45</sup>Lord Hailey, An African Survey (London, 1938) p. 1554.

<sup>46</sup>Woolf, Empire and Commerce, chapter 4.

Table II. Total Value of Chief Crops Grown in the Region (1909-1913)  
Coffee, Cotton, Maize, and Rice

<u>Year</u>	<u>Total Hectares</u>	<u>Total Value</u>
1909	1201	9,110,000
1910	1472	11,801,079
1911	1709	13,141,210
1912	20334	15,018,082
1913	23632	18,005,400

Source: HMSO, German African Possessions (New York 1920) p. 48.

### Transport Development During the British Period

After the First World War, the main method of road construction was to improve tracks laid during the war for the transport of war supplies.<sup>47</sup> Lack of funds and the transition from German to British rule made any extensive road programs impossible during these early post-war years. From 1920 to 1929, government relied upon the railroads to meet transport needs,<sup>48</sup> and they, therefore, received more attention than roads. The initial tasks were to alleviate post-war confusion, repair damage done to the lines and to develop plans for peacetime operations. New railway staff was recruited from India, new locomotives purchased, and workshops were expanded and modernized.<sup>49</sup>

Between 1925 and 1966 a total of 851 miles of railways were built (see Table III). Of the seven railroads, two have since been closed and the tracks removed. The Manyoni-Kinyangiri line, intended to stimulate growth in the central regions of Tanzania, proved economically unsound and was removed between 1944 and 1947. In part, this line was constructed in anticipation of positive agricultural development in the areas around Singida and Kinyangiri, but such expectations were not accompanied by any measures for the promotion of modern agriculture. Consequently, traffic volume grew at an absolutely unsatisfactory rate.

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<sup>47</sup>Hill, Permanent Way II p. 68. See also Van Dongen, The British East Africa Transport Complex (Chicago, 1954) p. 171.

<sup>48</sup>Dongen, The British East Africa Transport Complex, p. 168.

<sup>49</sup>Hill, Permanent Way II, p. 79.



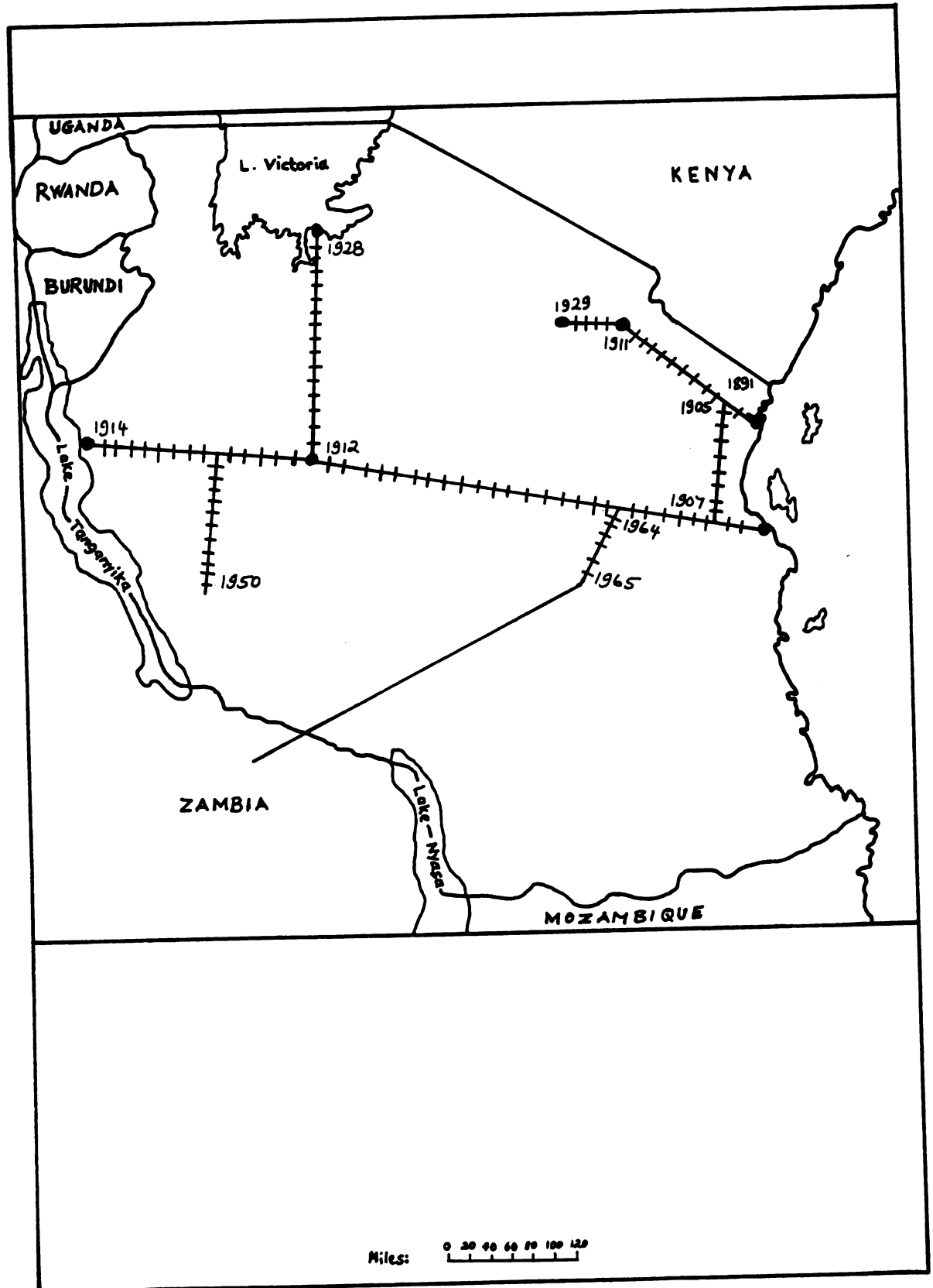


Table III

<u>Railway Line</u>	<u>Period of Construction</u>	<u>Miles</u>
Mwanzaline	February 1925-April 1928	236
Moshi-Arusha	1929	55
Manyoni-Mpanda	1930-1933	93
Mpanda Line	1946-1950	135
Southern Line (Associated with the Groundnut Scheme)	1948-1954	145
Ruvu-Mayusi Link	1960-1963	120
Mikumi-Kidatu Extension	February 1963-June 1965	67
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Total	1925-1966	851
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Source: EARH Annual Reports 1963 and 1965.

A southern line was built simultaneously with the Mtwara port.<sup>50</sup> After the scheme failed, the line was retained in the hope that it would stimulate local development. Between 1955 and 1960, however, it operated at an overall loss of between £210,000 and £250,000 per annum. The loss had to be paid by the Tanganyika government as a subsidy to the railway administration, and the line was therefore removed in 1962, along with a shorter line from the central line to Kongwa, which was replaced by a road.<sup>51</sup> The opinion that railways were requisite for development reached its zenith with the establishment of the groundnut scheme.<sup>52</sup> With its failure, the idea of the value of railways for development, a view which had prevailed since German times, lost strength.

The Tanganyika Railway was organizationally and technically in disrepair on May 1, 1948, when the railways and harbors organizations of Kenya, Uganda and Tanzania were merged into the East African Railways and Harbours Administration under the supervision of the East African High Commission (since 1961, the East African Common Services Organization). In part, the Tanganyika Railways had suffered financially after the groundnut scheme proved to be a complete failure. Other reasons for unification were: the loss of the Zaire copper traffic, which in the 1930's, had been diverted from the port of Dar Es

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<sup>50</sup>For a detailed study of the groundnut affair see A. Wood, The Groundnut Affair, (London 1950) p. 39.

<sup>51</sup>Ibid.

<sup>52</sup>Wood, The Groundnut Affair, chapter I. Mr. Frank Samuel, Managing Director of the United Africa Company, travelled over Tanzania and wondered whether the land he saw could not grow oil crops, to the benefit of the margarine ration of the British housewife and the legitimate profits of the United Africa Company.

Salaam to Lobito in Angola; the reduction of export and import traffic, which now moved along the Kenya-Uganda railway line; and the heavy burden of the railway debt. The significance of this amalgamation in the development of Tanganyika was first to eliminate the burden of subsidizing the railway facilities, and thus permit government to attend to other transport facilities, notably roads. Moreover, the government recovered £414,000 which had been loaned to the Railway Department.

The total mileage of railway, including sidings at the end of 1966 was 1,831.31 miles. All of the main, principle and branch lines are still single trace. Table IV shows the classification of the lines and the length of running lines as well as sidings.

#### Development of Roads

The use of motor vehicles increased rapidly after the war, thus drastically changing the existing transport pattern in the country. As indicated earlier, the Germans concentrated on railways, with roads receiving only peripheral attention.<sup>53</sup> The British undertook to develop road networks in order to facilitate the movement of people and goods to and from areas not served by the railway networks. These roads opened up the rural parts of the country, especially those with agricultural potential.<sup>54</sup> The first reliable statistics on roads were issued in 1921, when it was recorded that there were only 2650 miles

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<sup>53</sup>A.M. O'Connor, An Economic Geography of East Africa, (London 1971) p. 184.

<sup>54</sup>IBRD, The Economic Development of Tanganyika. See also Moffett, ed., Tanganyika Review of Its Resources (Dar Es Salaam 1955).

Table IV. Classification of the Railway Line 1966

<u>Classification</u>	<u>Lines</u>	<u>Total Mileage of track, including sidings</u>
I. Mainlines		
Dar Es Salaam Morogoro-Kigoma	779.58	919.08
Tanga-Moshi	218.68	257.72
Mnyusi-Ruvu	177.06	119.51
II. Principal Lines		
Tabora-Mwanza	235.99	265.55
III. Minor Branchlines		
Moshi-Arusha	53.62	59.02
Kilosa-Mikumi-Kidath (in Morogoro)	66.85	74.65
Ilalika-Mpanda	130.86	135.78
Total	1,602.54	1,831.31

Source: EARH Annual Report 1966.

of roads passable to light motor traffic in the dry season.<sup>55</sup> These roads had been built up from rough tracks, often following the former portage and big game paths. Others had been cut through dense bush during the 1914-1918 war in order to facilitate troop movements. Generally, therefore, they were constructed neither with an engineering eye to the best alignment, nor to the economic needs of opening up productive areas.

Lack of funds during the early days of British Mandate caused some delays in the building of the communication system. Great Britain received the mandate over Tanzania from the League of Nations in 1920. After a first phase of reorganization and reconstruction after the war, there followed a phase of rapid development between 1925 and 1929. Thereafter, due to the world depression, the increasing uncertainty about the political future of mandated territory and the effects of World War II, there followed a rather long period of near stagnation of the economy. Despite poor road conditions, road transportation began to assume importance after 1930. By 1938 long distance portage had almost disappeared. The country had 13928 miles of road, passable for light motor vehicles during the dry season.<sup>56</sup> (see Table V). The most important trunk road constructed in Tanzania was the "Great North

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<sup>55</sup>E. Taaffe, et al., "Transport Expansion in Underdeveloped Countries, a Comparative Analysis" The Geographical Review, 53, 1963, p. 506.

<sup>56</sup>Some of the important roads which had been constructed by this time included the Great North Road and several minor roads providing access to gold mining areas in Mpanda, Musoma, Geita and Chunya. See Moffett, Handbook of Tanganyika p. 195.

Table V. Road Existing in 1938 (miles).

Township Roads	213
District Headquarters Roads	97
Main Roads	2,784
District Roads, Grade A	1,478
District Roads, Grade B	<u>9,356</u>
	13,928

Source: Economy Survey of the Colonial Empire, 1936.

Road" from the Kenyan border near Namanga via Arusha, Dodoma, Iringa and Mbeya to the Zambia border at Tunduma, which was implicitly part of any Cape to Cairo route.<sup>57</sup> The road served as the main transport route for the movement of troops to and from South Africa and Rhodesia in connection with the defense of East Africa and the Abyssinian campaign.<sup>58</sup>

Between 1921 and 1946, the total mileage of all main roads in Tanzania increased by 26%, from 2159 to 2956. The main road systems are shown in map 5 below, in which the isolated character of the individual road sections are clearly visible. During the same period, there occurred an increase not only in traffic, but also in the weight of vehicles. In the pre-war days, a three-ton lorry was a rarity; but during the late 1930's and early 1940's, five-ton and even heavier vehicles were moving all over the country. In order to cope with the increase in the quality and weight of vehicles, and in anticipation of increased traffic, a special committee was formed to recommend ways and means of overcoming future problems in the field of transportation.<sup>59</sup> Its suggestions were incorporated in the ten-year development and

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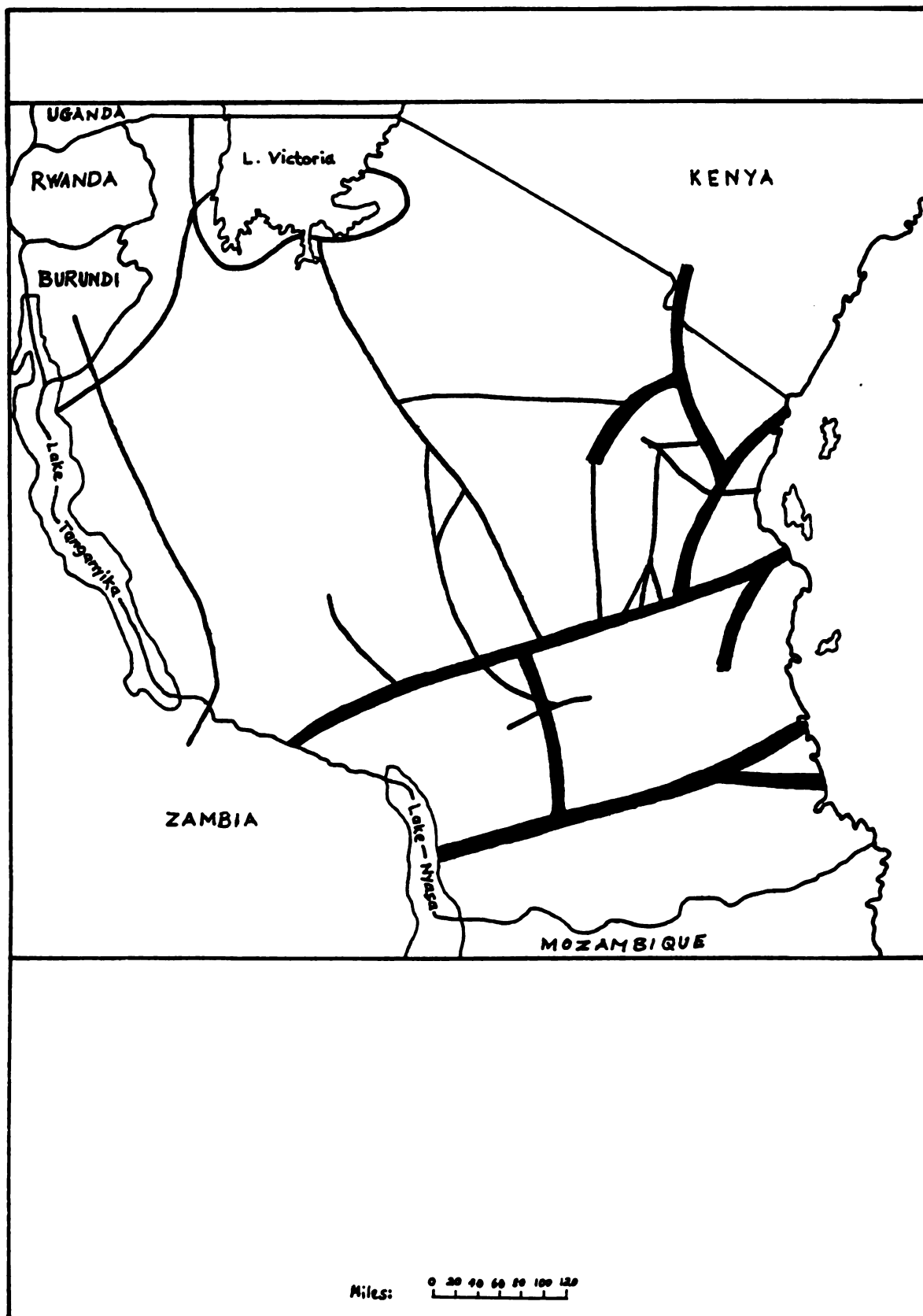
<sup>57</sup>One of the ambitions of the imperialist Cecil Rhodes was to build a road from the Cape to Cairo and place the entire corridor under British control. F.J. Lugard, The Dual Mandate in British Tropical Africa (London 1926) pp. 473-476.

<sup>58</sup>Ibid.

<sup>59</sup>Director, Public Works Department Report 1956, Document 19/5/1350.



## IX



welfare plan of 1946, in effect the first colonial development plan.<sup>60</sup>

The plan allocated £3,335,600 for road construction and £800,000 for road maintenance, and when revised in 1950, £8.5 million for road projects for the 1950-1956 period, making the program one of the most ambitious in the entire colonial empire. In terms of this study, perhaps the most important element in the plan was its specific reference to an arterial road from Morogoro town. The significance of the Dar Es Salaam-Morogoro road to other parts of the country was clearly understood. In 1956, the Director of the Public Works Department ordered the expansion of P.W.D.'s workshops in Morogoro in anticipation of building more trunk roads from Morogoro to other towns.<sup>61</sup> A new road built between Morogoro and Mikumi, the first step to a road to Iringa, was intended to provide direct access to the Southern Highlands and beyond to Zambia. The direct access to the Southern Highlands acquired an added significance when the Colonial Development Corporation conceived a plan to encourage African production in Njombe of wattle

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<sup>60</sup>A definite policy for road development came into force with the adoption of the First Colonial Development Plan. Two important factors contributed to this: the failure of the Manyoni-Kinyangiri railway led to the belief that road construction offered a less expensive method of opening up new areas for development. Secondly, the responsibility for constructing, running and maintaining the railways was transferred to the East African High Commission in 1948. For a detailed explanation of the policy, see Government Ministerial Circular: "Road Development Policy:" Document 575/16 TNA.

<sup>61</sup>Several members of the King's African Rifles were mobilized to help in the construction of trunk roads: Department of Transportation, "Transport Position" Document 688/4/1/1.

bark essential for the manufacture of tanning extract.<sup>62</sup>

Another road was built from Morogoro to Korogwa via Dakawa and Kwa Dhihombo. This road was later extended to Tanga, an Indian Ocean port to the north. The area between Morogoro and Tanga later became important for sisal, then grown on 76 estates. Morogoro was also important because of the region's ability to produce year-round fresh produce.

The task of road building was difficult not only because of technical problems but also because of opposition from railway officials who felt that any increase in the construction of roads would, in the end, jeopardize the success of the railways.<sup>63</sup> These individuals argued that the railway's excess capacity did not justify the building of long-distance roads parallel to the existing railway lines. The argument reached the sympathetic ears of officials of the Transport Licensing Authority, who announced a plan by which motor vehicles were to be regarded only as feeders to the railways.<sup>64</sup> According to this policy, the railways were to remain the basis of transport and were to be protected against competition from the road system.

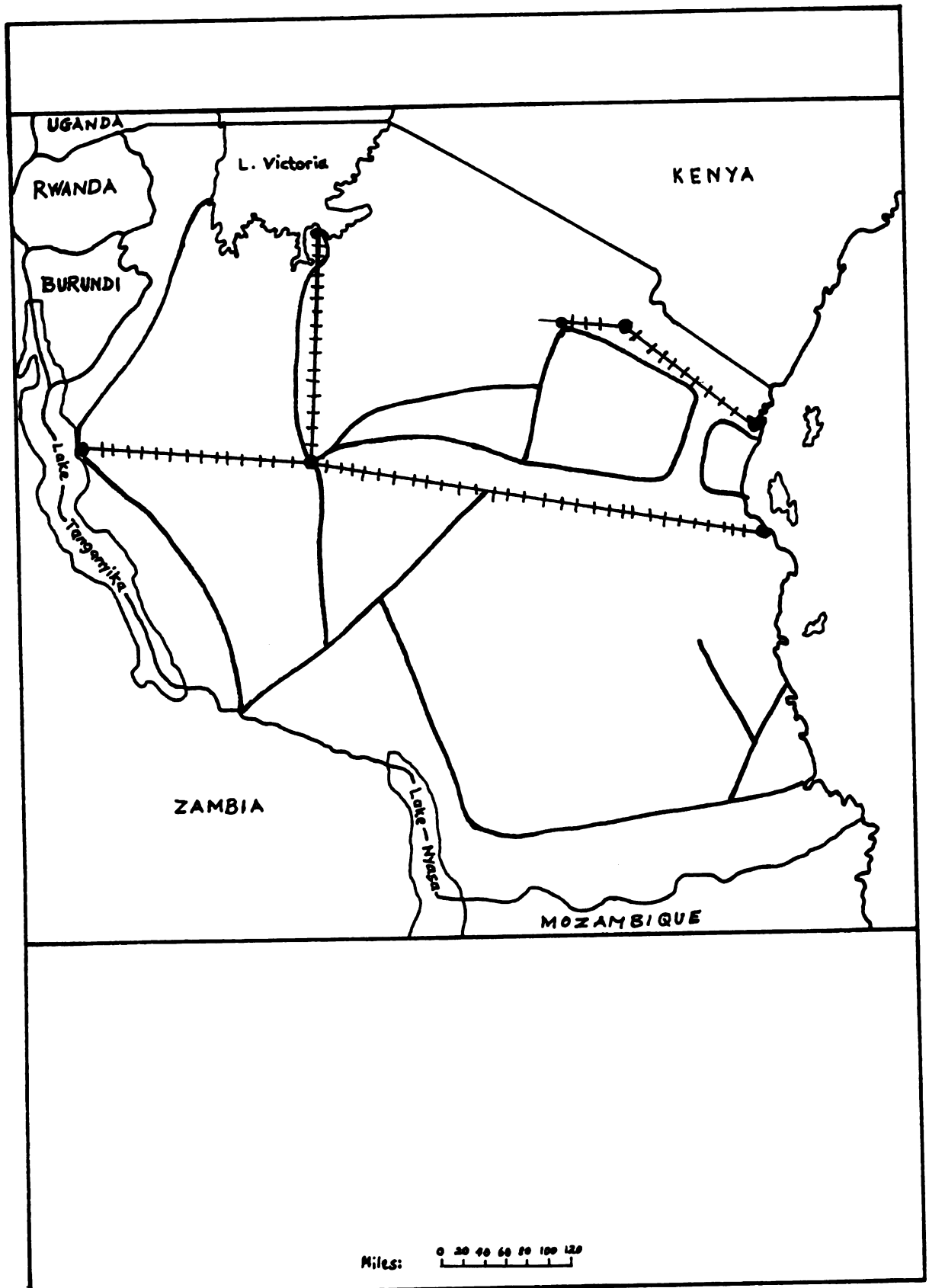
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<sup>62</sup>Based on the report of a study team of the East African Road Federation on the commercial advantages of a north-south road link through Tanganyika (Nairobi, June 1959).

<sup>63</sup>Mr. Ronald Miller, the General Manager of the Railway Company, wrote the governor a memo of protest. Document 61/44/II TNA.

<sup>64</sup>The Transport Commissioner's office directed this and licenses not so issued to transporters using roads running parallel to the railway lines. Document 688/4/1/I, 1943-1945 TNA.

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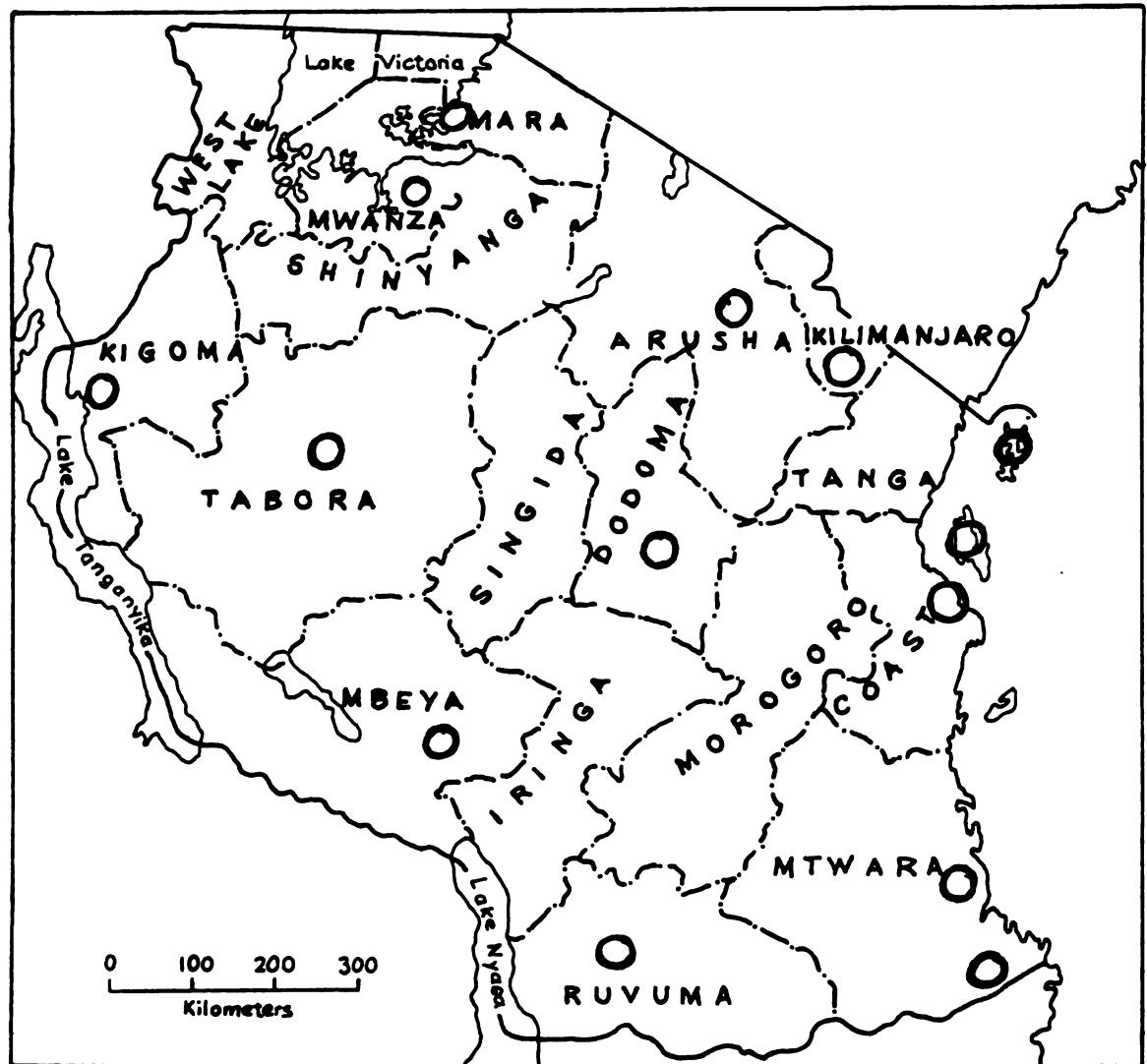
### Air Transport

Tanzania is a particularly difficult area for the development of surface communications, as we have seen in Chapter one, because of the enormous tracts of sparsely populated bush and woodland country lying between the rural and urban centers. Air transport is, therefore, a useful alternative, even if it suffers along with other modes of transport, the one-way-only traffic which is an inevitable accompaniment of new enterprises. At first men, machinery and materials move towards the new project, but after a few months, perhaps years, traffic is almost entirely outwards, as is the case between Dar Es Salaam and Dodoma, the proposed new national capital. While construction continues, there have been numerous air, road and rail movements to Dodoma, delivering capital development personnel, materials, etc. A similar situation was observed during the construction of Kilimanjaro International Airport in the northern province of the country. The number of such movements to Kilimanjaro decreased by over 50% following completion of the project. From this evidence, one can correctly forecast the same might become the case of Dodoma.

### Historical Outline

Apart from a single German aircraft, which was imported for an exhibition to be held in Dar Es Salaam in August 1914 and which crashed at the outbreak of war, the first flying done in Tanganyika was by the Royal Naval Air Service in 1914 and 1915, assisting in the destruction of the German cruiser *Konigsberg*, which had taken refuge in the Rufiji

## XI



Delta from the pursuit of British warships.<sup>65</sup> After the first world war, several flights were made between Europe and South Africa. These passed through Tanzania, but few purely East African flights were made until the later 1920's. After World War I, in 1919 the Royal Air Force started trial flights with flying-boats between Cairo, Kisumu, Abercorn and Cape Town.<sup>66</sup>

By 1931 Imperial Airways inaugurated a regular civilian air service from London to Cairo and Kisumu, later extended to Moshi in northern Tanzania and Dodoma in central Tanzania. In 1937 an agreement was concluded between the British government and Imperial Airways for an "Empire Air Mail Scheme" whereby, in return for a subsidy, the company operated scheduled mail and passenger services to all parts of the empire, including Tanzania.<sup>67</sup> Services were interrupted by the Second World War, but by the end of 1946 British Overseas Airways Corporation had again established flying-boat services twice weekly in each direction between England and South Africa, landing at Dar Es Salaam and Lindi (in southern part of Tanzania).

Dar Es Salaam is the country's main airport, built to international standards. Internal airports are well distributed over the country and served by scheduled services. There are a number of launching strips, which are used primarily by government and private planes. These

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<sup>65</sup>B. Hoyle, The Seaports of East Africa (Nairobi 1967) pp. 47-51.

<sup>66</sup>J.P. Moffett, op. cit., p. 133.

<sup>67</sup>Ibid.

provide air access to otherwise inaccessible and remote rural centers of activities. By and large, the present needs of the country are adequately served.

The Dar Es Salaam airport is modern, well planned, though on a small scale, and well equipped, calculated to handle comfortably one aircraft arrival and one departure at a time.

The air services inside Tanganyika and with neighboring countries were until recently (1977) operated by the East African Airways Corporation, which also operated international services.

The introduction of internal air transport was of a great advantage to commercial and later national administrators who could travel to distant areas where other modes of transport such as roads and railways were unimproved. The airplane has yet another advantage: it is not affected by seasonal climatic conditions in the way that roads and to some degree railways are.

Air transport in Tanzania helps to alleviate the country's shortage of ground transport. Internal air service is provided to a number of Tanzanian cities by the Tanzanian Airways Corporation.

There are presently 123 civil airports and airstrips in the country (see map XI), but only Dar Es Salaam and Kilimanjaro airports are equipped for the landing of international air traffic. The latter airport was inaugurated in 1971.<sup>68</sup>

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<sup>68</sup>This airport is destined to facilitate entry of international air traffic to the nearby world-renowned Sevengeti Game Park and the Ngorongoro Crater Conservation area, as well as other tourist spots.



### Transport Development Since Independence

Systematic development of the country, full exploitation of the given potential and improvement in the standard of living of the population, have been the center of all government endeavors since the achievement of independence in 1961. During the early years, total expenditures of the public development budget increased slowly compared to the previous period, but then rose rapidly after the start of the First Five-Year Plan in 1964. This rise has been particularly rapid since 1966<sup>69</sup> (see Table II, Chapter II).

Until 1970 there were no significant new developments in the transport network. The two railway lines continued to be the backbone of the entire transport system. The old plans for the construction of a railway into the Southern Highlands were, however, achieved in connection with the transport problems of Zambia after the Rhodesian Unilateral Declaration of Independence (UDI) in November 1965.<sup>70</sup> After about two years of survey and design work for this project, the construction of the Tanzania-Zambia railway officially commenced in October 1970 and was completed in 1975.<sup>71</sup>

In respect to the road sector, real progress was also made. Expenditures for the expansion of the road network were continuously

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<sup>69</sup>Development plan for 1961/1962 - 1963/1964 Dar Es Salaam, 1961. See also Second Five-Year Plan for Economic and Social Development.

<sup>70</sup>Second Five-Year Plan, op. cit., p. 118.

<sup>71</sup>This project was financed by a massive loan from the Peoples Republic of China after the west had rejected a request for aid from Tanzania.

increased and an important contribution to the better integration of the country was made. In the Three Year Development Plan 1961-1964, the basic concept of road policy, still valid today, was clearly outlined. The policy's aim was and remains one of providing a system of "low-cost roads" for the whole country.<sup>72</sup> These low-cost roads were, however, designed, constructed and maintained to allow for construction in stages when traffic required and as economic conditions permitted them. In principle the concept of a trunk road network as first developed in the 1950's by the colonial administration continued to be used as the basis for long-range planning of the main road system. Therefore, the trunk road concept included the main artery from Dar Es Salaam to Morogoro and other towns to the south and north of it. A special feeder road program was also implemented after independence. With the help of Anglo-American aid programs, main culverts and bridges were provided for a large number of minor roads.

All in all, after independence, the network of genuine all-weather roads were considerably expanded, which contributed to a better integration of the country. East-west connection, even when parallel to the railway, received much more attention than in the past, since it still corresponded to the main direction of internal commodity flow.<sup>73</sup> As a result of the general improvement of many important trunk and feeder roads, the road transport industry, both in respect to passengers

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<sup>72</sup>Development Plan for 1950-60 had spelled out what were the "low cost roads" to mean. See IBRD The Economic Development of Tanganyika, p. 247.

<sup>73</sup>IBRD The Economic Development of Tanganyika, p. 238.

and goods traffic, was in a position greatly to expand its activities and increasingly to become a more serious competition for the railway.

## CHAPTER III

### SPECIFIC TRANSPORT PROBLEMS AND REMEDIES IN MOROGORO

The Morogoro Region, like most of Tanzania, is striving to accelerate its economic growth through a program of planned development based on set priorities and defined allocation of resources. The record of results over the past decade or so reveals significant accomplishments, as well as some failures, with transport having played a role in both. Transportation, as has been recognized by Morogoro Regional planners, plays a many-faceted role in the pursuit of development objectives.<sup>1</sup> Its function as a factor-input is obvious, permitting the inter-and intra-transfer of goods and passengers between production and consumption centers. Since in the case of the Morogoro region much of this movement is between Morogoro town (the urban center) and the outlying rural areas, transport has supplied an essential ingredient for extending the money economy to the agricultural sector and also in raising its productivity. Improvement of the rural sector may help to retard the growth which Morogoro town is experiencing.<sup>2</sup>

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<sup>1</sup>These objectives are reinforced in the 2nd Five-Year Plan 1969-1974.

<sup>2</sup>The problem of rural-urban migration is discussed at length by President Julius K. Nyerere in his Freedom and Socialism (London 1968), pp. 242-244. Nyerere, realizing the seriousness of this problem, emphasized the significance of agriculture as the basis of development, and the only place where this is possible is in the rural areas.

Transport also shifts production-possibility functions through the alteration of relative factor costs. Improved transport serves to reduce travel time, resulting in savings of man-hours spent in transit, and permits reduction in inventory, capital, interest and absolute costs.<sup>3</sup> Transport, therefore, can be expected to create internal economies for many sectors, thereby fostering external economies for all sectors.

This chapter will, therefore, examine the specific problems of transport development in Morogoro. It will evaluate the extent to which transport has successfully provided the essential support for the economic, social and political development of the region.

The first impression one has of Morogoro is that the principal occupation of the Luguru is in moving themselves and their goods from one place to another.<sup>4</sup> Streets and paths to and from the major towns and villages teem with masses of headloading pedestrians, bicyclists and lorries struggling to get their goods through mud and dust to and from the market. It is thus difficult to avoid the conclusion that the mobility of people and freight plays a vital role in nearly every aspect of Luguru daily life and that its inadequacy places a heavy burden on development.<sup>5</sup> Lack of good transport has hastened poverty and isolation

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<sup>3</sup>United Nations, Economic Commission for Africa: Transport Problems in Relations to Economic Development in Eastern Africa (Addis Ababa 1962).

<sup>4</sup>Visiting relatives on a regular basis is very common practice among the Luguru, so one is likely to be amazed by the frequency of people in buses, lorries, on foot, and bicycles, usually carrying gifts along with them.

<sup>5</sup>Jan Lundquist attributes transport to speedy recovery of Morogoro's economic decline of the mid-1960's. See Lundquise, The Economic Structure of Morogoro Town (Uppsala, 1973) p. 45.

of villages which are situated far from the few existing roads, making virtually impossible regular distribution of essential services such as mobile literary campaigns, health services, etc., to the rural dwellers. (see map XIII).<sup>6</sup> Poor road transport has also been responsible for a low degree of reliable farm to market access. For example, the residents of several major produce growing communities, such as Mgeta, Kibuku, Turiani and Ilonga, lost £47,000 in produce sales during the 1965-1966 harvest season because of their failure to transport their goods to markets at Kilosa and Morogoro.<sup>7</sup> In part this inability was caused by the roads of the area, which were in such poor condition that the local lorry transporters were reluctant to put their vehicles on them.<sup>8</sup> In addition to the farmers, the government itself was a victim of the poor road system, experiencing problems in its efforts to distribute technical supplies to those sites which had been selected for pilot programs in agricultural improvement.<sup>9</sup> Access to this area in the past has been impaired by the heavy rains which at times washed away bridges on feeder roads.<sup>10</sup>

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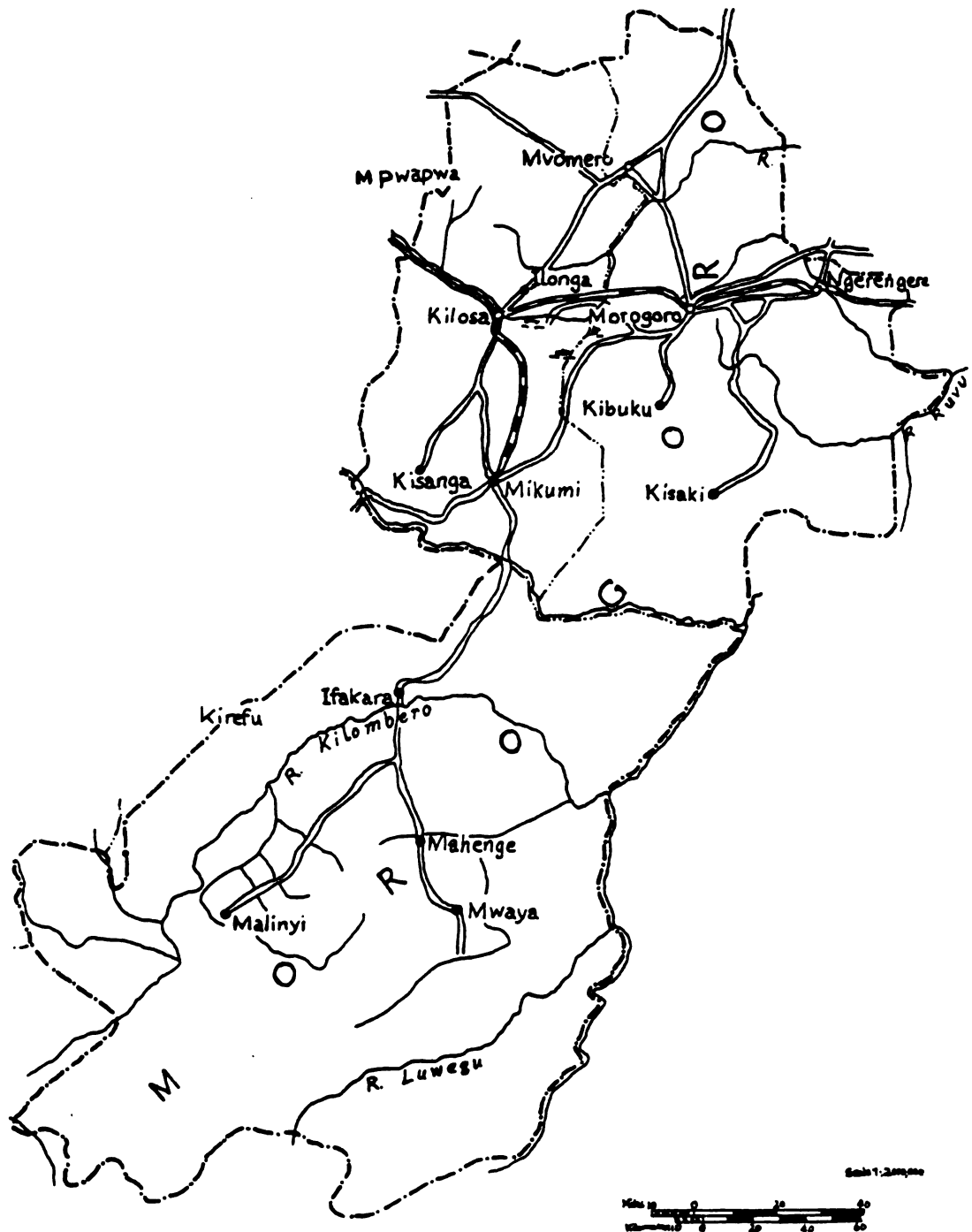
<sup>6</sup>Ibid., p. 25.

<sup>7</sup>Tanganyika, First Five-Year Plan, Volume I.

<sup>8</sup>Based on interviews with Messrs. Idris Juma, and Hadji Kinongwe, private owners and operators of light-duty trucks. They often grounded their lorries upon learning the routes they usually travel are impassable due to long rains.

<sup>9</sup>Detailed discussion on the Kilombero agricultural potential is contained in a study by N.V. Rounce, quoted by Hans Rutherberg, Agricultural Development in Tanganyika (Berlin 1964) p. 57.

<sup>10</sup>J.P. Moffett, Tanganyika, Review of Its Resources and The Development, p. 210, see also Hill, Permanent Way II, p. 69.



 Major Roads  
 Minor Roads

In spite of the problems created by lack of a developed transport network, there are also signs of accomplishments. In Morogoro town the emergence of a manufacturing sector can be observed. Small scale industries and development corporations emerged which could not have succeeded without a minimal degree of transport to facilitate movement of raw materials and machinery.<sup>11</sup> As it now exists, the transport system is not sufficient for the modernization which the region strives to achieve.

Poor transport is a major factor not only with regard to retarding the modernization process, but also in terms of the food shortages which the region experienced in the late 1960's.<sup>12</sup> The high cost of moving farm products and the long delays and consequent damage and loss of perishables have been powerful deterrents to increasing food supplies.<sup>13</sup> Produce rots on the ground because transport is unavailable, and beans and other foods remain on the farms turning into fertilizer because of lack of adequate transport.<sup>14</sup> Commercial fertilizer supplies manufactured in Tanga sometimes do not arrive in the region

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<sup>11</sup>A.W.M. Darja "The Tanzanian Pattern of Rural Development: Some Administrative Problems," Building Ujamaa Villages in Tanzania, ed. J. H. Proctor (Dar Es Salaam, 1971) pp. 48-54.

<sup>12</sup>Some official government documents revealed that part of the problem was not really shortage of food but bad distribution owing to poor transport, inadequate roads (especially during the rainy seasons) and bad transport management, which led to the liquidation of the Tanzania's National Haulage Corporation in 1977.

<sup>13</sup>Personal observation in Morogoro. January-May 1976.

<sup>14</sup>Several farmers in Kibuku area were observed to practice this on a regular basis.



until after the growing season is half over.<sup>15</sup>

Much of the region's resources therefore remain untouched or under-exploited because of their inaccessibility, such as the mica in the Uluguru Mountains at Chanzema and at Mahenge,<sup>16</sup> where mining operations were impaired by poor access routes. The same is true of uranium which has been said to be located in some parts of Uluguru mountains. A major proportion of land suitable for cultivation remains idle, such as the inaccessible area south of the great Ruaha River. Much of the wealth of forest resources that could help in the struggle against poverty makes no contribution because forest areas are inaccessible, and it is impossible to move timber out.<sup>17</sup>

The agricultural sector suffers from more than merely the inaccessibility of land and the failure to move what is produced. Farmers have no incentive to grow surplus when they know that they cannot market their produce. In a spot check, this writer was able to verify this situation among cotton growers at Kisaki and paddy farmers at Turiani. In both cases, the farmers responded to the transport shortage by not increasing their crops in spite of the government's pleas to do so, and in spite of higher prices promised for their produce.<sup>18</sup> In some of these cases, it was a question of communities remaining ignorant of

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<sup>15</sup>Personal observations, 1975.

<sup>16</sup>Moffett, Tanganyika, Review of Its Resources, p. 64.

<sup>17</sup>Ibid.

<sup>18</sup>W.L. Luttrell, "Villagization Cooperative Production and Rural Cadres: Strategies and Tactics in Tanzania Socialist Rural Development." ERB Research Paper 71, 11 (Dar Es Salaam 1969).

market opportunities or of new ideas and new techniques. Information, like everything else, travels slowly on mud roads and unimproved trails. Communication between the region's rural settlements and Morogoro town can come to a complete halt during the wet seasons, and even in the dry weather when roads are dusty but passable. Under such conditions the time and cost of travel preclude regular contacts.

Small scale industrial activities are also severely curtailed by the lack of a suitable transport system. In 1974, a feasibility study was completed for establishment of a cooking-oil processing plant in Morogoro town. The company depends on oil seeds from various parts of the region, but poor access roads caused some delay in the actual operation. It is hoped that with the improvement of some of the major roads, the company will start full operation in 1979. Timber and sugar mills at Mtibwa and a cotton ginnery at Mikese rely on continuing supplies of fuel, raw materials and spare parts, and on a secure means of marketing finished products. In the past, access roads to Mtibwa and Mikese were so poorly maintained that it forced TGA to threaten Dar Es Salaam with reduced production unless the Department of Public Works undertook repairs and the construction of new and stable bridges.<sup>19</sup> In some areas, such as Ifakara and Mahenge, poor and unreliable road transport has caused excessive inventories to pile up at a high cost to compensate for uncertain deliveries.

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<sup>19</sup>For instance, in 1947, a TGA delegation petitioned the government to take immediate action on improving the roadways. Document 634/7768 TNA.

In May through July of 1975 and April through June of 1976 there were regular shortages of sugar in rural areas of the region.<sup>20</sup> This writer travelled to Mtibwa, where one of the two sugar estates is located, and discovered an excessive inventory, which according to an official of the MSE, they were unable to distribute to their depots in Morogoro and Kilosa not only because of the deteriorating conditions of the roads,<sup>21</sup> but also due to a lack of reliable means of transportation.<sup>22</sup> Contracts to transport sugar from Mtibwa have always been awarded to the National Transport Company which operates a fleet of heavy-duty lorries,<sup>23</sup> but their frequent breakdowns compelled the National Sugar Corporation to award contracts to private operators who can carry only a limited tonnage, since they have small and unreliable vehicles. In 1975 these private operators complained that poor road

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<sup>20</sup>In part, this was caused by efforts of the Asian and Arab retailers to hoard essential foodstuffs, but it was also because there was not enough supply from the mills to the redistribution centers. For a detailed study of shortages during this period, see C.R. Ingle, Political Entrepreneurs in the Village: The Key to Local Support for National Development, Dar Es Salaam, University of Dar Es Salaam, May 5, 1972.

<sup>21</sup>Based on the reports compiled by traffic office of the Morogoro Branch of the National Haulage Company, December 1975 - February 1976. The report also discusses the problems of maintaining regular truck dispatches to Mtibwa sugar estate.

<sup>22</sup>The official report of the Regional Trading Corporation August 6, 1974 in Morogoro stated that the regional office of the NHC was frequently compelled to hire private haulers, an act viewed suspiciously by the local politicians, who preferred that all public contracts be awarded to public corporations.

<sup>23</sup>Ibid.

conditions were causing their vehicles to break down.<sup>24</sup> At one point, trucks were forced to use an alternative and longer route via Mvomero-- a 95 mile journey instead of the usual 68 miles. The same MSE was shut down briefly in 1969 but reopened at a fraction of plant capacity because of fuel and material shortages caused by transport problems.

The ability to sell in markets, whether in Morogoro region or outside, is often limited by difficulties of overland transport. The problem is not always the complete absence of transport, but rather its unreliability, high cost, erratic schedules and poor management. These obstacles to mobility restrict the market, increase the cost of production, and raise prices beyond the reach of rural people of limited income.

Transport difficulties have their political and social, as well as economic, impact. For years during the German and British colonial periods the most distant rural dwellers were left unaffected by any changes taking place in other areas of the country.<sup>25</sup> In Uluguru, rural residents were often the last recipients of any developmental benefits. Consequently, the post-colonial government had to deal with a lack of national integration and trust on the part of many rural residents who have always viewed government as a suspect and threatening

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<sup>24</sup>Mr. Mshendwa, a local transporter in Morogoro, complains about the maintainance costs of his four five-ton lorries which far exceeds the income he makes. Similar views were expressed by Mr. A.K. Nanji, an Asian transporter for over 15 years. Personal interviews, July 9, 11, 1974.

<sup>25</sup>This is a conclusion reached by R. Millard, "Road Planning in Developing Countries," in Road International No. 66 (1967), pp. 12-18.

to their "desturi" (customs).<sup>26</sup>

The hand-hoe technology has proved incapable of satisfying the Luguru's needs of food and export earnings, and so in 1962 President Nyerere launched the Village Settlement Scheme. This effort was renewed in 1967, with the Arusha Declaration's new policy of ujamaa vijijini. In the village settlements, the government could group people and implement restricted and expensive development programs. In Ujamaa vijijini one sees the return to the self-improvement idea in a collective form, but with the government providing initiatives and enforcing the new options on the peasantry. Luguru who objected to the national policy of resettlement have fled to areas beyond the reach of landrovers.<sup>27</sup>

The extent of transport inadequacy in the Morogoro region can be shown by a comparison with transport resources in the rest of the country. Morogoro possesses most of the country's population but only 12% of its improved roads, 4% of its rail freight and 6% of its truck and bus service. Among the more than 56 villages, only three out of ten are served by the few existing good standard roads. There were fewer vehicles registered in Morogoro in 1965, than in some of the smaller regions with less population (see Table VI).

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<sup>26</sup> Broad scepticism has been expressed in the relationship between the government officials and the traditional elements among the Luguru. It has also caused deceleration of government efforts to develop some of the rural areas. This aspect is fully discussed by President Nyerere in his Ujamaa: Essays on Socialism (Oxford 1968).

<sup>27</sup> Ibid. See also Helge Kjekshus, The Tanzania Villagization Policy: Implementational Lessons and Ecological Dimensions. Canadian Journal of African Studies, XI, 2 (1977) p. 274.

Table VI. Number of Licenced Holders and of Licenced Vehicles in Morogoro in 1965.

	<u>Road Service Licences</u>	<u>Public Carrier Licences</u>	<u>Private Carrier Licences</u>	<u>Total</u>
Morogoro	29	44	118	191
Bukoba	28	55	136	219
Lindi	72	112	98	282
Dodoma	37	55	153	245

Note: This table shows that Morogoro Region, in spite of its size in comparison to the other three, has fewer licenced holders and vehicles, partly due to poor road conditions, but also owing to the fact that few people in the region can afford to purchase a vehicle because of poor output in their agricultural production, hence no stable income. There has been an increase of agricultural products in the region requiring steady hauling, a task which has thus far been poorly performed by the public carriers; it has become necessary therefore to increase the number of private carrier licence holders. As for the reasons why Lindi has more Public Carrier Licences, the major factor is that the national government would like to ensure that the southern section of the country is fully served by road transport service since there are no railway lines serving the south.

Source: TLA Annual Report 1965.

The evidence suggests an imbalance in the transport distribution everywhere in the region. Attention at the national level has been focused primarily on inter-city movements, ignoring the problems of agriculture, rural development, consumer needs and rural retail trade. This imbalance goes a long way toward explaining the inadequate level of the region's agricultural production. There is no doubt that the inaccessibility of most of the region's farmland and the lost opportunities for rural economic development are all a result of a failure to overcome the barriers imposed by distance.

Nevertheless, an indication of what transport modernization can do for development can be observed in nearly all the towns in Morogoro region and along the major inter-rural routes. A visitor to Morogoro will no doubt be impressed by the number of automobiles on the roads between major towns. Within Morogoro on the feeder roads, head portage, the bicycle and other outmoded means of transportation are giving way to the truck and the bus. Fresh vegetables now reach the consumer in Morogoro and Dar Es Salaam quicker than they did a few years ago. Perishable products can now be moved to Morogoro in refrigerated vans operated by a newly formed corporation.<sup>28</sup> Finally, during the 1976-parliamentary elections, most, if not all, of the candidates used four-wheel drive landrovers to reach the remote areas of the region in the campaigns, whereas previously the electorate had to come to them.

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<sup>28</sup>The newly formed Cold Food Chain Corporation was granted the licence to buy at wholesale from the farmers and to retail produce to consumers throughout the country. The corporation has failed to operate effectively due to many breakdowns of its limited number of vehicles.

These improvements indicate that the transport picture in the region is by no means completely dismal, for in some important respects, transport has played a major role in providing the essential support for development of the region's economy.<sup>29</sup> The greater mobility provided has extended the benefits of education to the people of Uluguru. In 1965, there were a total of 254 primary schools with an average of 44,263 pupils, whereas there were only 42 schools and less than 8,000 pupils in 1958. A number of health centers, primary markets and "beer huts" have become commonplace along the roads. The problem of socio-economic isolation which the Luguru have experienced are gradually being overcome, as new ideas and thoughts, as well as economic opportunities, are introduced to the people on a large scale. The role of roads in this endeavor cannot, of course, be overstated. The greater mobility also facilitates the travel of technical personnel from Dar Es Salaam and Morogoro to rural schools, farms, dispensaries, etc., enabling them to cover more territory in less time.

Even modest improvements in transport change the life and attitudes of the people in many of the affected areas. Earth roads built in these areas to connect populated centers with hitherto inaccessible land have altered the outlook of whole rural communities. For instance, the road which was built between Mvuha to Magogoni has had the effect of persuading thousands of people to move from the impoverished soil

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<sup>29</sup>Oleen Hess, Tanzania, Ujamaa and Development (New York, 1976).



eight to 17 miles away from the road and settle along the new road (see Table VII).<sup>30</sup>

These achievements, when viewed in the aggregate, provide impressive evidence of progress.

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<sup>30</sup>Based on the report by the District Development Director to Regional Planning Committee, February 6, 1975. In the report, the official also urges the government to invest more funds in feeder roads construction.

Table VII

Road	1m	2m	3m	4m	5m	5m According to number of dots.
Morogoro-Kisaki 120 km.	15622	22244	28866	35488	42110	56250
Mkuyuni-Kinole 8 km.	820	1640	2460	3280	4100	5750
Morogoro-Mikumi 50 km.	3363	5226	7089	8952	10815	14500
Mlali-Mgeta-Bunduki 30 km.	6586	8672	10758	12844	14930	18250
Morogoro-Mvomero Turiani-Handeni 130 km.	8578	12656	16734	20812	24890	23500
Morogoro-Dar Es Salaam	4512	6024	7536	9048	10560	10750
Dar Es Salaam road Ngerengere-Morogoro	4485	5970	7455	8940	10425	10250
Total number of rural people served by the roads.	43966	62432	80898	99364	117830	139250
% of the total rural population in Morogoro District.	15	22	27	34	40	48

Accumulated number of people within one to five miles reach of the major feeder roads in Morogoro.

Source: Regional Development Office Report for 1967-1970.

## CHAPTER IV

### TRANSPORT CONSTRAINTS ON RURAL DEVELOPMENT IN ULUGURU

#### Introduction

While there are visible signs of increasing affluence and physical improvements in Morogoro, the visitor is struck by the region's rural nature. These areas, deprived of social and other amenities which could have enhanced their productivity and present output, deserve better quality transport networks and services than are now provided.

Thousands of school-dropouts in the rural areas are unlikely to choose to remain there if living conditions are not improved. Measures for creating rural employment can succeed if the rural environment is rid of its debasing hardships and indignities. Inadequate transport services are one of these debilitating hardships which prevent rural dwellers from transporting themselves, their products or consumption in order to enhance their productivity and standard of living.

This chapter is therefore concerned with an examination of transport constraints on rural development. It is divided into two sections: one discussing the general transport problems in Tanzania, and the

second discussing the specific transport constraints on rural development of the Morogoro region.

### I. Constraints on Development, General Transport Problems in Tanzania

Tanzania's population is predominantly rural. In the countryside, the direct connection between man and the physical environment remains obvious in marked contrast to the many indirect linkages that characterize urban life. Because most Tanzanian agricultural systems are subsistence oriented, tradition is particularly important. Life depends on the success of the crops or, in some areas, on the survival of the livestock. Therefore, change in rural areas is frequently and, perhaps wisely, slow and tentative. In Uluguru, development also depends upon tradition and technologies which include transport networks.<sup>1</sup>

C.A. Knight describes the nature of traditional African agricultural systems, exploring some of their recent dynamics. Weighing the current patterns of agricultural productivity in Africa, Knight suggests probable transitions in the early twenty-first century.<sup>2</sup> Such changes include government efforts at drawing people as far as possible into the international economy--to induce them to produce more than the foodstuffs required for family subsistence. Berry details the dynamics and process of rural change in Africa, citing many specific examples. Population stress and economic opportunity are seen as the

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<sup>1</sup>IBRD The Economic Development of Tanganyika, p. 89.

<sup>2</sup>C.A. Knight, Ecology and Change: Rural Modernization in an African Community (New York, 1974) pp. 271-272.

major dimensions of rural growth, to be manifested in space, agricultural systems, and individual migration.<sup>3</sup>

In Morogoro, much of the initial evolution of agricultural production and development of market economics in Uluguru occurred in areas of relatively high population density. Trade focused on these areas, and along with the greater relative concentration of non-agricultural craft activities, modernization was given an early impetus. Low-density rural areas have remained relatively isolated, bypassed by transportation routes and other allocations of development facilities.

How does government facilitate agricultural change? Dar Es Salaam has reported to local initiatives as well as to national imperatives for increasing agricultural production. Crops, water supply, animal husbandry, marketing, communications, information services, education and agricultural village schemes are some of the dimensions of induced change leading to development and modernization.<sup>4</sup>

Among the most radical approaches to rural development in Tanzania is the process of instituting agricultural settlement schemes. Mwalimu Nyerere suggests that such settlements may result from many circumstances, for example, the need for food and more self-sufficiency, but with the common ultimate goal of agricultural development.<sup>5</sup>

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<sup>3</sup>B.J.K. Berry, "City Size Distribution and Economic Development," Economic Development and Cultural Change IX (July 1961) p. 576.

<sup>4</sup>This is well spelled out in the 2nd Five-Year Development 1969-1974 (Dar Es Salaam, 1969), p. 3.

<sup>5</sup>J.K. Nyerere, Rural Development, pp. 4-9.

Tanzania's rural development policies originate from the historical analysis given in President Nyerere's paper, Socialism and Rural Development.<sup>6</sup> In essence, Nyerere points out that colonial policies left most of rural Tanzania isolated because only those areas with obvious developmental potential received attention.<sup>7</sup> In this paper and subsequent writings and speeches, President Nyerere argues that the colonial period brought about very important economic and social changes. "Our society, our economy and the dominant ambitions of our people are very different now from what they used to be before the colonial era."<sup>8</sup> According to the president's analysis, the movement was from a relatively equal and undifferentiated society to one with greater social differentiation and inequality.<sup>9</sup> This shift was caused primarily by the effects of European institutions on Tanzanian society and the general acceptance of individualistic and other alien values. The basic difference stems from the widespread introduction of cash crops. The alien elements, however, did not alter two fundamental features of the pre-colonial economy, basic poverty and the low level of technology.<sup>10</sup>

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<sup>6</sup>Nyerere, Socialism, p. 8.

<sup>7</sup>Ibid., p. 4, see also Hill and Moffett (eds.), Tanganyika: A Review of its Resources and Their Development (Dar Es Salaam, 1955), p. 442.

<sup>8</sup>Nyerere, Socialism, pp. 4-9.

<sup>9</sup>Ibid., pp. 4-5.

<sup>10</sup>Guy Hunter, Modernizing Peasant Societies (London, 1969), p. 26.

Thus, according to President Nyerere, the main process taking place in Tanzanian agriculture during the colonial period was change through regional and social differentiation owing to the impact of western institutions, but not associated with any major technological change. Following this analysis, therefore, the present chapter will discuss agricultural development and the effects of transport upon it; and then examine both transport and agricultural changes and their impact on rural development. The latter part will deal in detail with transport constraints on rural development.

Although the coastal areas of Tanzania had been affected by alien influences for centuries, commercial agriculture was almost non-existent before the advent of German colonialism, except for Zanzibar and some coastal areas, where a number of food plants and cloves had been introduced by the Persians, Arabs and Portuguese. Their cultivation had spread inland along the slave routes, but the local people lived at a basic subsistence level, and foreign agricultural enterprise continued to be Arab-owned plantations at the coast. P.J. Greenway attributes the introduction of such plants as cassava, sweet potatoes, new world beans, groundnuts and maize to the Portuguese; sugar cane to the Persians; and rice and oranges to the Arabs.<sup>11</sup> These crops are still widely grown in Uluguru, and according to local traditions, they were introduced by Nyamwezi and Arab traders who made frequent stops in Uluguru on their travels to and from the coast.<sup>12</sup>

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<sup>11</sup>P.J. Greenway, "Origins of Some East African Food Plants," East African Agricultural Journal, Volume X, XI (1944-1945).

<sup>12</sup>Mzuanda, Historia ya Waluguru, p. 47.

Agricultural development started, however, with the advent of the Germans. From 1891, when Berlin took over from the German East Africa Company, the main effort was concentrated on economic development through plantation agriculture. Between 1895 and the outbreak of the First World War, some 3,115 square miles of land, including areas in the Eastern region, nor Morogoro, were alienated to German companies and individuals. Little attention was given to African agriculture, but cotton was extensively adopted as a source of family income.<sup>13</sup>

During the last decade of German colonization in Tanganyika the Germans began to take enormous pride in their success as "scientific colonizers." This claim was made perhaps because of their own efforts at introducing a variety of crops. In Tanganyika, after a great deal of experimentation, the Germans brought in the sisal plant from Florida and built a new industry.<sup>14</sup> Although German experiments with coffee were less successful, Africans, working with lower overhead costs than planters, took up the cultivation of this crop and developed it into a valuable export commodity.

The Germans paid special attention to the cultivation of cotton, as experts feared that the textile industries of the Reich might have to face severe price fluctuations, or even a world-wide scarcity of this vital raw material.

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<sup>13</sup>Document 64/164/II B.

<sup>14</sup>M. Attems, "Permanent Cropping in the Usambara Mountains," in H. Rutherberg (ed.) Smallholder Farming and Smallholder Development in Tanzania (Munich, 1968).



Coffee plantations were also developed chiefly in the Usambara Mountains, on Kilimanjaro and Mount Meru. The Germans experimented with this crop in Uluguru but with no great success. Coffee fared better in the northern regions, where Robusta and Arabica coffee thrived. Cotton remained a minor household crop, but German efforts largely provided the basis for later British exploitation.<sup>15</sup>

The greatest "achievement" during the German period was the completion of extensive transport system, which was also an important factor in terms of agricultural development. Above all, Germans began to build railways at a furious pace. These railways were supplemented by a network of feeder roads. It is worth noting that the building of roads suitable for motor traffic had hardly started prior to World War I, but received some impetus during hostilities and played a role in the development of agriculture.

Following the war, the British initiated agricultural development throughout the territory. Moffett divides the years between 1920-1945 into four main periods, each of which was directly affected by world events.<sup>16</sup> Following Great Britain's acceptance of the mandate in 1920, there was an optimistic period of land development. In 1929 the economic depression hit the world, and during 1930-1934 Tanzania suffered catastrophic falls in the value of its primary products and consequently of funds for further development. The price of sisal, the chief export crop, fell from 37 shs, to 11 shs. per ton. From

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<sup>15</sup>Provincial Agricultural Officer's Annual Report, Morogoro Province 1928, 1947, Document 244/214/B TNA.

<sup>16</sup>Moffett, Tanganyika, Review of Its Resources, p. 69.

1935 to 1939, while commodity prices rose, the country suffered from political uncertainty about its future,<sup>17</sup> which seriously discouraged the introduction of new British capital for development. From 1939 to 1945 the whole country concentrated on assisting the war effort to the greatest extent possible, though development was largely at a standstill, and the production of some cash crops gave way to the greater production of food.

In the 1920's, British officials devoted themselves to studying indigenous agriculture, the soils, and existing crops.<sup>18</sup> It was clear to the British administration that the development of the country's rural areas depended on agriculture, and that every effort had to be made to encourage the production of crops for export and for domestic needs. The government was hampered by communications problems, inadequate storage capacity, and in some cases lack of transport, the last being the greatest hindrance to agricultural growth in the rural areas.

There was a steady development of road communications between 1920 and 1931, vital to a growing agricultural economy. In 1920 there were 2,650 miles of roads passable to light motor traffic in the dry season.<sup>19</sup> By 1938 there were nearly 12,000 miles of motorable roads,

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<sup>17</sup> Ibid., p. 61.

<sup>18</sup> The provincial agricultural officer in Morogoro emphasized the need for field officers to familiarize themselves with indigenous agriculture before making any recommendations. Report of 1928 Document 244/214/B. TNA.

<sup>19</sup> J. Mkama, Transport Planning in Tanzania: An Assessment (Dar Es Salaam, 1969) p. 8. See also the discussion by Farguharson, Tanganyika Transport, p. 45.

including some 4,000 miles badly maintained by impoverished native administration authorities. Still, the cost of moving agricultural produce from distant areas to the railways was high, reducing the prices that could be paid to producers and their incentive to grow more.<sup>20</sup>

The first 25 years of British administration may not have produced spectacular advances in agricultural techniques or in the standard of living of the majority of the people. Great Britain received the mandate over Tanganyika from the League of Nations in February 1920. After a first phase of reorganization and reconstruction after the war, there were efforts devoted to a limited expansion of transportation, with particular attention paid to the railways. Their expansion, followed by the roads, was, therefore, a very decisive and necessary prerequisite for the economic development of many parts of the country. The most visible effect of transport was in the area of agriculture. There was a noticeable increase in agricultural production and consequently a higher traffic volume. The most important impact of rural transport has been to make possible the cultivation of cash crops for export. These are discussed below. The introduction of cash crops required that people cultivate large fields if they were to benefit from their labor and to produce more so that the extra cash could be available to buy food after their taxes were paid. The switch from subsistence to cash-farming improved ways of life for the rural populations.

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<sup>20</sup>IBRD, The Economic Development of Tanganyika, 1961, p. 87.

### Transportation of Agricultural Produce and Other Goods

Produce was and still is based on the two main railway lines, Dar Es Salaam to Kogoma on Lake Tanganyika and Mwanza on Lake Victoris; and Tanga to Moshi and Arusha, fed by numerous roads and tracks. While the two main railways are obviously of major importance in moving agricultural products in bulk to the coast and distributing surpluses of staple crops to points of major demand, only through the development of an adequate system of feeder roads could increased agricultural production be sustained.<sup>21</sup> Motor transport played a dominant part in crop delivery, particularly in Uluguru, where settlements are widely scattered and can only be reached by roads. Since 1945, the expansion of regular internal air services has been of some importance to agriculture. This type of transport has assisted the movement of perishable produce to Dar Es Salaam and other consuming centers, and it has also speeded up the delivery of vital spare parts for implements used by farmers on sisal plantations and estates.<sup>22</sup>

With the exception of sisal, cashew nuts and some coffee, tea and cotton, a very considerable part of agricultural produce must endure extremely long hauls to the coast for export, even though the Tanzanian government has instituted several transport corporations to

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<sup>21</sup>Ibid., pp. 61-62.

<sup>22</sup>Air services in Tanzania are used largely by government officials. Morogoro town which is intersected by the Tanzania-Zambia Railway, Central Railway, Tanzania-Zambia Highway and main routes to the northwest regions is not serviced by air, but there is a landing strip on the grounds of Kingolwira prisons, used only for the light planes which bring government and party officials to the region.

keep freight moving. In Morogoro, at the time of this research, there were ten heavy lorries belonging to the National Road Haulage which carried cotton to Dar Es Salaam, while the region's sisal was transported by rail.

So far, the above discussion has concentrated on the production and transportation of cash export crops. The Uluguru is also famous for the cultivation of food crops, almost all of which have a ready market in Dar Es Salaam, the country's largest consumer of food crops. Table VIII shows crops grown and sold between 1960 and 1966. It should be noted, however, that the figures represent only a small portion of total production, since much is consumed on the farm, and many sales are not properly recorded. While the figures should be regarded only as approximations, they do, nevertheless, reveal that the region is an important source of vital foodstuffs as well as export crops.

With only a few exceptions, it can be seen that crop production trends in Uluguru are neither static nor highly erratic. This consistency reflects the traditional farming practice of cultivating a broad range of food and cash crops, often eight or more on a single farm. The practice of growing cash crops which can be consumed when staple crops fail, contributes to sizeable annual market fluctuations.

The high degree of crop diversification practiced in the region guarantees the farmer a cash return from at least some of his crops, regardless of the vagaries of price and weather fluctuations. However, the low static income of agricultural small-holders in the region and the shortage of food staples attending the exceptionally adverse rainfall conditions in 1966 and 1967, led to a recognition of the disadvantages

Table VIII  
MOROGORO DISTRICT  
ESTIMATED MARKETING PRODUCTION 1960-66  
(Tons, except where noted)

	1960	1961	1962	1963	1964	1965	1966
Banana	--	--	N.A.	--	143,000	99,589	88,585
Cotton (bales)	2,527	1,000	1,200	3,556	4,360	9,062	8,429
Maize	2,747	4,120	2,000	3,260	3,981	5,590	2,566
Kapok	814	782	100	800	1,996	951	2,000
Vegetables	801	601	720	1,000	1,000	1,319	1,372
Paddy	2,956	565	107	1,236	N.A.	221	391
Simsim	612	651	434	434	427	615	309
Jaggery	98	115	120	135	135	269	269
Coffee (Robusta)	--	--	400	653	197	676	257
Sunflower	590	874	510	487	792	230	N.A.
Coffee (Arabica)	--	--	100	256	145	697	227
Castor	383	720	600	158	326	464	202
Alnblackia	23	52	40	65	77	13	89
Cow Peas	121	106	100	222	94	3	36
Cashew	--	--	--	4	5	11	26
Sorghum	1,494	587	N.A.	460	7	15	7
Gram	6	6	6	28	39	5	7
Wheat	5	19	15	7	25	18	6
Rice	110	90	--	77	4	2	4
Pigeon Peas	14	4	10	21	36	13	3
Beans (dry)	143	141	80	114	416	3	1

Source: Ministry of Agriculture Annual Reports, 1960-1966.

of overdiversification.<sup>23</sup> It is clear that the practice of dividing effort among many crops requiring simultaneous attention severely limits both the amount of any crop that may be grown and the standards of husbandry which can be achieved. Agricultural officers in the district have concluded that the production levels of most crops are likely to remain static until some improvements are made, particularly in technical services which are hard to deliver to the remote rural areas due to inadequate transport networks.<sup>24</sup>

In Chapter Three the point was made that a large percentage of Tanzanians dwell in the rural areas which have been neglected for many years.<sup>25</sup> Ignored during the German and British periods, rural populations were forgotten, left without essential social services such as hospitals, schools, well organized markets, post offices, court systems, etc. In order to compensate, the government, following the 1961-1964 development plans, embarked upon a series of programs aimed at expanding output based on a system of crop priorities and the improvement of productivity through modern agricultural techniques. Transport development in the rural areas also received renewed emphasis, while efforts were made by the government to relocate people in rural areas, in compact settlements named "Ujamaa Villages."

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<sup>23</sup>Ibid.

<sup>24</sup>District Development Director, Morogoro, personal interviews, March 18, 21, 1975.

<sup>25</sup>An introduction to 2nd Five-Year Plan states that the rural sector will be given top priority in the national development along with improving the standard of living of the people.

Before discussing Ujamaa villages, it is necessary to discuss various resettlement schemes conceived during the colonial period. In order to facilitate administration and control of the population, administrators devised what was known as "compact villages." The idea was tried first by the Germans, who after enormous African resistance, believed that the best control was to place Africans where they could be easily administered.<sup>26</sup> When the British undertook the Tanganyika Mandate, the same policy was maintained, but radical changes were made insofar as the functions of the compact villages were concerned. While they were convenient for administering the African population, they were also intended to play a critical role in stimulating the commercialization of agriculture. In Morogoro, for instance, cash crop production was promoted by supplying seeds or planting materials; by providing agronomic and other advice to farmers; by articulating a marketing and transportation network; and, in a rather passive way, by fostering the rural commerce that supplied small-holders with inputs and consumer goods.

Farmers were encouraged to plant cash crops for sale to the urban dweller, even at the expense of their own food needs. Along with efforts at stimulating small-holder cash-crop production, colonial officials undertook a few larger, more capital intensive projects to

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<sup>26</sup>Following the Maji-Maji Rebellion, the German colonial administration tightened up security by placing all African settlements under surveillance. For a detailed discussion of the aftermath of the rebellion, see G.C.K. Gwassa and John Iliffe (eds.), Records of the Maji-Maji Rising, I (Nairobi, 1968).



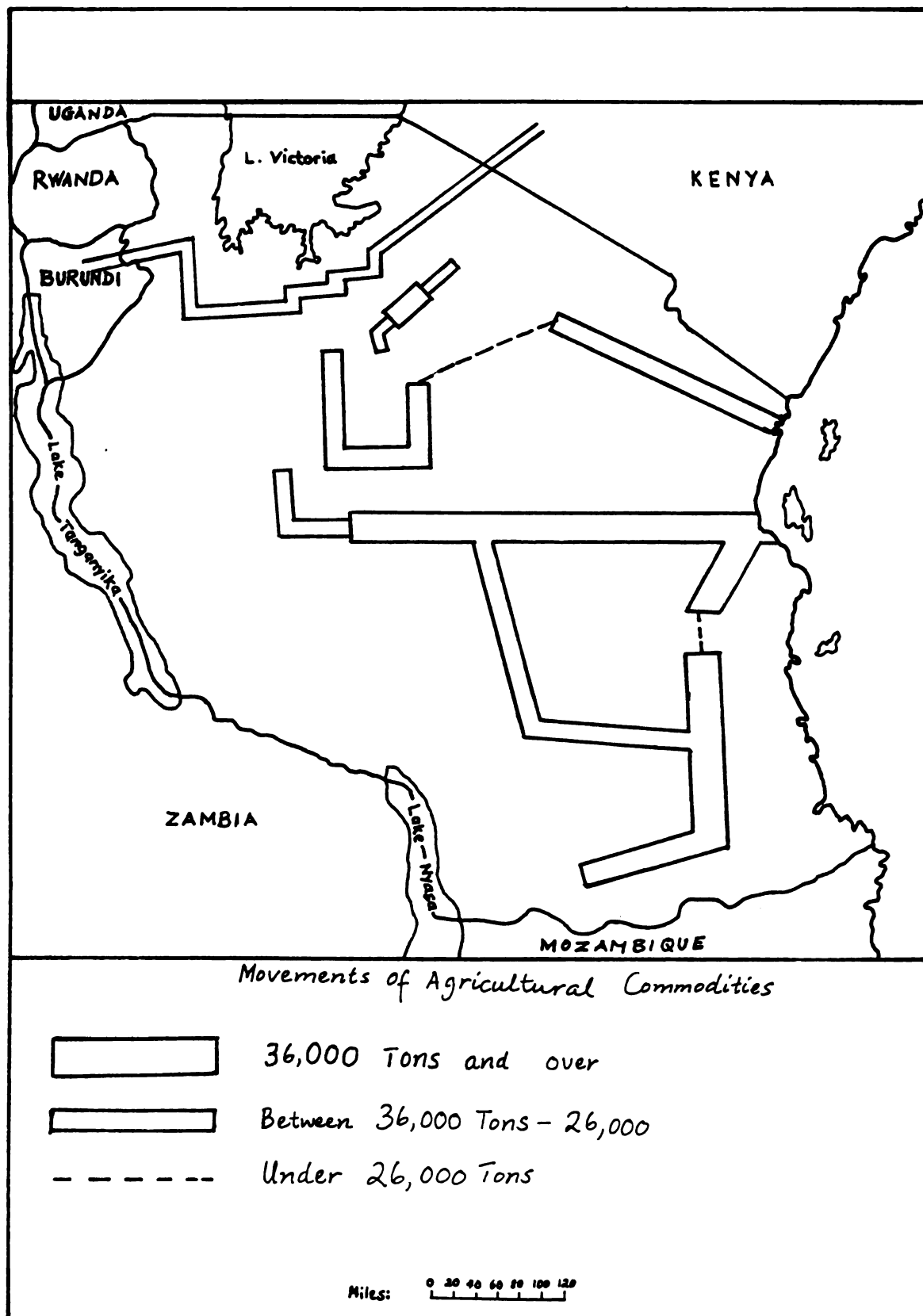
mechanize commercial agriculture in areas of new settlements. The famous Tanganyika Groundnut Scheme was the largest of these projects. A few years after its inception, it proved to be a financial disaster, and yet it also proved to be a model for rural development in the 1960's.<sup>27</sup>

Britain's postwar attempt at the economic redemption of the country, the Groundnut Scheme, was a source of disillusionment. The scheme to grow peanuts on a large scale for world markets, met with failure, partly because of poor planning and partly because of a lack of sensitivity to the attitudes of the indigenous people. From the start, the scheme was imposed on unwilling people who saw no immediate need for peanuts. This lesson was learned by the post-colonial government. After independence, when the concept of rural development was introduced, the government made efforts to influence as many people as possible to leave their homelands and go into the rural areas. This policy was accomplished by demonstrating the advantages of cooperative living and the production of surplus cash crops (see map XIII).

In 1967, Tanzania declared a policy of "ujamaa and self-reliance." Tanzania never had been a profitable colonial possession for either Germany or Britain, and after the disastrous Groundnut Scheme, with the accompanying loss of investment, Britain was in general not sorry to relinquish its responsibilities there.

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<sup>27</sup> For a discussion of the groundnut project, see Alan Wood, The Groundnut Affair (London, 1950). See also Report on a plan for the Mechanized Production of Groundnuts in East and Central Africa, 1946 (CMD 7030) (London, 1947) p. 47.



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After independence in 1961, Nyerere increasingly stressed a concept of cooperative living, "ujamaa," similar to the Israeli concept of the kibbutz. Declared an official policy in 1967, it emphasized the resettling of people in rural areas. Following the "Arusha Declaration," President Nyerere wrote that the basis of Tanzanian development would be agriculture. In Socialism and Rural Development, he explained the need for farming to be done in "ujamaa" villages rather than on individual farms. "Individual farmers," the president wrote, "cannot really hope to grow enough by themselves and to better their living standard above the subsistence level. By living together in ujamaa villages, the people, with technical and financial help from the government, would be able to increase their output and there will be enough justification for building new feeder roads into their villages."<sup>29</sup>

Implementation of a policy of ujamaa villages has required that people move from their traditional homesteads to areas selected by the government for soil quality, land quantity and potential for development. Usually volunteers began moving to designated areas. President Nyerere initially chose this path to national development according to his own moral principles. Give the people authority to formulate and enforce their own decisions because "people cannot be developed, they can only develop themselves."<sup>30</sup> It would appear, however, that the turn of events relative to villagization during 1974 and 1975 contradicted this policy.

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<sup>29</sup>Nyerere, Rural Development, p. 9.

<sup>30</sup>Ibid.

In later 1973 directives were issued that all the rural population must be members of, and living in Ujamaa villages by 1976. This order was met by stiff resistance. In Morogoro, campaigns were initiated to induce mountain-dwelling Luguru to move into the valleys. Notwithstanding the fact that the mountain areas seem to have been overcrowded, and there was an apparent land shortage, the Luguru consistently resisted pressure designed to make them come down to the valleys, where they were told there was plenty of good land.

In a very definite reversal of voluntary ujamaaization, the government-owned Daily News published several articles, editorials and speeches during mid- to late-1974 to the effect that unless the people voluntarily moved into ujamaa villages, the government would use force. The institution of ujamaa villages among the Luguru has not been an easy affair; some informants saw the settlements as instruments of political indoctrination and viewed the new social amenities as bribes. They, therefore, viewed the resettlement scheme with the same skepticism they had viewed the compact village programs of the colonialists. In some areas where this writer visited, people have already returned to their traditional lands and others have moved on to establish new homes in inaccessible areas. Notwithstanding the fact that there apparently has been a negative response to ujamaa principles, the policy has played a significant role in the development of the agricultural economics of Uluguru. Since 1967, Uluguru has begun a major struggle against its own past in an attempt to break away from the pattern of change which has been taking place throughout the country. Ujamaa has, through its methods of establishing cooperative responsibilities, been instrumental

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in convincing some people to modify their production techniques and in making others desire intensification of their labor.

#### Relationship of Road Development and Production Output of Some Crops

Road construction and improvement have contributed significantly to the production of some basic cash and food crops in the Morogoro region, but owing to the lack of statistics before 1945 and after 1960, the following analysis will be limited to the period between 1945-1960. From 1939 to 1945 the whole country's efforts were concentrated on assisting the war effort to the greatest extent possible. Development was largely at a standstill, and the production of some cash crops had to give way to the greater production of food.

Although there was an increase in the production and movement of agricultural products, the collection of data was not a major concern for the government. Several ministries and other public corporations did, however, maintain their own statistical information. The period's significance lies in the fact that it fostered a great surge forward in agriculture, as compared with the previous years.<sup>31</sup> This agricultural development continued to gain momentum after the war.

One of the most important cash crops is cotton, grown largely in the Kasaki area by small-holders who belong to the local growers' union through which they market their crop. The cotton is collected from various primary societies in the area and then transported in small

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<sup>31</sup>N.V. Rounce, Agricultural Development in Tanganyika (Berlin 1965) p. 50.

trucks to ginneries at Dutumi and Mikese and thence by road to Dar Es Salaam.<sup>32</sup>

Improvement of old roads from Kisaki to Mikese and Dutumi between 1953 and 1963 contributed significantly to cotton production, especially as compared to the previous period.<sup>33</sup> Several roads and bridges were washed out during the heavy rains of 1946 and 1952, and there were no serious efforts taken to build better roads and bridges, until the local cotton growers union decided to decrease cotton production because produce was rotting away in the storage huts owing to the lack of transport to Dar Es Salaam. Since cotton was still in great demand in Europe, particularly in Great Britain, and since it was one of the sources of revenue for citizens who were required to pay their head and poll-taxes, the department of public works undertook to improve old roads and build new ones in areas where they were deemed necessary.

Other important crops include coffee, largely grown in the higher altitudes of Matombo and Bwakira Juu divisions, which are also served by the same Kisaki-Morogor road. The Morogoro region is also famous for its production of sesame, an oil seed which is grown in the Dyangoya

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<sup>32</sup>Up to 1968 the Tanzania Cotton Company contributed funds towards road improvements and construction through local offices of the Public Works Department. Now an indirect way of contributing is in effect: the government allows the company to operate its own hauling trucks, but encourages it to use the services of the Road Haulage Company.

<sup>33</sup>Deterioration of cotton production during the first four months of 1953 was attributed to poor road conditions and lack of regular haulers of the crop from the farm to market. Document 64/164/II. TNA.



subdivision served by the Mvomero-Mtibwa penetration road.<sup>34</sup> The ministry of agriculture estimates that sesame production can increase at the rate of 2% per year, if good roads are available. Sesame is harvested between Marcy and May, the peak period for the long rains. The crop must be moved on time to avoid spoiling, since there are insufficient storage facilities.

Castor is also widely grown in the region, like sesame, primarily for export to the United Kingdom, West Germany and Japan where it is used as a jet engine lubricant and in the manufacturing of synthetic fibers. In 1967 the ministry of agriculture reported that the growth rates of these crops is constrained by poor transport, since they are cultivated in isolated places, to which there are no adequate and suitable roads at present.

Sugarcane grows in the Kilombero Valley and at Mtibwa, and is planted and harvested all-year-round. There is a mill in each of the two sugarcane-growing areas, and since most cane is produced within a ten mile radius of the mills, there is no real transportation problem. The National Sugar Board buys the entire output and transports it to Dar Es Salaam and other distribution centers. There was poor sugar production in 1958 and 1968, due to bad conditions on the Mvomero-Mtibwa road. However, at the end of 1968, funds were made available, and when the road was improved, sugarcane production also increased.

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<sup>34</sup>The Mvomero-Mtibwa penetration road was constructed in 1909; its main aim then was simply to enter remote areas which had been impossible to reach. The road has never been in good condition, especially during the rains, even if it has been very useful in transporting agricultural products from farms to markets.

As far as food crops are concerned, two of the most important food crops in the region are paddy and corn, cultivated on over 67,000 acres in low-lying areas of well-watered, dark alluvial soils. About 75% of this production is consumed on the farm, while the rest finds its way to Dar Es Salaam and other urban areas.

In Map 1 the movements of the more important agricultural inputs and outputs are presented for specific road sections (see also Table VIII). This identification cannot be more than a rough approximation of the actual commodity movements over the road system. The figure for some of the products destined for the interval market are based only on rough estimates. Cement, petroleum products and fertilizer are the most prominent, as far as road transport is concerned. Generally, the movement of these bulk commodities is undertaken by ship and railway, but roads play the vital role in redistribution.

#### Some Classified Feeder Roads

One of the most important routes is the Mvomero-Mtibwa Road which links Dar Es Salaam, Morogoro and points west and south with Korogwe, Tanga and Moshi. However, with the opening of the new trunk road to the north, the Mvomero-Mtibwa Road no longer carries a significant volume of through traffic, and its condition has deteriorated. The road continues to be important, however, since it links the Nguru Mountains and the adjacent plains with the important Morogoro market.<sup>35</sup> The principle commodities transported over the road are sugar from the

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<sup>35</sup>For instance, the Mvuha-Kisaki road is one of the most important roads because of the volume of traffic and goods carried each day. See figure

Mtibwa Sugar Estate (MSE), timber from the Mtibwa Saw Mills and some foodcrops, including rice from the Turiani area. The road could assume greater importance if cash crops, such as cotton, cocoa, and coffee were further encouraged by the government, but it appears that, owing to a lack of incentive and technical assistance, these crops are not widely regarded as essential, and thus the farmers usually plant them in small plots for local use.

The Mvomero-Mtibwa Road is classified as an earth-surfaced, local main feeder road. It passes between the base of the Nguru Mountains and Wami River Plains and through the newly established ujamaa villages of Kwa Dhiyombo, Chazi and Turiani before reaching Morogoro town. The villagers are primarily peasant farmers and depend on the road to go to Morogoro, Dar Es Salaam and simply to travel from one village to another.<sup>36</sup>

Another important classified road is the 78-mile Morogoro-Kisaki road which serves a population of approximately 23,000 and an area of over 1,100 square miles. The sole link between Morogoro town and the Eastern Uluguru Mountains and adjacent lowlands, it transverses an area characterized by diverse climatic and terrain conditions and cultivation patterns. At higher elevations, coffee is the principal cash crop, although owing to a lack of general technical assistance, the crop in recent years has not been taken seriously.<sup>37</sup> While overpopulation

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<sup>36</sup>Based on daily manifest of passengers who travelled on Morogoro Region Transport Company buses to and from Morogoro between February 1976 and June 1977.

<sup>37</sup>Hans H. Adler, "Economic Evaluation of Transport Project" Transport Investment and Economic Development (Gary Fromm (ed.), (Washington 1965) p. 89.

and over-farming in the arable mountain areas has caused land shortages, the best lowlands could be opened up to settlement, if the road were improved and provisions were made for permanent water supplies. Since, however, traffic levels, the volume and value of production, and improvement costs vary considerably from one portion of the road to another, the relationship of benefits to costs varies accordingly.

For the purposes of analysis, it is useful to divide the second road into segments on the basis of such differences (see Table IX), so that it can be determined whether the improvement of the individual portions can be economically justified even if general development is not. The estimated present average daily traffic (ADT) over the entire length of the road is 73 vehicles (see Table X). Table VIII shows the estimated annual income and value of marketed commodities presently produced in the area and transported over segments of the road. In recent years this road has been a subject of government interest due to the agricultural potential of the areas through which it passes. Several new settlements have been established, where only ten years ago there were miles of uninhabited, and uncultivated lands.

The third classified artery is the Morogoro-Mgeta-Kibuku road, whose origin can be traced to German missionary activities in the region. The Roman Catholic Church wanted to establish themselves in the southeastern part of Uluguru and opened up a mission-station at Mgeta in 1886 and a connecting earth road to Morogoro in 1898. It was used by headporters until cars were introduced after 1903, and it became important because of the area's production of vegetables and fruits, which

TABLE IX  
MOROGORO-KISAKI ROAD TRANSPORTED, 1962-1969

Crop	Segment I		II		III		IV	
	Tons	shs	Tons	shs	Tons	shs	Tons	shs
Cotton	120	121	42	42	163	165	565	571
Coffee	15	45	321	964	--	--	57	172
Sesame	4	3	154	129	19	16	108	90
Maize	4	1	4	1	--	--	4	1
Sorghum	5	1	12	2	3	1	302	60
Paddy	--	--	49	21	4	2	128	54
Banana	--	--	1800	360	--	--	--	--
Citrus	--	--	6000	396	--	--	--	--
Others	13	7	340	145	191	77	542	219
Total	161	178	8722	2060	380	261	1706	1167

Shillings in 1000.00

Source: Annual Reports Morogoro Growers Co-op 1962-69.

Table X

Segment	Mileage	1966	Average Daily Traffic
I. Morogoro-Mikese	15	33	vehicles
II. Mikese-Matombo	19	17	vehicles
III. Matombo-Mvuha	13	12	vehicles
IV. Mvuha-Kisaki	31	11	vehicles
Total	78	73	

accounts for nearly 60% of fresh produce marketed in Dar Es Salaam and Morogoro.

The more immediate results of increased transport facilities in rural areas is demonstrated by the rise of agricultural production. Although such cause-effect relationships are impossible to determine with certainty--it is not possible to distinguish between rises in production caused by better transport and those which are only coincidental to road improvements but would have occurred even without the better means of transport--several empirical studies permit the development of some theoretical considerations. In Uganda, the research of Smith and Hawkins<sup>38</sup> has reached conclusions similar to those illustrated by March and outlined by Wilson,<sup>39</sup> namely that each transport project must be investigated individually and that no generalizations should be applied until research shows that definite correlations do exist. Working in Ghana, Gould also has arrived at similar conclusions.<sup>40</sup>

He points out that in a zone of coastal scrub with no transport facilities, the nearest road was too far to transport produce by head-load. After the Ghanaian government undertook a feasibility study

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<sup>38</sup>N.D. Smith, "A Pilot Study in Uganda of the Effects Upon Economic Development of the Construction of Feeder Roads," Research noted PL/3480. Department of Scientific and Industrial Research, British Road Research Laboratory, February, 1956. See also E.K. Hawkins, Road and Road Transport in an Underdeveloped Country: A Case Study of Uganda (London, HMSO 1962) p. 25.

<sup>39</sup>George W. Wilson, et al., The Impact of Highway Investment on Development (Washington: 1966).

<sup>40</sup>Gould, The Development of the Transportation Pattern in Ghana, p. 16.

which resulted in construction of a road, there was a fairly rapid influx of food crop farmers into the area, obviously because of the new access to markets. In any case, real benefits are gained by investment to improve transport facilities, as shown by the rise in traffic which new roads especially seem to generate. An identical situation can be observed for Morogoro.

Transportation is also an important factor in assisting the revolution in outlook necessary for widespread and successful development of local markets within the rural areas of Uluguru. The extreme importance of the proper marketing facilities when dealing with "traditionally minded producers" is pointed out by Walker.<sup>41</sup> The easy movement of ideas as well as the people who transmit them should be regarded as conducive for change. Using as his example the rise in land value coincidental with better accessibility, Brunner argues, "people are willing to pay for the convenience of moving easily far more than the difference in the actual cost of movement."<sup>42</sup> Although such a statement would have to be carefully tested, it does have some basis in fact.

New transport facilities offer a broad range of direct opportunities and to a greater proportion of the population. Road transport, as observed in Uluguru, has greater potential than any other mode of

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<sup>41</sup>David Walker, "Problems of Economic Development of East Africa," Economic Development for Africa South of Sahara (ed.), E.A.G. Robinson (London, 1965) p. 110.

<sup>42</sup>C.T. Brunner, "Development Countries: Road Economic Justification," British Road Federation, Bulletin No. 310 (December, 1962), pp. 235-342. Brunner gives examples of Ghana.



transport. Internal economic cohesion is a vital element in generating development.

...the dominating characteristics of the new African national economies is their disjointedness, their lack of internal links and connections. The first step to increase the production of agriculture and to bring the subsistence sector more fully into the exchange economy should be expansion of the internal transportation system, followed by improvement of marketing systems generally.<sup>43</sup>

While it may be accepted that, in general, there is a crucial need for improved transportation in the new African states, it will do no harm to re-emphasize Adler's misgivings. Furthermore, transport investment to satisfy present demand often creates excess capacity for future needs. Present facilities will affect future costs. If future demand for transport is underestimated, greater cost later may waste resources. Abandoned railways, such as the one built to support the abortive Tanganyika Groundnut Scheme in Southern Tanganyika, are extreme examples of the waste possible from overestimated transport demand.<sup>44</sup>

Yet, agriculture is an important sector in almost all developing economies, and good transportation is necessary. The roles of transportation and agriculture in the socio-economic development of the rural areas of Uluguru are, therefore, in need of more careful empirical analysis. The importance of such analyses has been determined for West Africa by the United Nations Report on transportation and development:

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<sup>43</sup>William Jones, "Increasing Agricultural Productivity in Transitional Africa," Economic Development in Africa (ed.) F.F. Jackson (Oxford, 1955) p. 47.

<sup>44</sup>Gilbert L. Rutman, The Economy of Tanganyika (New York, 1968), p. 77; see also note 32.

Improved transport must, for its full effect, be combined with a corresponding expansion of production and trade. The latter must have reached a certain level before expenditure or infrastructure is contemplated; and to judge when that minimum has been attained is one of the more difficult problems in forming development policies.<sup>45</sup>

In other words, rationally planned expansion presupposes development of both agricultural production and supportive transport facilities.

## II. The Transport Constraint on Rural Development in Morogoro Region

The preceding section has demonstrated that the problem of rural development in Tanzania is multifaceted and needs an integrated program of action. Comprehensive solutions to rural development have achieved much less than was hoped because they were far from being all-embracing or coordinated. In formulating an integrated assault on rural poverty and underdevelopment, it is necessary to define and understand the role of various elementary factors in rural development, and how these factors interact to produce the resulting structure of rural economy and society.

While the preceding section has examined agricultural development in rural Luguru, this section specifically focuses on the transport factor not in the belief that a transport revolution is the single panacea for achieving rural development, but that it is an essential ingredient within a complex of interrelated factors requiring convergent action.

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<sup>45</sup>U.N. Transport Problems in Relations to Economic Development in West Africa E/CN14/63 1962, p. 62.

### Problems of Rural Transport

The following discussion of rural transport derives from the experience of five villages, each about 80 miles away from the town of Morogoro.<sup>46</sup> Although there are some common characteristics of rural transport in Tanzania, environmental contrasts in the country create several broad regimes of rural transport, each with distinctive features. Yet, most Tanzanians live in the rural areas as farmers in villages, settlements or in centers which are essentially agro-towns.<sup>47</sup> Rural transport needs can be divided into two main categories: for movements within rural areas and for movements between rural and urban areas.<sup>48</sup> These main categories can be sub-divided further into (a) movements between rural settlements and associated farmlands and between rural settlements; (b) movements between rural settlements and urban centers and between urban centers and the peripheral farmlands.<sup>49</sup> The structure of movement differs between these orientations, but the problems facing rural transport, in general, can be conceived of as arising from the structure of supply and demand for transport.

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<sup>46</sup>See map

<sup>47</sup>L.E. Berry, A Preliminary Subdivision of Districts in Rural Economic Tours. A Map with Key, March 1968 Bramp Research Notes, no. 4.

<sup>48</sup>For a detailed discussion of the Luguru movements and motives, see Jan Jundquist, The Economic Structure of Morogoro Town, pp. 21-22.

<sup>49</sup>Ibid.

### Transport Demand in Rural Areas

There are six main characteristics of rural demand for transport, which, according to an official of the cooperative union in Morogoro, pose economic problems. They are a limited volume of traffic, short distances, low frequency of traffic, bulkiness or perishability of rural production, imbalance in inflow and outflow from rural areas and marked variability in demand. Rural traffic and passenger volume are much smaller than intro-urban and inter-urban movements, a reflection of the peasant nature of the rural economy. Individual production by farmers is small, as is their consumption of consumer goods. People who are engaged in commercial enterprises in the region are referred to as "petty traders" because the capital worth of their goods is low.<sup>50</sup>

In the aggregate, rural peoples travel less than urban populations. This difference is due partly to the lack of transport, which is certainly true for a large section of the Uluguru. Another reason is the low income of the rural population. Moreover, the distances over which transport moves in rural areas are relatively short, and the movement within rural settlements is short because of the compactness of the settlements. This researcher also observed that journeys to the farms from rural settlements are short, because most farms are usually in the immediate vicinity of the cultivator's home. In this situation farmers often walk to and from the farms and head-carry produce to their homes or to the nearest primary market. Transport has been demanded only for taking produce to the central market in Morogoro

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<sup>50</sup>Ibid., p. 34.

town, and sometimes to journeys away from the region.

In the past decade, rural settlements and farms usually have been located near roads and primary markets, as for example the villages of Mlali and Kibuku,<sup>51</sup> and such a trend also has been observed elsewhere (see Table XI).

The perishability of many agricultural products makes prompt transport necessary to avoid substantial loss, and since these are mostly low value bulky goods, they cannot bear high transport costs.<sup>52</sup> On the other hand, commodities meant for foreign export, such as cotton and tobacco, have a higher value per unit weight and can better absorb transport costs than, say, food crop production. In Uluguru, these commodities are transported in motor lorries, but in some exceptional cases, the writer has observed carriage via buses and even bicycles. Table XII suggests that further commercialization of agriculture will encourage the mechanization of farm transport.

Traffic coming into rural areas, which consists mainly of manufactured goods, is of relatively higher value per unit weight and less perishable in comparison to outgoing freight. These imports are, however, of smaller volume, and this imbalance between traffic in and out of rural areas does not make for effective use of vehicular capacity. The ability of incoming freight to bear higher charges may compensate for the under-utilization of available transport when vehicles are moving into the rural areas.

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<sup>51</sup>Mohamed Mzee, Kibuku, personal interview, August 24, 1975.

<sup>52</sup>Morogoro Region Cooperative Union, Annual Report for 1968 (June 1968).

TABLE XI

Distance of Uluguru Farms to Motorable Roads and/or Markets

<u>Distance</u>	<u>Number of Farms</u>
Over 2 miles	5
Over 1 mile	12
Over 1/2 mile	12
Less than 1/2 mile	11
	40

TABLE XII

Segment	Hectares* (1929 - 1946)	Settlements**	Hectares* (after 1964)	Settlements***
I	616	8	3,002	11
II	841	7	5,251	17
III	983	14	9,217	17
V	1,927	21	12,071	34

\*These include hectares used in the production of food and cash crops.

\*\*Based on tax records collected by the Native Administration 1929-1946.

\*\*\*Rough estimates obtained from the Office of District Development  
Director-Morogoro.

The demand for transport in the rural areas varies considerably. There are three dimensions to traffic fluctuations in the Uluguru: rural sector-diurnal, short-term, and seasonal.<sup>53</sup> In all cases, traffic is concentrated in the mornings and evenings. This travel behavior may have been created by the lack of regular transport in the past which made it necessary, therefore, to use the cool mornings and evenings. This pattern also enables travelers to spend the greater part of the day at their destinations. But there may be underutilization of a vehicular capacity which is designed to meet the peak demand in the mornings and evenings. Traffic also fluctuates in the short term according to the pattern of commuting between village and urban centers. At Ifakara and Mahenge, travel to Morogoro is usually undertaken fortnightly so that people spend alternate weekends in the town and on their farms. They arrive in Morogoro on alternate Saturdays and leave for their holdings on the following Mondays and Tuesdays.<sup>54</sup>

Periodic variation in the volume and also the direction of rural transport are influenced by market cycles. Periodic markets operate on a two-day cycle, or multiples of two-day cycles in which the markets in a group of associated settlements are held in turn. Trade within the rural areas and from the adjacent urban centers of Morogoro, Kilosa, and sometimes Dar Es Salaam therefore flows to different markets on successive days, and the direction of traffic demand, therefore, is dominated by the market cycle.

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<sup>53</sup>Most of the region tends towards a diurnal transport system because the Luguru who live on the outskirts of Morogoro town prefer to travel to and from town the same day.

<sup>54</sup>Personal observation, June-December 1976.



There is also a sharp seasonality in the pattern of rural transport around the Morogoro region, with peak demand during the dry season, when cotton and other cash and food crops are harvested and shipped. For Uluguru, it has been observed that "there is a clear seasonal pattern in rural road traffic with a peak around November-December and a low around May-June-July." This cycle corresponds to the seasonal availability of local farm produce for transport and sale and reflects the difficulty of travel on rural routes during the rainy season.

### Supply of Rural Transport

Differentiation in the structure of rural transport occurs according to the distance moved. Short distance movements within and between rural settlements and farm lands are mostly undertaken on foot. In journeys between rural settlements and between towns and farms, people still travel on foot, but bicycle and motor transport may be used. Rural-urban transport is now largely by buses and motor lorries, although both are unreliable and impose high freight charges. Table XIII provides information on the type of transport farmers in four closely observed settlements used in going to their farms (see opposite page). About 35 percent of the interviewed peasants travel on foot, another 43 percent use bicycles, and the remaining are divided about equally between those taking buses and those using lorries. These figures are not likely to be representative of the farming population in the region in general. More villagers appear to walk to farms. It can thus be hypothesized that the degree of vehicular use in journeys to the farm varies with the size of the settlement. In other words,

TABLE XIII

Type of Transport Used in Going to Farm by People  
in Four Selected Settlements

<u>Foot</u>	<u>Type of Transport Used</u>			<u>Total</u>
	<u>Bicycles</u>	<u>Buses</u>	<u>Lorries</u>	
22		5		27
	25		4	29
		6	1	7
			6	6

Source: Personal field interviews, January 1975.

farmers in large settlements are more likely to use vehicular transport than those in small settlements.

A crucial influence on the form of rural transport is the quality and density of routes. Rural routes are predominantly paths which are not large enough for motor transport, and poor quality rural roads with untarred surfaces, narrow widths, circuitous alignment and impermanent bridges. Such unsurfaced rural roads are hardly passable during the rainy season, and vehicles get stuck in the mud or are unable to travel further when the improvised bridges of cut tree trunks are swept away by floods. There are, however, stretches of surfaced roads through rural areas made up of parts of the national or regional trunk road system. In Tanzania, road density varies considerably because routes tend to become better and more available with increasing population and the incidence of agriculture, especially commercial agriculture, whereas uncultivated areas of rugged relief and marshes have low route density.

In Uluguru, for example, the average route length is about 0.53 vehicles per square mile.<sup>55</sup> Such route density is inadequate because in Uluguru, 20 out of 57 rural settlements are not located on roads.<sup>56</sup> The transport problems of remote villages are similar to that of farms without road access, that is, a dependency on headportage or the bicycle until the nearest road is reached. There is obviously a relationship between the quality of rural roads and the types of vehicles

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<sup>55</sup>Review of Territorial Road Development, Dar Es Salaam 1968 (A Report for Morogoro).

<sup>56</sup>Ibid.

which travel on them.<sup>57</sup> The bush paths are used by porters and some bicyclists, whereas the best motor vehicles operate on the surfaced roads which pass through the rural areas. The reliability of vehicular transport in the rural areas is thus a function of the road surface.

Information on the costs of rural transport is still fragmentary, but changes appear to be relatively high in an environment of low incomes. For example, the average price for head-loading maize in some parts of Uluguru was about shs. 1.50 cwt/mile, at a time when the generous official allowance for transporting the commodity by motor transport was shs. 0.75 per ton/mile.<sup>58</sup> Porter labor is unreliable, since people are unwilling to serve as carriers. There may be a declining rural labor supply owing to rural-urban migration. When there are no opportunities for vehicular transport, the shortage of porters may force the farmer to dispose of his produce at much lower prices than offered in the town.<sup>59</sup>

The cost of transport in such a situation is the differential between what is offered on the farm and in the town. Indications are that the prices for road haulage in rural areas are also relatively high compared to intertown services. One explanation for this

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<sup>57</sup>Most regional transport companies refrain from scheduling buses to traverse rural areas which are served by poor roads; instead individual entrepreneurs operate buses. Based on examination of Moretco log book for the years 1975-1976.

<sup>58</sup>Lundquist, The Economic Structure of Morogoro.

<sup>59</sup>Whenever the National Transport Companies fail to fulfill transport demands of the rural farmers, individual traders take advantage by offering much lower prices for the produce which, when brought into town, sells for twice as much as when purchased.

difference is that with so few operators, there is little competition. Moreover, operating costs are high due to risks of damage to vehicles on rough roads and the irregularity of demand which may sometimes lead to underutilization of vehicle capacity.

### Transport as a Limitation to Rural Development

Rural development should aim to improve productivity and enhance the quality of rural life. Two complementary approaches to this goal are to increase the efficiency of labor and to improve the quality of amenities and infrastructure in rural areas. The role of transport is vital not only as an important factor in rural productivity, but also as an essential social amenity, which provides mobility and social interaction. It has already been shown how some remote parts of Uluguru lack facilities for mobility and for communication, and consequently have been isolated from the exchange of modern ideas and, therefore, have lagged behind in terms of economic opportunities. Traditional ways of life have in some parts persisted due to this isolation and to the distrust of new and innovative ideas.

### Improvement of Rural Accessibility

The rural situation is thought to make for relatively expensive transportation because of the distances between production and consumption areas; the job of assembling output from scattered small production units; the perishability and seasonality of goods, and the insensitivity of transport costs to change in agricultural prices. The challenge of improving mobility for rural development is to provide better forms of transport which will operate at the least possible

costs and not hinder development despite the inherent characteristics of the environment.

The demand for transport in the rural areas will be spurred by the further commercialization of agriculture and enhanced specialization in individual and cooperative functional roles in the rural areas.<sup>60</sup> Improved means of transport is, therefore, a condition for the increased commercialization of agriculture, and there is accordingly, a relationship between the structure of production and the quality of transport. Other improvements, especially in the market system, are needed to stimulate an expansion in commercial production.

Probably the most important single requirement to enhance accessibility in Uluguru is to improve the rural routes. There is a special need for extensive construction of farm access routes. If the condition and quality of living in the rural areas is improved, there will be fewer people migrating from the rural areas to urban centers.

Adequate provision of transport in the rural areas can permit better use of land. In the Uluguru, where this study was undertaken, the rural economy depends largely on exploitation of land. It has been observed that when transport is broadened, rural land exploitation is confined to narrow settlements with frontiers of little used land separating settlements. The introduction of permanent settlements in some parts of the region has helped to reduce the extent of such unused frontier lands. But there is still some differentiation in the degree of intensity in land use depending on the distance of farms from

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<sup>60</sup> Ministry of Agriculture, Annual Report 1968, District Data, (Dar Es Salaam, 1968).

settlements. The Luguru make distinctions between "near" farms and "forest" farms. The former are used intensively for growing food crops and the latter for some form of cash crops.

In Uluguru one can easily observe a direct relationship between the level of mobility and the level of economic development. The contrast in the standard of well-being between rural and urban areas can be ascribed to the difference in the level of facilities and possibilities for movement and interaction. Tanzania's poor countryside has anything but adequate transport services, and immobility is both a consequence and a factor of rural poverty in the country.

## CHAPTER V

### THE IMPACT OF TRANSPORT ON SOCIAL, POLITICAL AND ECONOMIC DEVELOPMENT IN ULUGURU

In Chapters Two and Four, efforts were made to show the effects of the development of transport on Tanzania in general, and on Uluguru in particular. Continuing this discussion, the author will attempt to evaluate the impact that development and expansion of the different modes of transport have had upon the present social, political and economic structure of the region. Emphasis will be placed on the impact of the railways and roads, the most popular modes of transport in developing countries.<sup>1</sup> The airline, which has facilitated government administration in remote parts of the country, has had a very limited impact in Morogoro. It will receive only a brief discussion.

#### The Impact of the Railways

As we already have seen in Chapter Two, the railroad was the first modern mode of transport in Tanzania and remains the most important form of transport, having significantly influenced the present

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<sup>1</sup>A comprehensive study of roads in developing countries with special emphasis on Uganda is Hawkins' Road and Road Transport in an Underdeveloped Country: A Case of Study of Uganda, Colonial Research Studies No. 32, (London, HMSO 1962) and Van Dogen, The British East Africa Transport Complex (Chicago 1954).



economic structure of the country.<sup>2</sup> Since the first station in the interior was Morogoro, the town has played a significant role in the development of railway transport, particularly because major workshops were built there. The workshops provided employment opportunities for the townspeople, some of whom came from distant places.<sup>3</sup>

The settlement of a significant number of foreigners in the major towns of Morogoro, Kilosa and Kimamba also had a decisive influence upon the economic development of the region.<sup>4</sup> European farms were established within the area of the new railway lines concurrently with and sometimes even in advance of the planned railway construction. The importance of foreign settlement, especially of the Europeans, becomes clearer in comparison with other areas in which foreigners did not live.<sup>5</sup> Those areas in the region which were thought to be suitable for European settlements received particular attention during the colonial days. Towns such as Morogoro and Kilosa were not only served by railway lines but also benefited from other investments. "European only" hotels were built in Morogoro and Kilosa, as were restricted movie theatres and social clubs and food stores which specialized in selling European foods.

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<sup>2</sup>Ruthman, The Economy of Tanganyika, p. 114, see also A.W. Southall, "Population Movement in East Africa." Southall points out that most early movements were made possible by rail transport.

<sup>3</sup>Jan Lundquist, The Economic Structure of Morogoro Town, p. 45.

<sup>4</sup>Ibid.

<sup>5</sup>For example, the Kigoma region: this area has sufficient rainfall and a relatively large population which, however, remains largely on the level of a subsistence economy.

Settlers were able to exert considerable political pressure upon the colonial administration to ensure that further improvements of infrastructure were carried out.<sup>6</sup> A powerful group was the Tanganyika Growers Association (TGA), whose membership largely consisted of sisal and cotton estates owners. In 1949, members of the local branch of T.G.A. petitioned the government to build a feeder road from Mauzi to the railway line at Kimamba.<sup>7</sup> Mauzi was a source for vegetables and fruits very much needed by Europeans in Kimamba and Kilosa, and the road was built and completed in 1951. Similar group pressure was used by church representatives who sought access to their remote mission stations.<sup>8</sup>

The introduction of the railway line was also responsible for a drastic reduction of dependence on head-porterage, which, as has already been mentioned, was becoming an unpopular form of transport.<sup>9</sup> Fewer and fewer Africans were being recruited by either government or private groups for this system. "Contract laborers" who were easily and cheaply transported by railroad from Dar Es Salaam to the sisal plantations in Morogoro. Despite the extremely low wages which these "contract laborers" received, there was, nevertheless, for the first

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<sup>6</sup>Farguharson, Tanganyika Transport op. cit., p. 46. See also Hill, Permanent Way II, p. 101.

<sup>7</sup>Hill, Permanent Way II, p. 101.

<sup>8</sup>An appeal from the representatives of the Catholic Church in Mgeta was delivered to the District Director, Public Works Department, Document 19/5/1350/II.

<sup>9</sup>For problems related to headporterage, see Donald Simpson, Dark Companions (London, 1975) pp. 1-9.

time, a sizeable group of African workers which had money at its disposition and which constituted a market.<sup>10</sup>

When finally the central line was completed in 1914, it reached Kigoma on Lake Tanganyika and, in 1928, the railroad was extended until it reached Mwanza on Lake Victoria. The railroad reorientated the Morogoro region in relation to the rest of the country and helped to integrate the region into the rest of the country.<sup>11</sup> There was frequent commercial contact between Uluguru and the coastal people. More goods were brought into the region from Dar Es Salaam, and the Luguru became interested in visiting the sources of "vitu vya Kizungu" (European items). All this was facilitated greatly by the railroad system which was capable of carrying bulk consumer goods into Uluguru.

#### The Impact of Roads

The introduction of motorized road transport in Tanzania during the 1920's changed the transport system. The ability of the new mode of transport to create much denser networks introduced an entirely new element into the Morogoro regional transport pattern.<sup>12</sup> Generally, the building of roads was carried out hand-in-hand with a variety of other projects. However, long-term data on these road building

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<sup>10</sup>Lundquist, Economic Structure of Morogoro, op. cit., p. 23.

<sup>11</sup>Ibid., p. 45.

<sup>12</sup>Ibid.

activities are not available,<sup>13</sup> especially with regard to the influence of specific roads.<sup>14</sup> Available information is so aggregated that it does not allow any judgments about the long-term effects of particular road sections.<sup>15</sup> Moreover, due to the extremely large annual fluctuations caused by the influence of weather, an analysis of the production figures of just a few years--if available--does not permit very meaningful interpretation.<sup>16</sup>

The construction of a road connecting Dar Es Salaam with Morogoro towards the end of the 1920's was the necessary pre-condition for European settlement and for the beginning of commercial agriculture in this region. Also, during the 1920's feeder roads were built to the preferred areas of European settlements that had been started at about the same time.<sup>17</sup> Several memoranda left by the British colonial administrators in Morogoro indicate that a first attempt at Euro-settlement in the isolated parts of Uluguru had failed due to the completely unsatisfactory transportation connections existing at the time.<sup>18</sup> Similarly, the

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<sup>13</sup>This aspect of the problem is discussed fully by O'Connor in his Economic Geography of East Africa, p. 263. He points out, for instance, that an exact analysis of the effects of particular road construction can be given only by cross-sectional analysis through a comparison of different areas with differing transport facilities.

<sup>14</sup>Ibid.

<sup>15</sup>Ibid. See also Mkama, Transport Naming in Tanzania, p. 29.

<sup>16</sup>O'Connor, Economic Geography of East Africa, p. 268.

<sup>17</sup>R.S.P. Bonney: "Feasibility report on the proposed Mbeya/Sumbawanga Road," Road Research Laboratory. Research note no. 899. (Hammondsworth 1965).

<sup>18</sup>Annual Reports from the Provincial Engineer, Morogoro 1967, 1958, 1959. Document 3/XV/B TNA.



moderate economic development of the areas south of the present railway line depended upon the construction of a road link with the towns of Kilosa and Mikumi. In almost all of these and in some other similar cases, the construction of feeder roads was the basic pre-condition for opening up the areas in the south and for initiating market-oriented production throughout the region.<sup>19</sup> Only after basic transport facilities were provided was it possible for a general development process to be set in motion. Hill has clearly analyzed the importance of transport links for those economic activities that were coming into existence in the period between the two world wars. He was particularly interested in the areas of European settlement,<sup>20</sup> but his findings also apply to the modern market production of the African population.

In order to determine the specific impact of new and improved roads, interviews were conducted in the following major rural settlements: Kwa Dihombo, Dakawa, Kidete, Kimamba, Mikese, Tununguo, Duthumi, Kisaki, Bunduki, Mgeta, Kisana, Ulaya, Rudewa and Msowero, where farmers (usually small-holders) and retail traders were the informants. These settlements were selected on the basis of their size (they usually have more than 1500 people) and also because of their proximity to a major rural feeder road.(see Table VII). The outcome of these interviews indicates that the building of roads has considerably influenced the

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<sup>19</sup>Moffett, Tanganyika, p. 274. Most regional officials reports of the period between 1955-1960 agree with this position. See Dongen, "Road vs. Rail in Africa," The Geographical Review, Vol. 52, (1962).

<sup>20</sup>Hill, Permanent Way, p. 315.

level of development in these areas.<sup>21</sup>

Interviewees indicated that prior to the establishment of roads passing through their communities, they produced only enough to feed their families or to trade with their immediate neighbors. The reason, according to these informants, was that they could not transport their crops to the regional market, which was often located fifteen or more miles away. However, after roads became a common feature in their areas, enabling small trucks to make frequent trips in and out of their settlements, the people began producing surplus crops for sale. The rice farmers of Dakawa, for instance, increased their output as more transporters became available to haul the yield to market. It is, therefore, correct to say that an improvement in the transport situation resulted in the movement from subsistence to modern commercial agriculture.

Informants from two settlements around Kisaki and Msowero reported that, when the first road entered their settlements, they were afraid that townspeople would expropriate their land just as Europeans did. But they were also happy that it was now possible to receive school supplies and inspectors from Morogoro. They told this writer that when the roads were completed, the bus operators extended their routes to serve them, making it possible to travel round-trip to Morogoro on the same day. Completion of the road to Kisaki in 1956, for instance, facilitated the establishment of a dispensary, and ensured the availability of both doctors and agricultural advisers when needed. Present

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<sup>21</sup>Based on about eleven interviews conducted in the areas from September 17 to December 8, 1975.

day Kisaki is impressive, with modern houses built from materials transported from Morogoro.

This situation is being duplicated in many parts of Morogoro. In one settlement, Tunuguo, the construction of a 38-mile earth road to Mikese has changed the entire pattern of farm life. There has been an increase in pineapple production, and a cooperative society has been started for the supply of fertilizer. Other new developments include a dispensary, two elementary schools, and twice daily bus service to Mikese.

Morogoro is one of the regions whose capital town has been selected for "concentrated urban development."<sup>22</sup> The town has thus received a significant amount of investment in the last twelve years. If one also includes the benefits it is likely to derive from the new road and the railway between Dar Es Salaam and Lusaka, Zambia, which passes through hundred miles width east to west of the region, it appears obvious that the economy of Morogoro will improve. The availability of regular means of communications has also resulted in constant movements of people around the region. The Luguru now travel more frequently than before, mostly to the two major towns of Morogoro and Kilosa, causing their population to increase. In 1948 the population of Morogoro was 179,078, a figure which had grown to 253,000 in 1976. It is indeed difficult to comment with any certainty upon the economic changes caused by transport. One trend is evident, however: the number of new

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<sup>22</sup>For a detailed study of Morogoro town, see Lundquist, The Economic Structure of Morogoro, chapter 2.



establishments in Morogoro town has grown since 1964 to include some sixty-three "manufacturing" firms, which employ a total of 1500 to 2000 people. The smaller units consist of shoe-makers, tailors, carpenters and bricklayers,<sup>23</sup> and the middle-sized operations consist of motor-garages, bakeries, saw-mills and grain-mills.<sup>24</sup> Of these, the Tanzania Tobacco Processing Company (TTPC) is the largest firm with 3500 employees.<sup>25</sup>

Morogoro has another interesting feature: the largest market in the region is located in the middle section of the town. The market was established in the 1940's, and has become a vital element in the socio-economic life of the people who frequent the daily market.<sup>26</sup> They come from all over the region; they come to buy and sell, but also to socialize. In the simplest terms, this market place is an assembly for all sorts of activities.<sup>27</sup> There are at least ten to fifteen lorries and about eight buses entering or leaving the market grounds daily.<sup>28</sup>

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<sup>23</sup>Ibid., p. 38.

<sup>24</sup>Ibid.

<sup>25</sup>Ibid.

<sup>26</sup>Young and Forsbrooke, Land and Politics Among the Luguru, p. 117.

<sup>27</sup>Ibid.

<sup>28</sup>Personal observation, May, June, July 1976.

### The Impact of Roads on "Ujamaa" Villages

Government priority in rural road-building has been given to those areas which have shown a marked degree of willingness to establish Ujamaa villages. Thus, to some extent, the establishment of specific Ujamaa villages has served to create new roads and to determine their location. As we saw in Chapter Four, most well-established Ujamaa settlements are, relatively speaking, adequately served by feeder roads. In spot checking, however, this writer was able to determine that, in some cases, the construction of roads came after the establishment of the Ujamaa settlements (such as Kilengwe and Mtegelekwa to the south of Kisaki). In other cases, Ujamaa settlements were established along already existing feeder roads (such as those villages south of Malinyi and in the vicinity of Mbingu).

This writer had an opportunity to interview several households in the villages along the road, several miles south of Malinyi and to determine the duration and reasons for their settlement. Most people had been there for six years and were sisal plantation workers from very distant parts of the country, but who had no land to return to after they became discontented with the plantations. Many of the settlers said they heard about the settlement project through TANU, and seized the opportunity to participate and to utilize the land that had never been cultivated.<sup>29</sup> The answers to the separate questions about the advantages of life along the road and why so many people

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<sup>29</sup>C.R. Ingle, "From Colonialism to Ujamaa: Case Studies in Tanzania's Search for Independence" (Dar Es Salaam, 1971), unpublished seminar paper.

Figure 1

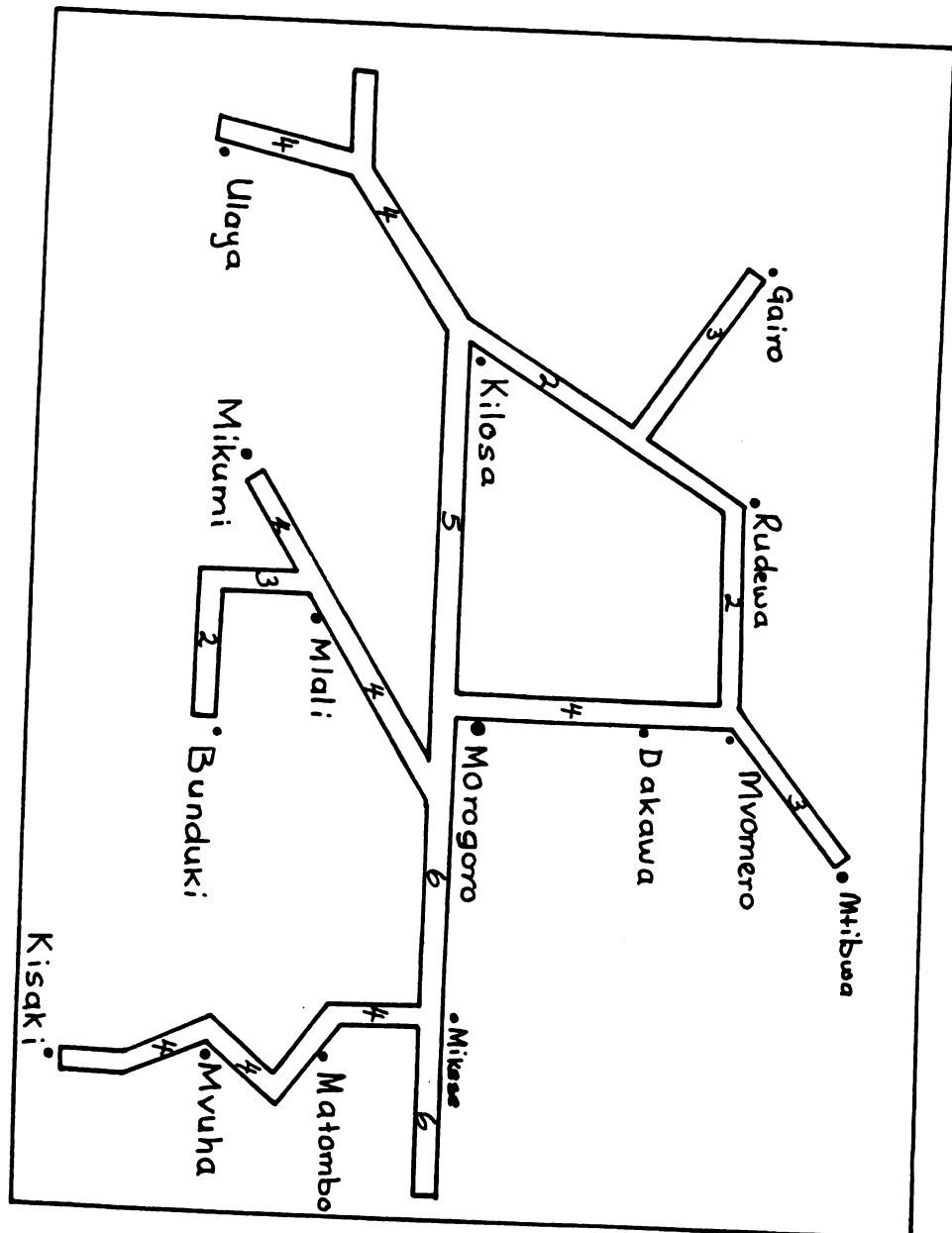
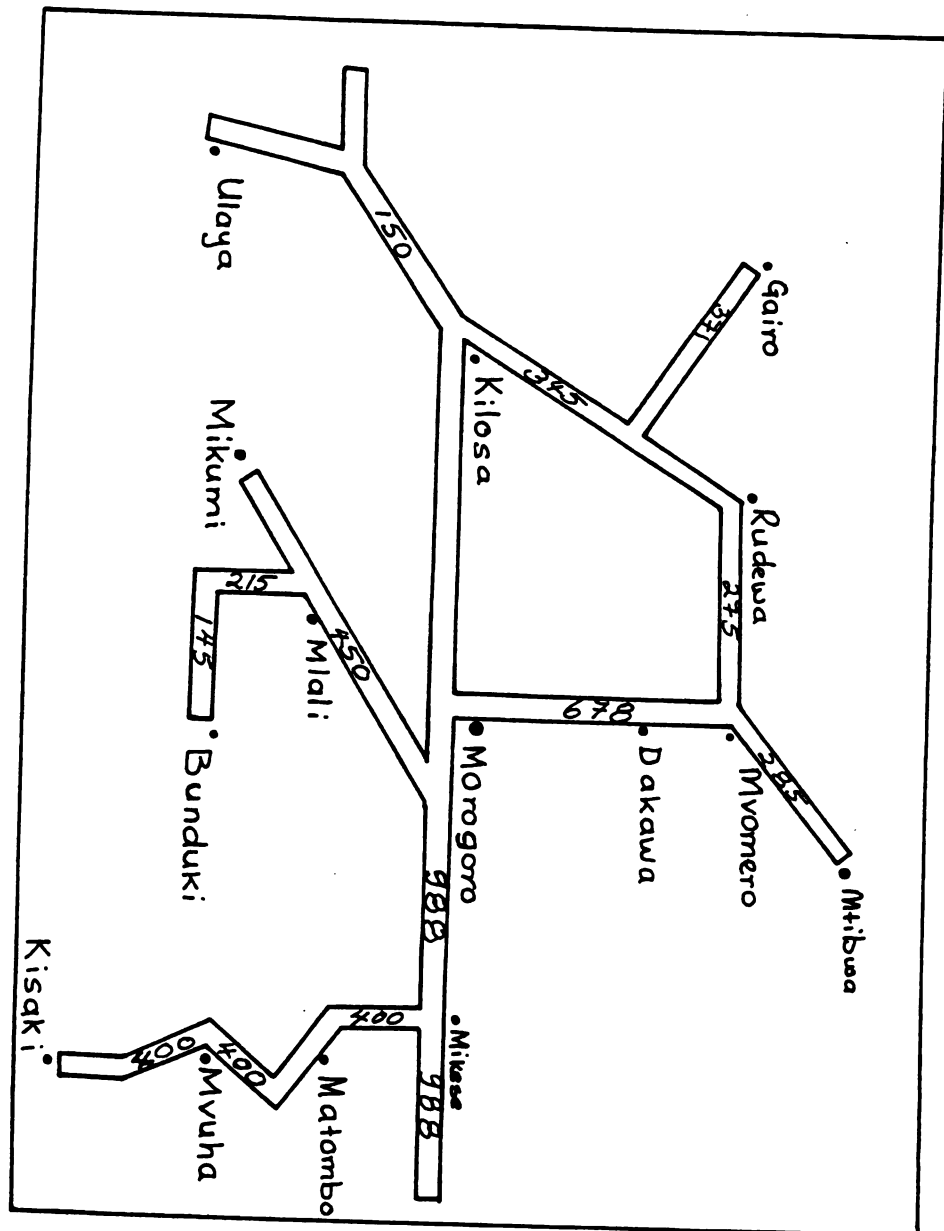


Figure II



had moved to the road make it clear that, in ten of fourteen cases, access to health facilities in the next town was a prominent reason.<sup>30</sup> In addition, the easy access to markets, the chance to sell fruit along the roadside, generally improved conditions of communications and of access to towns, and in some cases the availability of suitable free land, were also mentioned. None of the respondents found any particular disadvantages connected with the road.<sup>31</sup>

### Bus Transport

Growth of long-distance bus travel is still inhibited by poor roads, inefficient administration and inconsistent licensing policies. But the sharp upward trend in bus passengers in the region can be expected to continue as these obstacles are gradually overcome.<sup>32</sup> Generally speaking, bus transport is the most common form of transportation for people, although those traveling along the central line prefer the trains because of low cost and reliability.<sup>33</sup>

There are approximately 18 bus operators in Morogoro, including two state-subsidized bus companies: Morogoro Cooperative Transport

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<sup>30</sup>Ibid.

<sup>31</sup>Only a few people regarded the introduction of roads as having fostered new needs. For instance, most polygamists were now faced with the problem of having to provide material things for their many wives, or else risk their wives (usually ten to twelve years younger than their husbands) leaving for a better provider.

<sup>32</sup>This was expressed with some confidence by the Regional Road Engineer, Morogoro, July 1, 1976.

<sup>33</sup>James Gamus Ticker, Examiner, East African Railways and Harbours, Morogoro station, personal interview, July 9, 1976.

Company and Coastal Region Transport Company. Most buses leave early in the morning and return the same day, when and if the roads are in good condition; they carry about 2160 passengers each day<sup>34</sup> (see Figure I). The local office of the Tanzania Licensing Authority (TLA) requires that bus operators keep an approved time-table, but this regulation is not strictly enforced. Passengers carry along a substantial amount of luggage and other loads, including goods for sale. It is not unusual, therefore, to see bus rooftops crowded with baskets filled with farm products.

One common feature of passenger transport is that owners of commercial lorries make considerable use of their vehicles for carriage of fare-paying passengers in contravention of the terms of their permit. However, due to the irregularity of bus services on certain rural routes, trucks provide the only means of transport (see Figure II).

In spite of the transport inadequacies, there is no doubt that all modes of transport have in varying degrees helped in reinforcing motivations for development; they have also created and completed new socio-economic activities. The quality of regional administrative structure and social order, the character of the educational system and the other dimensions of a region's propensity to grow have been tremendously affected by the level of improvement of transport networks.

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<sup>34</sup>This figure is only approximate and was computed on the basis of bus seats and trips per day.

General Evaluation of the Influence of Roads  
on Stimulation of Economic Activities

The importance of modern feeder roads in stimulating rural agricultural production has been most clearly demonstrated in the surveys made in the southern part of the country, where prevailing conditions are similar to those in most parts of Uluguru.<sup>35</sup> Significant differences in agricultural production could be recorded as obvious results of the road construction activities. In Uluguru it can be assumed, for the years 1962/66, that the structure of production in two villages around Kisasi differs mainly in respect to their degree of accessibility to transport. Magogoni is situated on a relatively good feeder road leading from Mikeese to Kisasi, which is the major access route into the southeastern Uluguru Mountains. This accessibility has provided farmers an opportunity to take their crops to the nearest market; retail traders also benefit, for they can keep a full inventory of consumer goods in their stores.

In contrast, Mvuha is 36 miles away from Mikeese, where the link is a local feeder road maintained by the district administration. This road normally becomes impassable during heavy rains. Consequently, in areas around Mvuha, agricultural production has sometimes declined as the result of a lack of transportation from fields to market places, especially during December, January and February, the months of heavy rains.

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<sup>35</sup>N. Smith, "A Pilot Study in Uganda of the Effects Upon Economic Development of the Construction of Feeder Roads," Road Research Laboratory Research Note No. RN/3408 (September, 1966).

From these examples it becomes evident how important the availability of roads and modern transport facilities is for agricultural production. Without doubt, the penetration of isolated areas by better transport facilities could stimulate production in the modern agricultural sector. On the other hand, it should not be expected that a road project alone and isolated from other measures can in any case and within a short time cause an increase in production.<sup>36</sup> From a long-term point of view it can, however, be assumed that even an isolated feeder road can stimulate a general increase in the mobility of population and goods. And this will eventually have indirect effects upon human attitudes and, therefore, also upon production.<sup>37</sup> In any case, road traffic in contrast to other modes of transport, particularly the railways whose general accessibility is limited, is particularly well-suited to stimulate such indirect effects.<sup>38</sup>

One of the greatest advantages of road traffic is its pronounced ability to form intricate networks. The very wide-mesh grid of the Tanzanian railway system could be significantly supplemented and enlarged by road traffic. By lorry and bus, however, large parts of the region were for the first time opened up for trade with other regions. One decisive aspect of motor traffic is to be seen in its penetration of the most remote areas. Increased improvement of the feeder roads

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<sup>36</sup>Adler, "Economic Evaluation of Transport Project," *op. cit.*, p. 189.

<sup>37</sup>Ibid.

<sup>38</sup>See G.W. Wilson et al., op. cit., pp. 193-205.



also contributed to a better integration of the region with the country and to the emergence of a genuine national economy. From the point of view of the rural economic structure, the present level of development is based decisively upon the growth of modern and improved feeder road traffic since the end of the 1960's. All important rural settlements of the region have received their first development impulses through roads.

## CHAPTER VI

### SUMMARY AND CONCLUSION

The primary objective of this study has been to provide basic information regarding the history and development of transport in Tanzania and the impact on the socio-economic development of Uluguru.

In order to successfully achieve the stated objective, the writer has first discussed the history of Uluguru and the people, its socio-economic as well as political structures before and after contact with alien groups (the period from which significant improvements in transport first began to occur).<sup>1</sup> Subsequent efforts have been made to provide an historical overview of the development of selected modes of transport systems, with emphasis on the railways and roads. Chapter Three has focused on the specific transport problems of the Morogoro/Uluguru region. The lack of effective systems in Morogoro has been shown to have limited the farm to market access of local farm growers, resulting in the widespread poverty of 80% of the area's residents. Chapter Four has been devoted to a discussion of transport constraints on rural development for Tanzania in general, followed by

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<sup>1</sup>These outside groups included the Arabs and later the Germans and British.

a case study of specific transport constraints on rural development for Tanzania. This discussion has shown that the lack of regional transport networks did have an effect on the growth and development of agriculture during the German and British periods. The relationship of road development and production output (of some major cash crops) has also been examined. This study has been accomplished by examining the case of five villages and the three roads intersecting them, a case in which transport constraints on development is highly visible.

Chapter Five analyzes the total impact of transport development on the socio-economic development of Uluguru. Essentially, this constitutes an evaluation of the influences of the development and expansion of selected modes of transport upon the present socio-economic and political patterns of the region. This chapter also analyzes the role of European settlements (missionary and expatriate) in the rural areas in expediting transport development.

In attempting to evaluate and analyze the influence of transport development, one has to presuppose that before the beginning of the colonial period, with its introduction of modern modes of transport, the level of economic development in all parts of Tanzania was approximately equal (apart from differences due to pre-existent natural conditions). Along with several other factors, the emerging modern transport systems has had an important formative influence on the differential development of different regions. This has resulted in the unbalanced regional structure of the country that can be observed today. Of the other relevant factors having effect on the economic and other development of the regions, there is above all, the given

natural conditions of the area that outline the limits of the development potential of the region. Another is the distance of rural settlements from the region's principal towns. Rural residents owning farms close to the towns have had less need for farm to market access since their transport task can be accomplished through the use of cycles.

One important impact of the development of transport, as has been shown, relates to the many small rural settlements located in the southeastern sections of the region where farmers had been previously engaged only in subsistence farming. Access to regional and national markets, which came as the result of availability of transportation, expedited the switch from subsistence to commercial farming. This development has generated needs for better built schools, high-standard health centers and other socio-economic amenities.

On the other hand, some roads can have negative effects. An example is seen in the case of the area between Ngerengere and Morogoro, an area through which the newly built American highway passes. Farmers in this area have, in recent months, abandoned their old farms for new settlements along the new highway. The importance of this move lies in the fact that it was the older farmland that contained the richer soil and which also had the advantage of being nearer to water wells. Moreover, the older farms were further from the new settlements which meant that more time was spent moving to and from the farms than was spent in actual labor. Efforts by the local authorities to return these farmers to their former settlements has so far met with strong resistance. New penetration routes between the old and new settlements had, therefore, to be established in order to allow the farmers easy

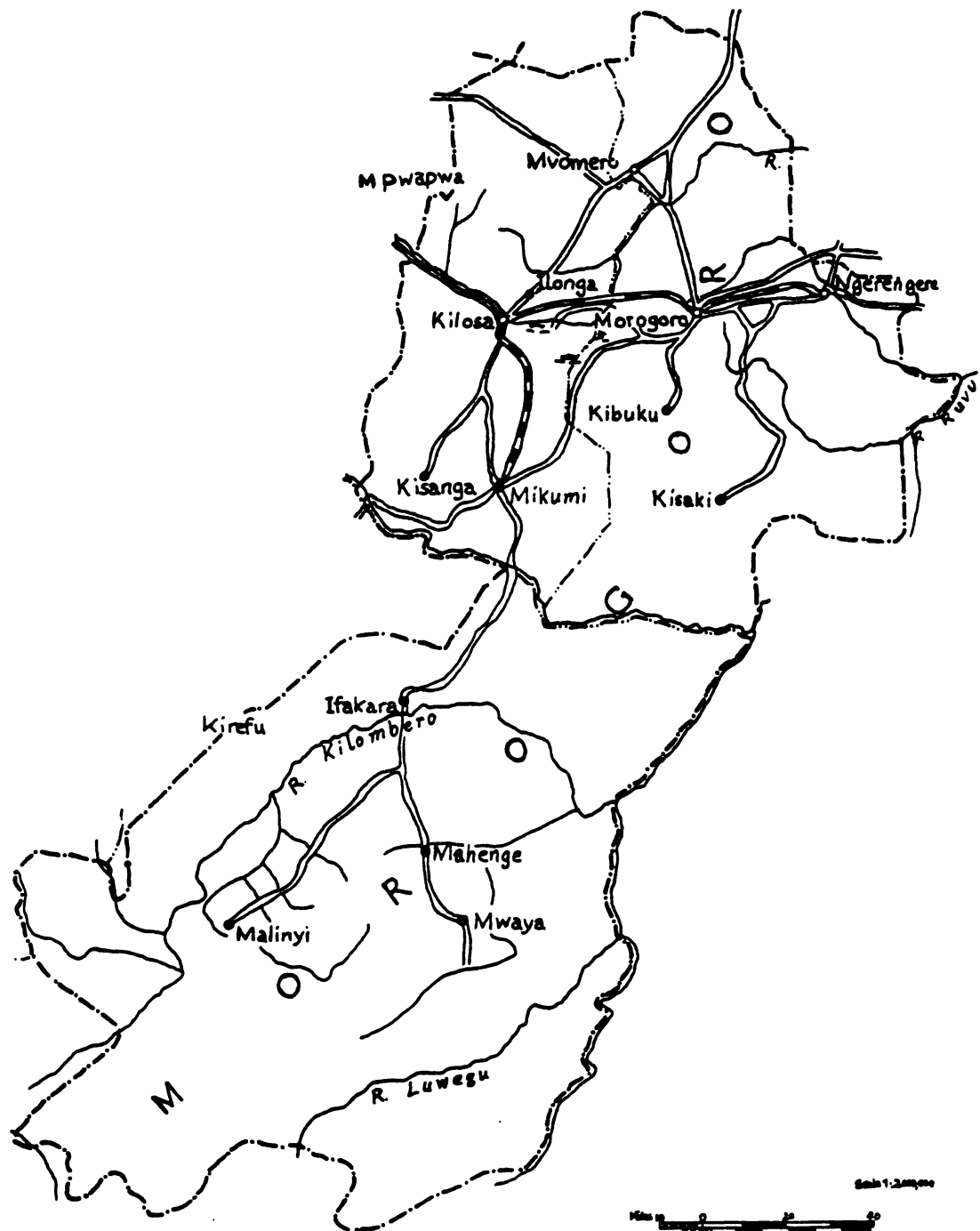
access to their farmlands. There are, today, lorries and mini-buses which transport these people to and from their farms.



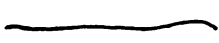
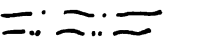
In spite, however, of the accomplishments related in this study, the current situation in Tanzania and Uluguru in particular, is one in which serious inadequacies exist in the transport systems. The present network, as a whole, seems to be seriously deficient for the demands currently being made on it by present economic development. This study has shown how great the deficiency is which still exists in feeder roads and local transport conditions. Much remains to be done in terms of these and other aspects of transport for a gradual improvement of the region.

Although the need for continued and increased improvement of the transport sector is necessary for optimum economic development, it may, in this writer's opinion, be less than completely justifiable to give the highest priority to the transport sector while slighting the other areas of current need. Improvement in other sectors is equally important, particularly in the fundamental attitudes of a large part of the population, which are detrimental to rapid changes in the economic structure. Any future attempts to develop Morogoro and Tanzania will have to be consciously and continuously balanced if a modern economic society is to be created.

As this study shows, road transportation has played an important role, but it is not the only factor which has contributed to change in the socio-economic structure of the Morogoro region. It is the hope of this writer that other scholars will examine the remaining factors that were outside the scope of this research.

# Appendix A



	Railroads
	Regional Roads
	Rivers
	Regional and District Boundaries

## APPENDIX B

Luguru clan names:

Bena*	Cheti	Hafingwa	Mangamanga*	Ponera*
Bunga	Chiru	Himba	Masenga*	Tebe*
	Chuma*	Ingu	Moonde	Zeru
	Gonanzi	Kibango	Mugera*	Zima
		Kumburu	Mwandike	
		Lani*	Nambo	
			Ngozi*	
			Ngurumi	
			Nyaka	

\*Names also used by people in some parts of Southwestern Tanzania.

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