

UNITED REPUBLIC OF TANZANIA
MINISTRY OF WORKS, COMMUNICATIONS AND TRANSPORT

**THE STUDY
ON
DAR ES SALAAM
ROAD DEVELOPMENT PLAN**

**FINAL REPORT
PART A : MASTER PLAN STUDY
PART B : FEASIBILITY STUDY**

MAIN TEXT

MARCH 1995

**JAPAN INTERNATIONAL COOPERATION AGENCY
JAPAN ENGINEERING CONSULTANTS CO., LTD.**

NIPTON KOEI CO., LTD.

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PREFACE

In response to a request from the Government of the United Republic of Tanzania, the Government of Japan decided to conduct the study on Dar es Salaam Road Development plan and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Tanzania a study team headed by Mr.H.Muto, Japan Engineering Consultants Co., Ltd. and composed of members from Japan Engineering Consultants Co., Ltd. and Nippon Koei Co., Ltd., three times between October 1993 and December 1994.

The team held discussions with the officials concerned of the Government of the United Republic of Tanzania and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

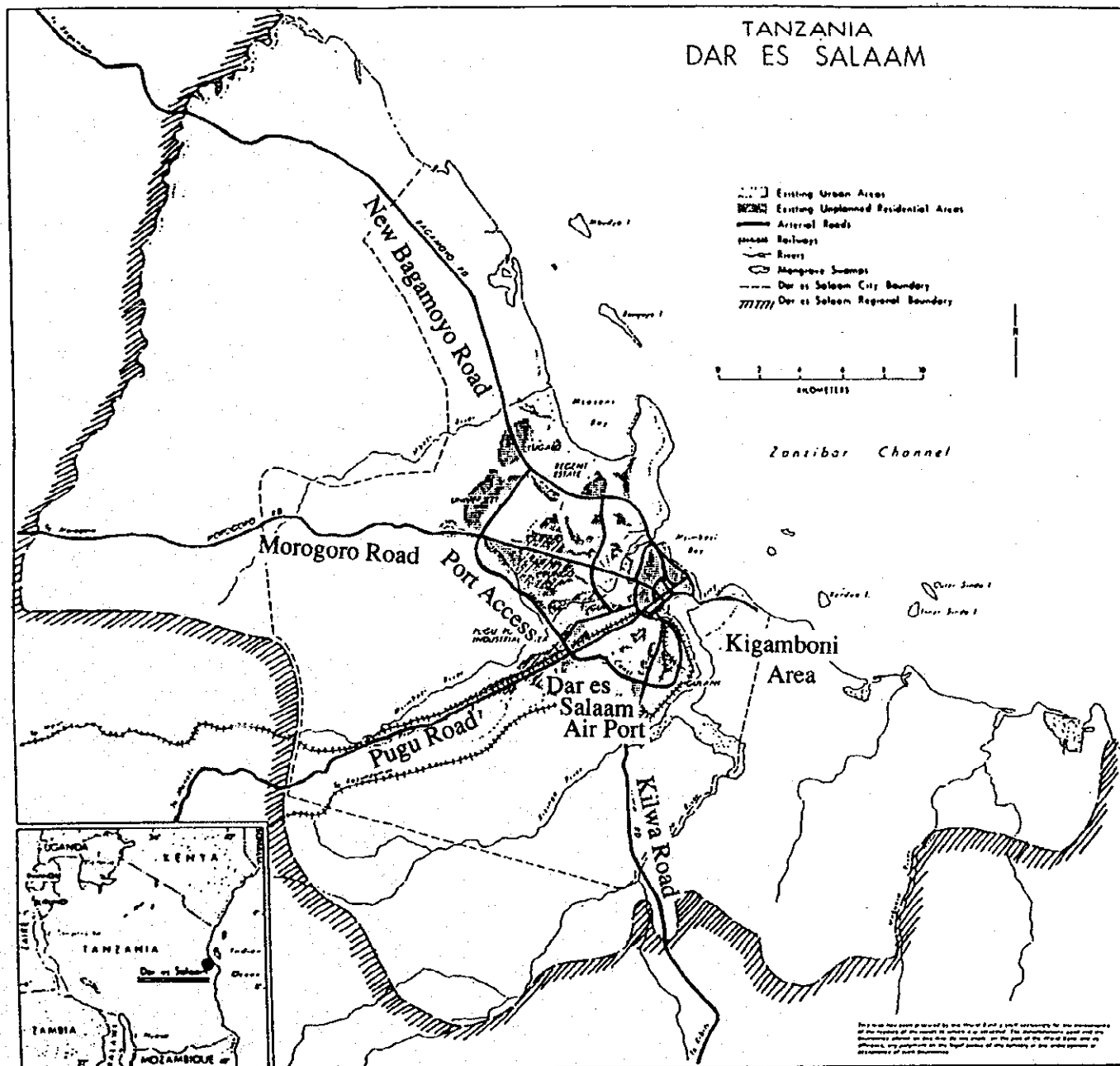
I wish to express my sincere appreciation to the officials concerned of the Government of the United Republic of Tanzania for their close cooperation extended to the team.

March 1995



Kimirou Fujita
President

Japan International Cooperation Agency



LOCATION MAP

Abbreviations, Exchange Rates and Road Names

ADT	:	Average Daily Traffic
CBD	:	Central Business District
CO	:	Carbon Monoxide
dB	:	decibel
DCC	:	Dar es Salaam City Council
DRIMP	:	Dar es Salaam Road Improvement and Rehabilitation Projects
DSM	:	Dar es Salaam
ERP	:	Economic Recovery Program
FY	:	Fiscal Year
GDP	:	Gross Domestic Products
GRP	:	Gross Regional Products
IRP	:	Integrated Road Projects
IRR	:	Internal Rate of Return
MWCT	:	Ministry of Works, Communications and Transport
NO _x	:	Nitrogen Oxides
NO ₂	:	Nitrogen Dioxide
OD	:	Origin and Destination
pcu	:	passenger car unit
ppm	:	parts per million
PT	:	Person Trip
rpm	:	revolution per minute
TRC	:	Tanzania Railway Corporation
TAZARA	:	Tanzania-Zambia Railway Authority

[Exchange Rate]

US\$ 1.00 = Tsh. 490 = ¥ 110 (As of 17 January 1994 for the purpose of the Master Plan Study)

US\$ 1.00 = Tsh. 530 = ¥ 100 (As of 31 July 1994 for the purpose of the Feasibility Study)

[Road Names]

During the study period several road names were officially changed; however, former names have been basically applied in this Study in order to avoid a confusion, except for the case Nelson Mandela Road. The former and changed names are as follows:

<u>Former Name</u>	<u>Changed Name</u>
Upanga Road	Ali Hassan Mwinyi Road
New Bagamoyo Road	Ali Hassan Mwinyi Road
Morocco Road	Kawawa Road
Pugu Road	Nyerere Road
Port Access Road	Nelson Mandela Road

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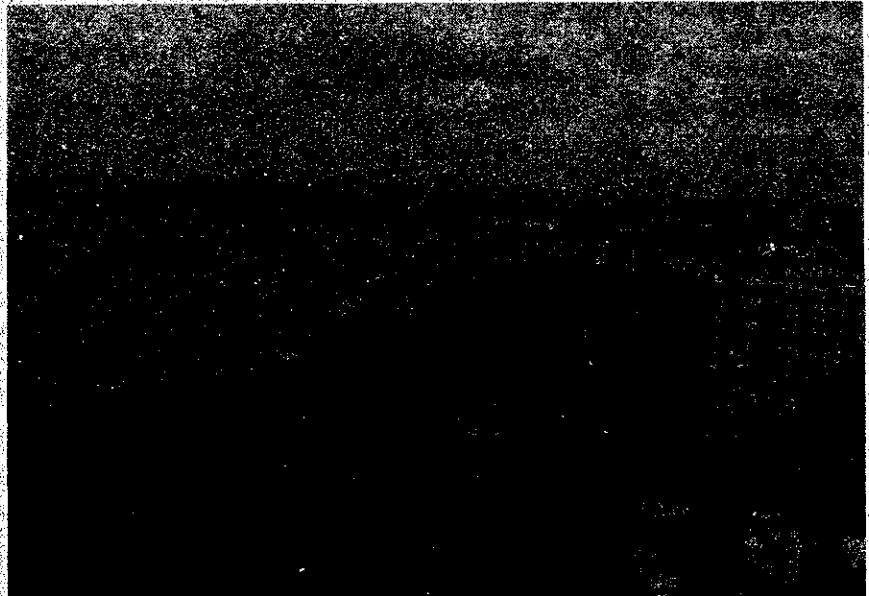
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PART A : MASTER PLAN STUDY

CHAPTER 1 INTRODUCTION



CHAPTER 1 INTRODUCTION

1.1 Background of the Study

The Government of Tanzania (GOT), in its continuing effort to realize its latest five-year Development Plan, has been coordinating investments in the key sectors of agriculture and transport under the Economic Recovery Program (ERP). Within the transport sector, the national priority has been placed on the maintenance and rehabilitation of existing roads and completion of ongoing viable projects.

Dar es Salaam, which is the economic center and the most populated city in the United Republic of Tanzania, has grown at a remarkable rate in recent years. As a result of this growth, traffic congestion complicated by the poor state of the existing roads, has become a major obstacle for further economic recovery, particularly within the Central Business District (CBD). The Government, in its wish to formulate a comprehensive road network plan, requested assistance of the Japanese Government to conduct a Study on Dar es Salaam Road Development Plan (hereinafter referred to as "the Study").

In response to this request, the Government of Japan decided to carry out the Study and entrusted its execution to the Japan International Cooperation Agency (JICA); the official agency responsible for the implementation of technical cooperation programs of the Government of Japan.

In July 1993, JICA dispatched a preparatory study team to formulate an approach for the technical cooperation and to agree with GOT officials on the objectives and scope of works.

1.2 Objectives of the Study

The major objectives of the Study are:

- (1) To formulate a master plan for Road Development in Dar es Salaam for the period up to the year 2010 together with a traffic management plan for major arterial roads in Dar es Salaam.
- (2) To conduct feasibility study of the priority roads selected in the master plan.

1.3 Study Area and Roads to be Studied

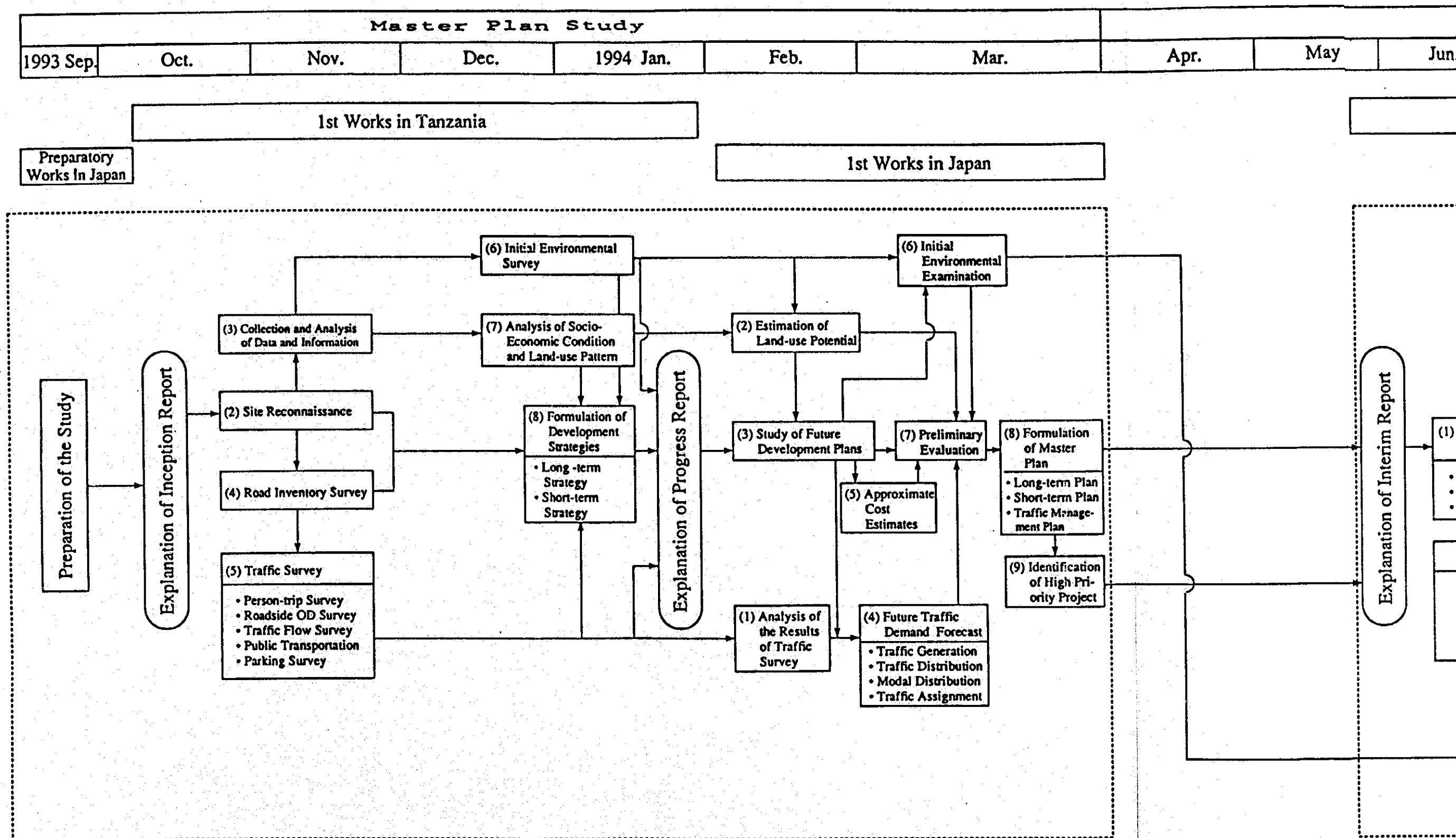
The Study Area covers an entire area of Dar es Salaam Region. The roads to be studied include trunk roads and regional roads within the urban area in addition to some potential regional roads relating to future regional development of Dar es Salaam City/region area.

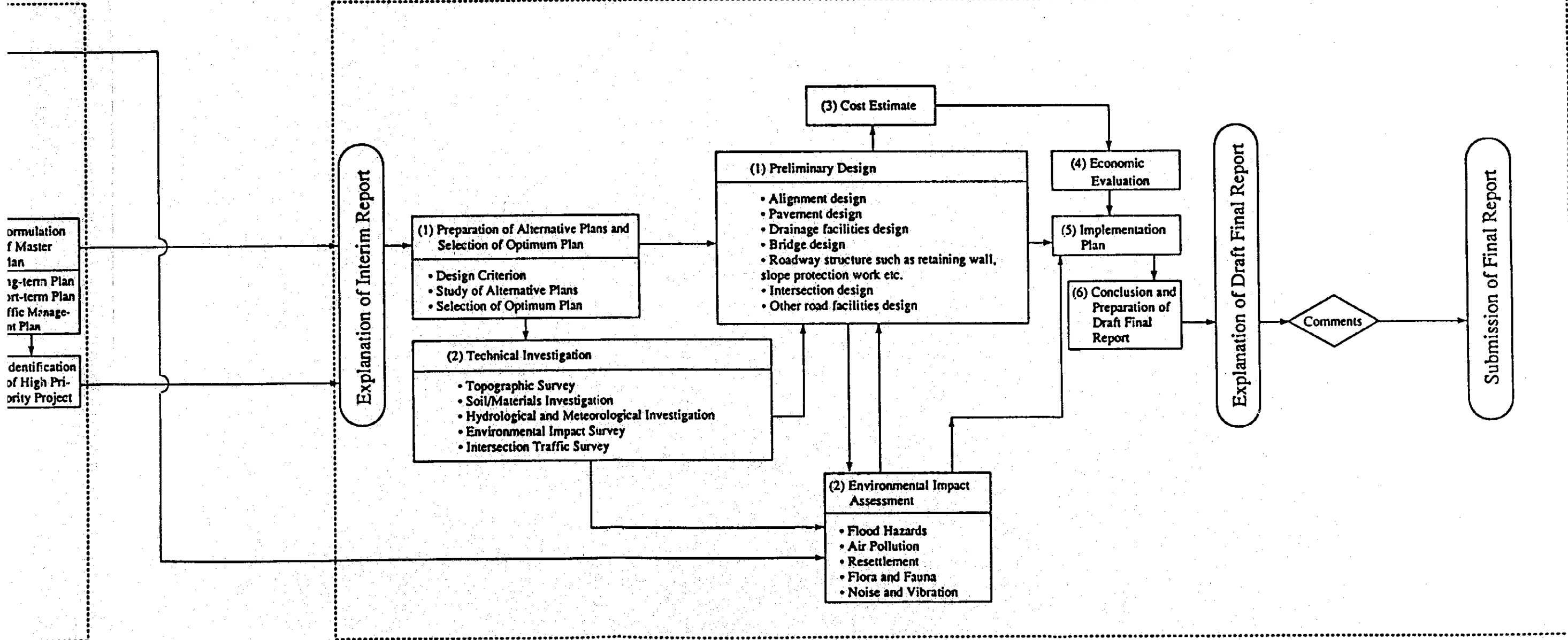
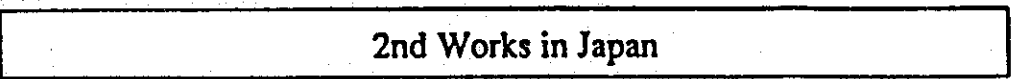
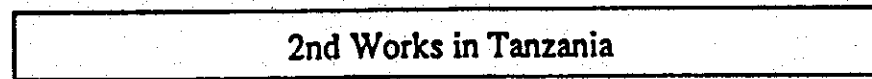
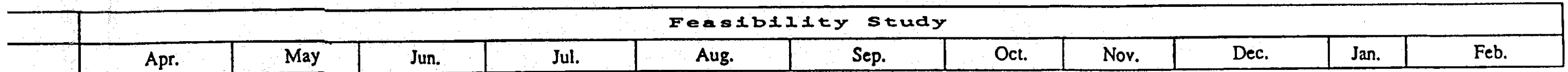
1.4 Work Schedule of the Study

The Study began in the middle of October 1993 and has been concluded at the end of February 1995. An overall work-flow diagram illustrating inter-relationship of activities in the study is presented in Fig. 1.1. The main items to be studied in each stage of work are summarized below:

- (1) 1st Works in Tanzania (October 1993 - January 1994)
 - Explanation of Inception Report
 - To conduct following field surveys and analysis:
 - social-economy and land-use
 - traffic survey

Fig. 1-1 WORK FLOW DIAGRAM





- initial environmental survey
 - road inventory survey including traffic management measures being enforced
 - formulation of development strategy of road and traffic management
- To submit and explain contents of Progress Report

(2) 1st Works in Japan (February 1994 - March 1994)

- To analyze data obtained through the field survey
- To estimate land-use potential
- To conduct road and road related facility development plan and study about possible traffic management plan
- Future traffic demand forecast
- Approximate cost estimate
- Initial Environmental Examination
- Preliminary evaluation
- To formulate a master plan for road development and traffic management
- To identify high priority projects
- To prepare Interim Report mentioned in the master plan and high priority projects

(3) 2nd Works in Tanzania (May 1994 - August 1994)

- To submit and explain contents of Interim Report
- To prepare alternatives for high priority projects and selection of optimum plan
- To carry out technical investigation
 - topographic survey
 - soil/geological survey
 - detailed environmental survey
 - supplemental data collection

- (4) 2nd Works in Japan (August 1994 - November 1994)
 - To carry out preliminary design for the optimum plan selected
 - Environmental Impact Assessment
 - To conduct preliminary cost estimate
 - To evaluate economic & financial viability
 - To formulate implementation plan
 - Preparation of Draft Final Report
- (5) 3rd Works in Tanzania (December 1994)
 - To submit and explain about Draft Final Report
- (6) 3rd Works in Japan (February 1995)
 - To prepare and submit Final Report

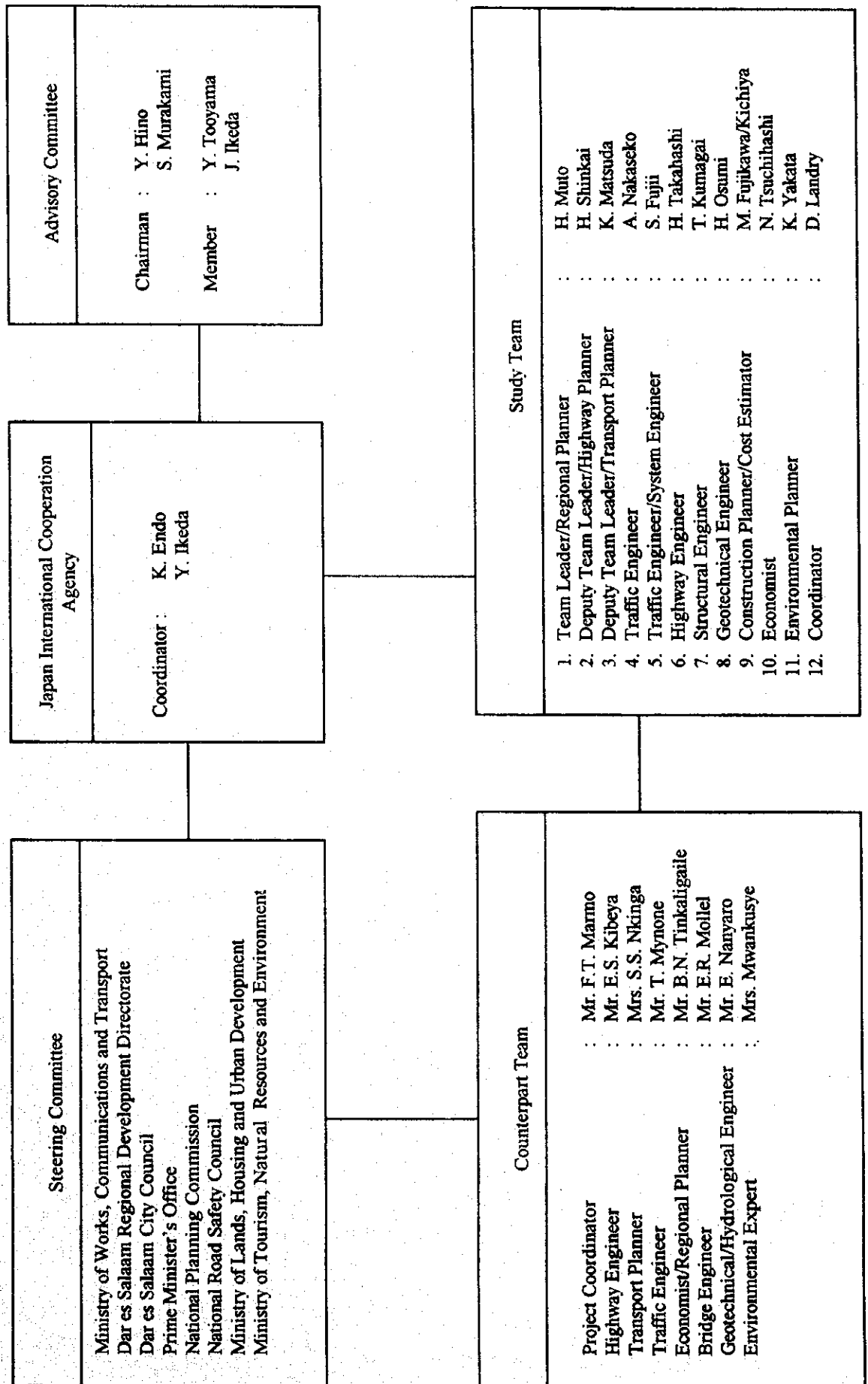
1.5 Organization and Assignment of Study Team

The Study has been carried out by the Study Team under the guidance of the Advisory Committee, representing JICA.

Ministry of Works, Communications and Transport (MWCT), representing the Government of Tanzania, is the counterpart agency of to the Study and established a Steering Committee consisting of the following members from the related Ministries, Departments and institutes under the chairmanship of the Director of Roads and Aerodromes of MWCT for the smooth implementation of the Study. The MWCT also appointed Counterpart Staff to the Study Team.

The names of members of the Steering Committee, Study Team, Advisory Committee, and Counterpart staff are shown in Fig. 1.2.

Fig. 1.2 Organization Chart



CHAPTER 2 SOCIO-ECONOMIC CONDITIONS



CHAPTER 2 SOCIO ECONOMIC CONDITIONS

2.1 The Role of Dar es Salaam

After independence in 1961, the development of Dar es Salaam City passed through periods of relatively rapid growth. From 1967 to 1973 there was a tremendous increase in the city's population accompanied with industrial and commercial growth.

In 1973, the government made a decision to transfer the capital from Dar es Salaam to Dodoma, and it was expected that moving the Ministries and administrative entities to Dodoma would create more space for the expansion of parastatal and commercial activities in Dar es Salaam.

So far only one Ministry, the Prime Minister's Office, has partially shifted to the new capital in Dodoma. The State House, all other Ministries and the Diplomatic Corps are still based in Dar es Salaam with most of them being located in the city center.

With regard to the future role of Dar es Salaam, there are several items to take into account. Firstly, the city is expected to continue to experience growth of national economic and commercial activities. Furthermore, it is expected that government functions will remain centered in the city of Dar es Salaam for the foreseeable period.

Secondly, as Dar es Salaam is a major industrial manufacturing center contributing about 41 % of the gross national industrial manufacturing output of Tshs. 57.6 billion (1988 figures), it will continue to dominate the industrial and commercial sector growth in the country.

Thirdly, Dar es Salaam has well developed market for products made in its manufacturing industries and the surplus is distributed to other parts of the country.

Most goods that are imported from outside the country pass through, and are similarly marketed, in Dar es Salaam. This makes the city a center for trade and commerce including

import and export trade as well as wholesale and retail trading. Most of these commercial activities take place within the city center.

Fourthly, Dar es Salaam is the main hub of the national transport system with important international connections particularly through the harbor and Dar es Salaam International Airport. The city is a terminal for two railway lines, TAZARA and the Central Railway which link the city to several regions of Tanzania and beyond to the neighboring countries of Zambia, Zaire, Malawi, Rwanda, Burundi, Kenya and Uganda. The national highway network also radiates from Dar es Salaam.

Finally, with two universities, four other institutions of higher learning, several colleges, secondary schools and vocational training centers; Dar es Salaam has the highest concentration of educational facilities in the country. The presence of the national central, and other major libraries, the national museum and several cultural facilities makes Dar es Salaam a national center for education and culture.

2.2 Existing Urban Condition

The existing urban conditions are in a poor state particularly with regard to problems of deteriorated infrastructure and public utilities as well as traffic congestion.

The urban area of the Dar es Salaam region is expanding rapidly in an uncontrolled and disorderly manner. This situation should be remedied by having the expansion controlled via suitable measures as prescribed later in this report. Further examination of the existing conditions should cover all roads, stormwater drainage, water supply, sanitation and solid waste systems.

2.2.1 Land - use Pattern

Present land use patterns are indicated in Fig. 2.1 and Table 2.1 and described in brief in the following sections.

Urban expansion (growth) has followed along the main trunk roads; towards the towns of Bagamoyo, Morogoro, Kisarawe and Lindi. Residential development has primarily focused on suitable land areas in between these trunk roads. The low, swampy area along the Msimbazi River and Creek creates a wedge in urbanization between trunk roads. Within many of these recently urbanized areas, residential developments have become market places serving local communities.

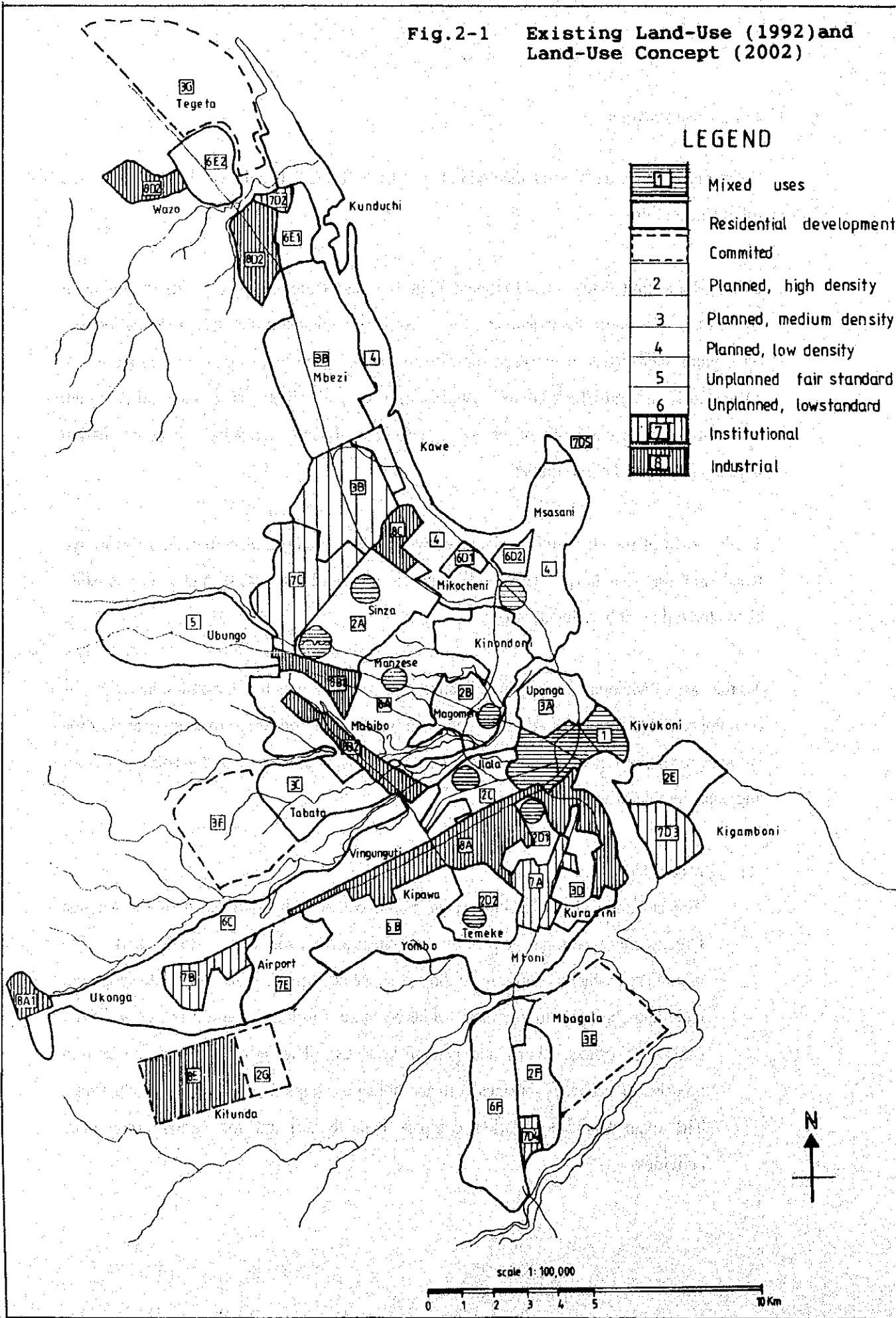
To the north of the city, other residential development is taking place between Bagamoyo Road and the sea-shore. However, expansion towards the west and south is still characterized as ribbon development:

To the east of Mzinga Creek is the Kigamboni urban area which is located adjacent to the oil refinery. This area is linked to the central area of the city by ferry crossing located at the entrance to the harbor of the creek. Road access to this area involves a considerable detour and considerable time.

(1) Mixed Use Area

The commercial and administrative urban center is located north of the Mzinga Creek where national government administrative offices are also located. The whole area which is adjacent to the sea shore consists of dense urban development including the Mchafukoge and Kariakoo areas forming a central business district (CBD) of offices, shops and general services. The latter however, contains a mixture of premises, business offices, housing, shops, and small scale industries. The main Kariakoo Market complex is a focal point for varied commercial activities.

Fig.2-1 Existing Land-Use (1992) and Land-Use Concept (2002)



LEGEND

1	Mixed uses
2	Residential development Committed
3	Planned, high density
4	Planned, medium density
5	Planned, low density
6	Unplanned fair standard
7	Unplanned, low standard
8	Institutional
9	Industrial

scale 1:100,000

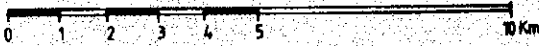


Table 2.1 PRESENT POPULATION BY ZONING

Typology		Area 1992 (ha)	Population 1992 (inhab.)	Populat./Area 1992 (inhab./ha)	Max.
1. Mixed Uses		485	59,300	122	155
	1A	485	59,300	122	155
2. Planned Res., high dens.		2,965	572,900	193	221
	2A	690	81,600	118	170
	2B	700	169,400	242	243
	2C	325	63,400	195	195
	2D	625	190,500	305	310
	2E	375	30,500	81	160
	2F	250	37,500	150	200
	2G	0	0	0	135
3. Planned Res., med. dens.		2,030	109,300	54	96
	3A	305	23,700	78	85
	3B	1,025	21,800	21	95
	3C	360	28,800	80	100
	3D	340	35,000	103	105
	3E	0	0	0	85
	3F	0	0	0	85
	3G	0	0	0	85
4. Planned Res., low dens.		2,295	72,300	32	60
	4A	2,295	72,300	32	60
5. Unplanned Res., fair stand.		1,135	42,900	38	85
	5A	1,135	42,900	38	85
6. Unplanned Res., low stand.		6,005	612,800	102	151
	6A	1,425	255,100	179	195
	6B	1,525	185,600	122	155
	6C	1,510	110,100	73	125
	6D	310	26,900	87	135
	6E	425	21,600	51	135
	6F	810	22,500	28	130
7. Institutions		2,670	36,500	14	17
	7A	275	10,600	39	39
	7B	275	11,000	40	40
	7C	520	6,700	13	13
	7D	1,115	8,200	7	7
	7E	485	0	0	0
8. Industrial Areas		2,145	-	-	-
	8A	1,035	-	-	-
	8B	485	-	-	-
	8C	125	-	-	-
	8D	500	-	-	-
	8E	0	-	-	-
Total		19,730	1,515,000		

Source: "Urban Sector Engineering Project, Part 1, Survey and Diagnostic Analysis, Volume 1 Dar es Salaam" Final Report, September 1992.

Other areas of mixed urban land-use are found within residential areas primarily in high density zones. Subcentres have developed to serve residential areas, providing job opportunities throughout different segments of the city.

Primary local centers of mixed land use are found along major arterial roads at:

- Magomeni, Manzese and Sinza along Morogoro Road,
- Msasani along Bagamoyo Road, and
- Temeke along Nelson Mandela Road

(2) Residential Area

Planned Residential Area

Most of the city's planned areas are of high density type, typically with furnishing small to medium scale businesses and manufacturing. Typical areas are Sinza, Magomeni, Ilala and Temeke. Large medium density residential areas are found in Upanga close to the central business area, in Mbezi along Bagamoyo Road in the north, in Tabata area west of the CBD, and in Kurasini south of the CBD

Planned low density areas are developing along the coast from the Msasani area to Kunduchi. The southern part of this areas is almost fully utilized with development and remaining lands are gradually moving towards the north.

Unplanned Residential Areas

Most of the unplanned areas have grown as dense development around main arterial roads and industrial areas like Manzese along Morogoro Road, large selfterments south of Temeke and the industrial area along Pugu Road and Mbagala along Kilwa Road. Unplanned urban development is also spreading westward along Morogoro Road; and although informal, this is characterized by higher standard buildings than older unplanned areas.

(3) Public Institutions

Public Institutions comprise three categories: Public administration, public facilities and military establishments. Besides the national government administrative offices in the CBD, Three are district administrative offices located at Kinondoni, Ilala and Temeke.

Other public facilities are located in the central (CBD) area with high concentration, in Kurasini and around the University. The main military barracks are located in Kawe, Msasani and Kigamboni areas.

(4) Industry

Industrial areas have primarily been developed towards the west along Pugu Road and south of the port along Mzinga Creek. Large industrial estates are also found along Nelson Mandela Road, Morogoro Road and Bagamoyo Road.

(5) Others

With respect to recreational facilities, there are two major parks; Gymkhana and the Mnazi Mmoja grounds. The former provides for active sports, the latter is for leisure activity. During the dry season the Jangwani grounds in the Msimbazi valley are used for football, cultural, political and other activities.

2.2.2 Economic Activity and Income Level

Tanzania's economy is primarily agriculture-based. Primary industry has a steady contribution ratio to the Gross Domestic Product (GDP), of over half for the past years, and a value of over 60% in recent years. Table 2.2 shows the GDP for the Tanzania Mainland and sectional shares. As seen in the table, Agriculture/Forestry/Fishing and Hunting have contributed to close to 60% of the national production since 1988.

Conversely, secondary industry has stagnated in terms of its contribution to the overall GDP. The manufacturing sector dropped its share in the GDP, from 13.0% in 1976 to 4.6% in 1992. Electricity/Water supply have remained constant in terms of their contribution to the national GDP. Construction has gradually raised its share in the GDP commensurate with levels of the manufacturing sector in 1992.

Table 2.2 Gross Domestic Product of Tanzania Mainland (1/2)

I. GDP at Current Prices and Sectoral Share

Unit: Shs. 10⁶ (): Contribution (%)

Economic Activity	1976	1985	1986	1987	1988	1989	1990	1991	1992
1. Agriculture, Forestry, Fishing and Hunting	9,046 (41.8)	61,231 (56.7)	84,153 (59.8)	117,982 (58.9)	178,760 (62.7)	207,059 (61.6)	233,804 (56.9)	356,435 (61.4)	428,441 (61.4)
2. Mining and Quarrying	214 (1.0)	251 (0.2)	474 (0.3)	645 (0.3)	723 (0.3)	1,129 (0.3)	4,815 (1.2)	7,008 (1.2)	11,383 (1.6)
3. Manufacturing	2,811 (13.0)	6,665 (6.2)	8,551 (6.1)	14,792 (7.4)	15,187 (5.3)	15,197 (4.5)	18,301 (4.5)	19,931 (3.4)	31,914 (4.6)
4. Electricity and Water	219 (1.0)	1,071 (1.0)	1,488 (1.1)	4,992 (2.5)	4,628 (1.6)	4,905 (1.5)	7,438 (1.8)	9,540 (1.6)	11,033 (1.6)
5. Construction	884 (4.1)	2,061 (1.9)	3,131 (2.2)	6,511 (3.2)	11,808 (4.1)	10,909 (3.2)	23,053 (5.6)	24,080 (4.1)	30,433 (4.4)
6. Trade and Hotels/Restaurants	2,839 (13.1)	14,195 (13.1)	19,476 (13.8)	25,963 (13.0)	41,591 (14.6)	48,149 (14.3)	55,815 (13.6)	81,195 (14.0)	98,173 (14.1)
7. Transport and Communication	1,685 (7.8)	7,021 (6.5)	7,797 (5.5)	11,584 (5.8)	14,259 (5.0)	25,143 (7.5)	36,242 (8.8)	46,023 (7.9)	49,350 (7.1)
8. Finance, Insurance, Real Estate and Business Services	2,036 (9.4)	6,659 (6.2)	8,127 (5.8)	11,061 (5.5)	14,132 (5.0)	19,187 (5.7)	24,123 (5.9)	28,757 (5.0)	33,169 (4.8)
9. Public Administration and Other Services	2,342 (10.8)	10,735 (9.9)	10,140 (7.2)	13,291 (6.6)	16,952 (5.9)	22,413 (6.7)	32,456 (7.9)	35,973 (6.2)	38,392 (5.5)
(Less) Bank Charges	424	1,806	2,544	6,444	12,888	18,043	25,117	28,222	34,264
Total (GDP at Factor Cost)	21,652	108,083	140,793	200,377	285,152	336,048	410,930	580,720	698,024

Source: Bureau of Statistics, "National Accounts of Tanzania, 1976-1992".

Table 2.2 Gross Domestic Product of Tanzania Mainland (2/2)

II. GDP at Constant 1985 Market Prices

Economic Activity	Unit: Shs. 10 ⁶ at 1985 constant prices										Average Annual Growth Rate (%)
	1976	1985	1986	1987	1988	1989	1990	1991	1992	1992	1992
1. Agriculture, Forestry, Fishing and Hunting	50,810	61,231	64,743	66,986	70,334	73,439	78,339	81,929	85,544	85,544	<4.9>
2. Mining and Quarrying	388	251	224	227	194	188	277	354	369	369	<5.7>
3. Manufacturing	11,113	6,565	7,821	7,821	8,068	8,315	8,561	9,220	9,139	9,139	<4.6>
4. Electricity and Water	510	1,071	1,413	1,294	1,537	1,289	1,337	1,621	1,505	1,505	<5.0>
5. Construction	3,053	2,061	2,422	3,635	4,075	3,283	6,064	5,714	6,471	6,471	<17.8>
6. Trade and Hotels/Restaurants	12,917	14,195	15,189	15,473	16,182	17,602	17,460	18,368	18,940	18,940	<4.2>
7. Transport and Communication	6,416	7,021	7,116	7,813	7,617	7,409	7,290	7,379	7,408	7,408	<0.8>
8. Finance, Insurance, Real Estate and Business Services	4,337	6,659	7,082	7,291	7,497	7,770	7,940	8,159	8,318	8,318	<3.2>
9. Public Administration and Other Services	7,154	10,735	9,623	9,678	9,949	10,455	10,679	6,780	6,872	6,872	<-6.2>
(Less) Bank Charges	1,016	1,806	2,005	2,040	2,095	2,149	2,185	2,221	2,391	2,391	<4.1>
Total (GDP at Market Prices)	114,129	120,621	127,912	133,333	143,744	152,282	160,661	165,420	165,662	165,662	<4.6>
(GDP at Factor Cost)	95,682	108,083	113,628	118,178	123,361	127,601	135,762	137,303	142,175	142,175	<4.0>

Source: Bureau of Statistics, "National Accounts of Tanzania, 1976-1992"

Table 2.3 Gross Regional Product and Per Capita Production

I. GRP of Dar es Salaam and GDP at Current Prices

Unit: Shs. 10⁶

Area	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Dar es Salaam	9,462	10,621	11,718	13,386	16,754	22,395	28,155	32,327	40,921	48,958	66,471	83,758	97,780
Tanzania Mainland	37,454	43,906	51,946	62,608	78,143	108,083	140,793	200,376	285,155	335,504	410,942	580,720	688,034
Proportion of Dar es Salaam Region (%)	25.2	24.2	22.6	21.4	21.4	20.7	20.0	16.1	14.4	14.6	16.1	14.4	14.2

Source: Bureau of Statistics, "National Accounts of Tanzania, 1976-1992".

II. Per Capita Production at Current Prices

Unit: Shs.

Area	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Dar es Salaam	9,072	9,871	10,453	11,100	12,927	16,065	21,953	31,808	30,143	34,363	44,511	53,482	59,538
Tanzania Mainland	2,072	2,354	2,729	3,151	3,811	5,221	6,715	8,873	12,330	14,106	16,800	23,084	26,593
Ratio of DSM *) to the Mainland	4.38	4.19	3.83	3.52	3.39	3.08	3.27	3.58	2.44	2.44	2.65	2.32	2.24

Remarks: *) Magnification of Per-capita production over the Mainland Figure.

Source: Bureau of Statistics, "National Accounts of Tanzania, 1976-1992".

Tertiary industries have remained almost constant in terms of their contribution to the GDP, except in the case of declining Public Administration and other services. Some services which maintained almost constant shares include Trade/Hotels/Restaurants, Transport/Communication, and Finance/Insurance/Real Estate/Business Services.

Table 2.2 indicates that the highest growth rate for the 7 year period between 1985 to 1992 was registered in the construction industry. Agriculture, forestry, fishing, and hunting have grown by an average annual rate of 4.7% which is slightly over the real GDP growth rate of 4.0%. Because of its heavy contribution to GDP, agriculture is the backbone of the Tanzanian economy.

Statistics for Gross Regional Product (GRP) for Dar es Salaam have been available since 1980. Table 2.3(I) shows the GRP for Dar es Salaam in comparison with GDP at current prices. As seen in the table, the proportion of Dar es Salaam GRP to GDP has been declining in the past 12 years. According to the Bureau of Statistics, this decline is due to the expanding contribution of the agricultural sector to the GDP while tertiary industries have stagnated. However there are all indications that future GRP for Dar es Salaam will remain significant in the national economy, especially in terms of tertiary industries. GRP figures are unfortunately not divided into each economic activity.

Table 2.3(II) gives per capita production values at current prices, both for Dar es Salaam Region and the Tanzanian Mainland. The Dar es Salaam's/mainland ratio values declined to almost half, from 1980 to 1992, but almost doubled in terms of value during the same period. These facts indicate that the Dar es Salaam Region still draw transmigrant working population into the area.

Finally, it should be noted that Tanzania's real per-capita income has steady recovered since 1988 as shown figure below.

Unit: Shs. at 1976 Prices						
1976	...	1988	1989	1990	1991	1992
1,328	...	1,203	1,223	1,273	1,274	1,283

Source: Planning Commission, "Economic Report 1992".

2.2.3 Population

In Tanzania, population censuses were conducted in 1967, 1978 and 1988. Although the Planning Commission's provisional figures from 1988 to 1992 are available, these census figures are considered to be reliable.

Table 2.4 shows that the population of Tanzania mainland increased from 12 million in 1967 to 17 million in 1978 and to 22 million in 1988, with the average annual growth rate of 3.2% and 2.8% during 1967 to 1978 and 1978 to 1988 respectively.

Also shown in Table 2.4, the Dar es Salaam Region area had a population of 356,300 in 1967, 843,100 in 1978, and 1,360,900 in 1988. The average annual growth rate was higher than the national average 8.1% for the period 1967 to 1978, and 4.9% for the period 1978 to 1988. This trend was due to transmigration from all over the country.

Table 2.4 Past Trend of Population Growth

I. Tanzania Mainland Population Census

Year	1967	1978	1988
Popular	11,958,700	17,036,500	22,533,800

Remarks: (1) Average annual growth rate: 1967 - 78 : 3.2%

1978 - 88 : 2.8%

(2) The 1988 to 1992 Planning Commissions figures which are provisional are based on the projected assumption of an annual growth rate of 2.8%, as follows;

Year	1988	1989	1990	1991	1992
Popular	22,485,600	23,124,100	23,780,700	24,456,000	25,150,500

Source: Bureau of Statistics, "1988 Population Census: Preliminary Report".

II. Dar es Salaam Region Population

Year	1967	1978	1988
Popular	356,300	843,100	1,360,900

Remarks: (1) Average annual growth rate: 1967 - 78: 8.1%

1978 - 88: 4.9%

(2) Planning Commission has the provisional figures for 1988 to based on the projected assumption of an annual growth rate of 4.9%, as follows;

Year	1988	1989	1990	1991	1992
Popular	1,357,600	1,423,900	1,493,300	1,566,100	1,642,300

(3) Population of 3 Districts inside Dar es Salaam Region

1.	Kinondoni District:	621.4
2.	Iala District:	333.7
3.	Temeke District:	405.8
Total (DSM Region)		1,360.9

Source: Bureau of Statistics, "1988 Population Census: Preliminary Report".

2.2.4 Employment

The most-recently published data for employment on the Tanzania Mainland and in Dar es Salaam Region are presented in Table 2.5.

This information is based on the Bureau of Statistic's "Labor Force Survey" which was carried out in 1990/91. Of the total population of 22,661,000 people on the Tanzanian mainland, 10,889,200 are employed, of which 1,693,600 are employed in the urban area while 9,195,600 are involved in rural employment. Employment percentage for the total population is around 48.1%.

Employment in the Dar es Salaam Region was clarified in the "1988 Census: Regional Profile - Dar es Salaam". Population of 10 years and over and total number of employed form a close relation when compared. Out of the total population of 1,360,900 in Dar es Salaam Region, 539,800 are employed, of which 473,100 are in urban employment, and 66,700 in rural. The employment percentage to the total population for the whole region is 39.7%.

The breakdown of provisional statistics for employment in the Dar es Salaam Region are shown in Table 2.6. These figures are calculated using employment in each sector as per 1988 Census data and occupation per economic activity (1990/91 Labor Force Survey as per data). In the Dar es Salaam Region, Trade, Hotels, and Restaurants make up the largest segment of employment (157,700) followed by Public Administration and Other Services (140,500). Agriculture is the third largest segment with (130,000) employment. Percentages for employment per urban and rural are clearly indicated.

Table 2.5. Present Employment

I. Tanzania Mainland

	Item	Population
1.	Total Population	22,661,000
2.	Population 10 Years and Over	15,600,200
3.	Labor Force *1)	11,294,900
4.	Employment *2)	10,889,200

Remarks: (1) Proportion of population of individuals 10 years old and over in relation to total population: 68.8%

(2) *1): Defined as currently economically active population

(3) *2): Means the employed population out of the labor force; of which,

i. Urban Employment: 1,693,600

ii. Rural Employment: 9,195,600

(4) Employment proportion of the total population: 48.1%

Source: Bureau of Statistics, "Labor Force Survey 1990/91".

Table 2.5 Present Employment

II. Dar es Salaam Region

Unit: 1000

Area	Total Population	Population *) 10 Years & Over	Labor Force	Employment
1. Kinondoni				
- Urban	-	423.2	-	423.2
- Rural	-	40.7	-	40.7
Total (District)	621.4	464.0	-	251.5
2. Iala				
- Urban	-	231.6	-	120.3
- Rural	-	18.2	-	13.5
Total (District)	333.7	249.8	-	133.8
3. Temeke				
- Urban	-	251.3	-	128.5
- Rural	-	41.5	-	26.0
Total (District)	405.8	292.8	-	154.5
Urban - Total	1,255.9	906.1	-	473.1
Rural - Total	105.0	100.4	-	66.7
Total (DSM Region)	1,360.9	1,006.6	-	539.8

Remarks: (1) Proportion of population 10 years old and over to the total population (DSM Regional total): 74.0%

(2) Employment proportion to the total population: 39.7%

Kinondoni District: 40.4%

Iala District: 40.1%

Temeke District: 38.1%

Urban: 37.7%

Rural: 63.5%

(3) *): Total figure may differ from the sum of its components, due to rounding

Source: Bureau of Statistics, "1988 Census: Regional Profile-Dar es Salaam"

Table 2.6 Breakdown of DSM Employment, 1988

Unit: 10³

Area	Agriculture, Forestry & Fishing	Mining & Quarrying	Manu- facturing	Energy, Gas & Water	Con- struction	Trade and Hotels & Restaurants	Transport	Finance & B. Services	P. Adminis- tration and Other Services	Total
1. Kinondoni										
Urban	35.6	1.2	19.2	1.2	12.2	71.6	11.4	4.2	67.7	224.3
Rural	19.0	-	0.8	-	0.5	3.6	0.5	0.1	2.7	27.2
District:	54.6	1.2	20.0	1.2	12.7	75.2	11.9	4.3	70.4	251.5
2. Iala										
Urban	17.7	0.8	11.2	0.7	7.2	40.5	6.1	2.0	34.1	120.3
Rural	11.9	-	0.3	-	-	0.6	-	-	0.7	13.5
District:	29.6	0.8	11.5	0.7	7.2	41.1	6.1	2.0	34.8	133.8
3. Tembeke										
Urban	26.4	0.8	12.2	0.7	8.3	38.6	6.5	2.1	32.9	128.5
Rural	19.4	-	0.7	-	0.4	2.8	0.3	-	2.4	26.0
District:	45.8	0.8	12.9	0.7	8.7	41.4	6.8	2.1	35.3	154.5
Urban-Total	79.7	2.8	42.6	2.6	27.7	150.7	24.0	8.3	134.7	473.1
Rural-Total	50.3	-	1.8	-	0.9	7.0	0.8	0.1	5.8	66.7
DSM Region Total	130.0	2.8	44.4	2.6	28.6	157.7	24.8	8.4	140.5	539.8

Remarks: Each figure is the aggregate of employment distributed in the area; calculated using the employment by occupation (1988 Census data) and occupation by economic activity (1990/91 Labor Force Survey data; after minor adjustment).

2.3 Existing Urban Trend

Medium to low density, private residential development is taking place northward between Bagamoyo Road and the coast and westwards along Morogoro Road. Lower standard, unplanned, development tends to spread south and west of the city. In addition larger concentrations of informal, settlements are located in these areas as well.

The 1979-1999 Dar es Salaam Master Plan anticipates a target population of 2,368,000 by the year 1999. The Urban Sector Engineering Project, prepared by COW Consult in 1992 however, projects that the population of Dar es Salaam will be about 2.1 million by the year 2002. The actual 1992 population of the city was estimated at about 1.6 million. Thus, between 1992 and year 2002 an existimated population of an additional 500,000 inhabitants will need to be settled in Dar es Salaam (DSM).

As contained in the 1979 Dar es Salaam Master Plan, the Government Policy for future growth is to develop the Kigamboni area for a population of approximately 265,000 inhabitants.

In addition, about 500 hectares of industrial land (of which about 200 hectares is for port related facilities) was planned for development.

With current rapid, residential development taking place along the Coastline South of Kigamboni and beyond Mjimwema, the district has the potential to accommodate a population of 400,000 to 500,000 inhabitants.

Because of its geographical proximity to the city center and to the harbor, Kigamboni is a viable alternative for development of residential, industrial and commercial facilities in Dar es Salaam.

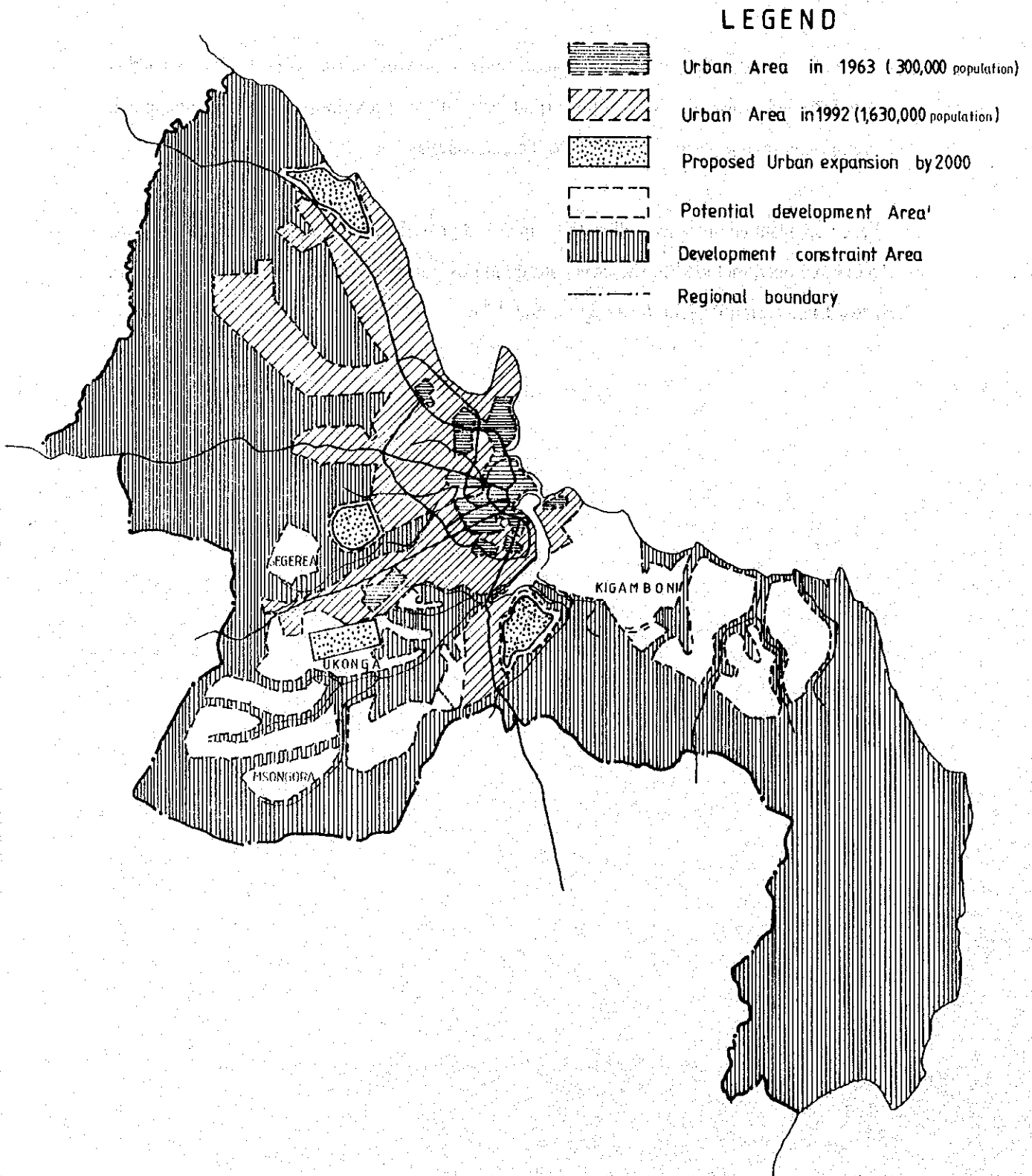
However, development of Kigamboni will be enhanced by efficient bridge crossing, transgressing the Mzinga Creek and if possible additional bridge crossings taking the place of existing ferry crossings.

New areas have been planned for medium density residential development in the south at Mbagala, off the Kilwa Road, and westwards at Tabata off the Nelson Mandela Road.

An area for heavy industry is planned at Kitunda, southwest of the Airport. A new road is needed to link this area with Pugu road as well as providing access for residential development taking place at south of the Tazara Railway line.

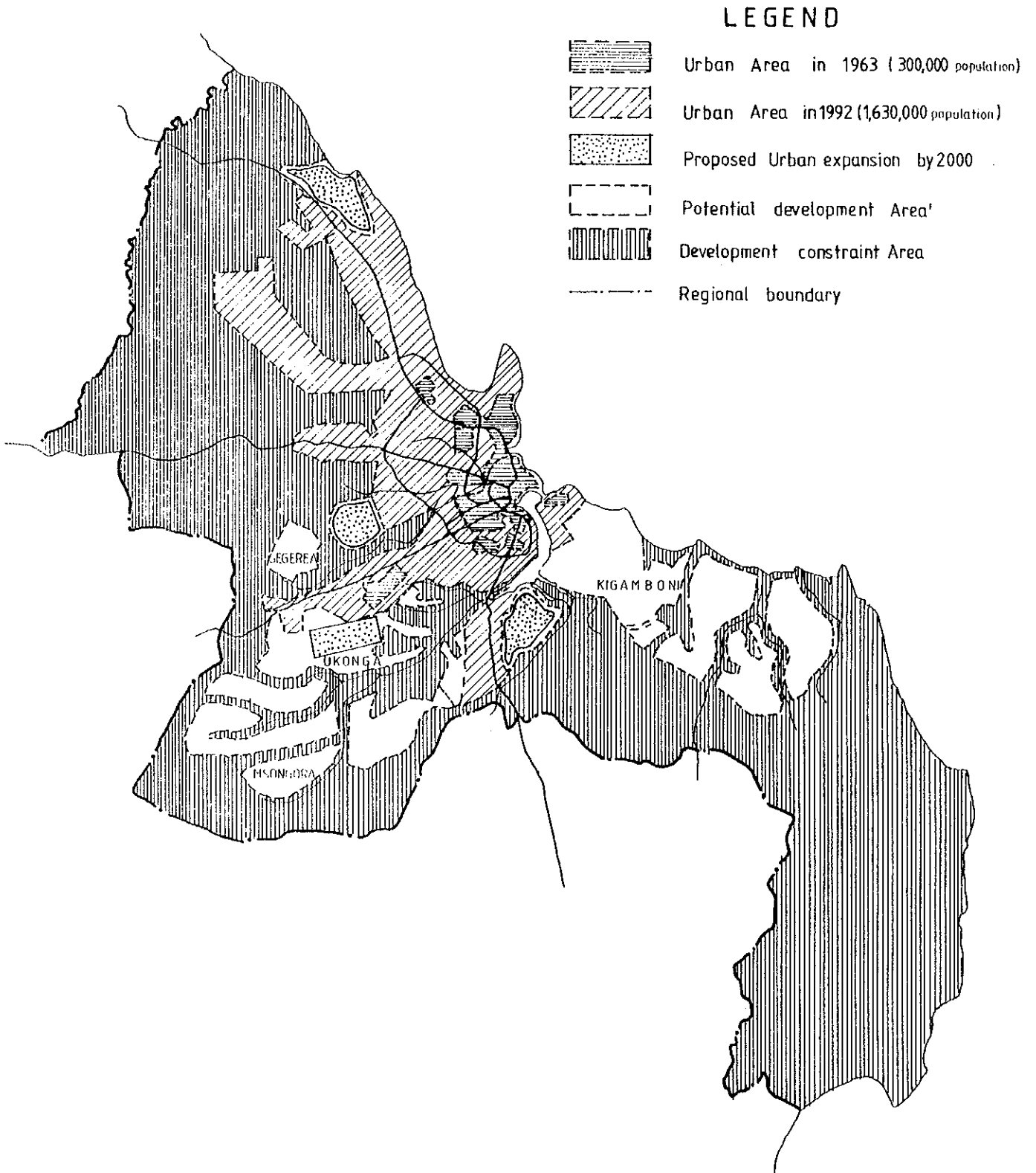
These new planned areas as well as the unplanned growth along Bagamoyo and Morogoro Road have been included in the conceptual land use plan for 2002 proposed in the Urban Sector Engineering Project. (see Fig 2.1 and 2.2).

Fig. 2.2 Potential Area for Future Urban Development



5km 0 5 10 15 20 km

Fig. 2.2 Potential Area for Future Urban Development



5km 0 5 10 15 20 km