FOREWORD

Historically, Iringa was established as an administrative centre for the southern highland regions of Tanganyika during the German Colonial rule. While its resource base has remained almost the same, the economic base has transformed significantly from agro-based processing to education and tourism. From the 1960s, Iringa used to be an industrial centre for maize processing vegetable and fruit canning, diamond cutting, tobacco processing, cotton ginning and production of soft drinks. Most of these industries collapsed in the 1980s following the world economic recession that was precipitated by the rise in fossil fuel prices and structural adjustment programmes. It was until the 1990s when higher learning institutions started to locate in Iringa that the economy of the town re-emerged. The resurgence of the economy has been accompanied with the booming population resulting into a number of challenges. These include; the rapid growth of unplanned settlements, depletion of forest resources along mountain slopes, limited number of surveyed and serviced land and deteriorating buildings and infrastructure both in the central business district and peri-urban areas.

The preparation and completion of this master plan is a timely endeavor that will not only address these challenges but also provide a framework for charting out courses of action and formulating programmes and projects to realize the vision of the municipality. Becoming a centre of education excellence and tourism for the southern highland circuit as a vision of the municipality complements well with the immediate resource bases namely; the Ruaha and Udzungwa National Parks, tourist attraction sites and many tertiary education facilities that have been established in Iringa municipality. The proposals for infrastructure improvement including the railway link between Makambako and Dodoma via Iringa, by-pass roads, Airport expansion, and development of satellite towns and designation of ten percent of the municipal developable land for industrial uses provide a catalytic base for transforming the economy of Iringa consistent with the national strategy of realizing an industrial – based economy. This Master Plan should therefore serve as a tool for harnessing these potentials with a view of contributing towards improved living standards of the people.

In view of the foregoing, I commend the Iringa Municipal Council, not only as a Planning Authority but by venturing into Master Planning exercise amidst scarce human and financial resources. I wish to recognize and commend the contribution of all stakeholders who facilitated the realization of this Master Plan. These include; the World Bank, the Ministry of Lands, Housing and Human Settlements Development, the Iringa Region Administrative Secretariat, the Technical Team, Public and Private Institutions and individuals. I remain hopeful and optimistic that this Mater Plan will be fruitfully used to spearhead the social, economic and 1environmental development of Iringa Municipality.

William V. Lukuvi (MP)

Minister for Lands, Housing and Human Settlements Development

Tanzania

Date 30th June, 2017

MASTER PLAN APPROVAL

I, **Prof. John M. Lupala**

Director of Urban Planning by virtual of powers vested in me under section 12(4) of the Urban Planning Act No. 8 of 2007 DO HEREBY approve:

The Iringa Master Plan (2015-2035)

Signature

Date 30th June, 2017

ACRONYMS

AEZ	Agro Ecological Zone
CBD	Central Business District
CBOs	Community Based Organizations
CTC	Care and Treatment Centre
EMS	Electronic Mails Services
FBOs	Faith Based Organization
GDP	Gross Domestic Product
GN	Government Notice
HBC	Home Based Care
HIV	Human Immune deficiency Virus
AIDS	Acquired Immune Deficient Syndrome
IMC	Iringa Municipal Council
IRUWASA	Iringa Urban Water Supply and Sanitation Authority
KIUMAKI	Kikundi cha Utunzaji Mazingira cha Kihesa-Kilolo
LGAs	Local Government Authorities
MLHHSD	Ministry of Lands, Housing and Human Settlements Development
MUCOS	Moshi University College of Cooperative Studies
NBS	National Bureau of Statistics
NGO's	Non- Government Organizations
PHCI	Primary Health Care Institute
PITC	Provider Initiated Testing and Counseling
PMTCT	Prevention of Mother to Child Transmission
RPC	Regional Police Commanding Officer
RUCU	Ruaha Catholic University
STI	Sexually Transmitted Infections
SUDP	Strategic Urban Development Plan
SURP	School of Urban and Regional Planning
TANESCO	Tanzania Electric Supply Company
TANROAD	Tanzania Roads Agency
TANZAM	Tanzania Zambia Highway
TBS	Tanzania Bureau of Standards
TTCL	Tanzania Telecommunications Company Limited
UDEM	Urban Development and Environment Management
ULGSP	Urban Local Government Strengthening Programme
VCT	Voluntary Testing and Counseling
VETA	Vocational Education Training Authority
VMMC	Voluntary Medical Male Circumcision
THMIS	Tanzania HIV/AIDS and Malaria Indicators Survey
NMB	National Microfinance Bank
NBC	National Bank of Commercial
GRN	Great North Road
MOEVT	Ministry of Education and Vocational Training

ACKNOWLEDGEMENT

The preparation of Iringa Master Plan 2015-2035 would not have been possible without valuable contributions of various stakeholders. In this regard, the Technical Team would like to extend our heartfelt gratitude to the following:

The World Bank for funding the preparation of this master plan through the Urban Local Government Strengthening Programme (ULGSP); The Ministry of Lands, Housing and Human Settlements Development (MLHHSD) for the unweathering material and human resources support, we would like to particularly thanks : Hon. William Lukuvi (Minister for Lands, Housing and Human Settlements Development), Dr. Angelina Mabula (Deputy Minister), Dr Yamungu Kayandabila (Permanent Secretary), Dr. Moses Kusiluka (Deputy Permanent Secretary) and Prof. John M. Lupala (Director of Rural and Town Planning). We enjoyed the technical support from the Ministry's staff namely; Mr. Amulike Mahenge, Mr Nzori Kinero, Mrs. Bertha Mlonda, Mr. Dioscory Kanuti, Mr. Gabriel Luvanda, Mr. Raphael Nemes, Mr. Mackdonald Mshana, and Mr. Mapambano Baseka. We further extend our appreciation to the Dean of the School of Urban and Regional Planning (SURP) of Ardhi University for attaching students to work Iringa with the team of experts during data collection phase.

We are grateful to the Iringa Regional Commissioner Hon. Amina Masenza; Iringa Regional Administrative Secretary, Ms. Wamoja Ayubu; Iringa District Commissioner, Hon. Dr. Richard Kasesela; Iringa Urban Constituency Member of the Parliament, Hon. Rev. Peter Msigwa for their efforts, support, guidance, cooperation and encouragement. We feel indebted to Officials of Iringa Municipal Council, Iringa Municipal Councilor Ward Executive Officers, Sub-Ward Leaders and all residents of Iringa Municipality for creating a conducive working environment and providing us with relevant data.

It is not easy to mention everyone who facilitated or participated in one way or another during the preparation of the Iringa Master Plan, each one's contribution is highly appreciated.

Hon. Alex Boniphace Kimbe

Mayor Iringa Municipal Council

EXECUTIVE SUMMARY

Iringa Master Plan is a general planning scheme aimed at guiding and control land use development in the Iringa Municipality for the period of 20 years from 2015 to 2035. Master plan is a comprehensive plan that covers all sectors of human development. Iringa Municipal is the headquarters of Iringa Region; it accounts for 1percent of the total land area and contributes 7.6 percent to the regional GDP. The per capita income of the Municipal residents in 2008 was estimated to Tshs. 429,440.

According to the 2012 Population and Housing Censuses Iringa Municipality has population of 151,345 with growth rate of 1.5 percent per annual. To forecast the population for Iringa Municipality for the purpose of this master plan, average annual population growth rates of 1.5 percent per annum (as per Population and Housing Census, 2012) and 4.6 percent (as an estimated growth rate of urban town in the country – UN, World Organization Prospects, 2010) have been used. Thus, in totality the projected Municipality population within the planning period will be 349,895 people-a figure which will be used in all planning aspects including land requirements for the purpose of this master plan.

In terms of infrastructure, Iringa Municipality has 50.9 kilometres of trunk road; 8.9kilometres of Districts roads and access roads (arterial and collector) connecting neighbourhoods, services and workplace comprising the entire road network in Iringa Municipal which is 357.51kilometres. The road categories managed by Iringa Municipal Council are 16.57kilometres tarmac, 103.71kilometres gravel and 237.23 earths, out of which 86.56 percent are passable throughout the year. The water distribution network comprises distribution tanks and water pipe networks. There are 13 distribution tanks of which 372.5kilometres are pipe network and 43.35kilometres of a sewerage network. This water network covers 95 percent of the total population.

The Purpose of the New Iringa Master plan is to coordinate sustainable development of the area for which it is related in order to promote health, safety, good order, amenity, convenience and general welfare of Iringa Municipality as well as efficiency and economy in the process of such development. In that regard, the scheme ensures suitable spatial development provision for transportation, public purposes, utilities and services, commercial, industrial, residential and recreational areas including Parks, open spaces, agriculture and reserves. Preparation of this Master plan started in the 2013/14 financial year in accordance with the stipulated procedure. The Council decided to utilize its own staff and technical support from MLHHSD. The plan draft was ready by April, 2016 for dissemination and stakeholder's inputs. .

The report is organized in 12 chapters as follows: Introduction, demography, economy and employment, existing land use, housing and residential development, social and community facilities, public utilities, transport transportation and communication, summary of problems, goals objectives and the urban concepts, planning proposals, policies and recommendations and planning implementation, costing and development phasing. Data were collected from all sectors with support by heads of departments and sections. The collected social economic data were analysed and a report of a Municipal Profile was prepared.

The Master plan is expected to give guidance for orderly Municipality development for socio-economic, urban economic advancement and poverty reduction for better livelihood of residents for the period of 20 years. The main assumption of the plan is that Iringa Municipality is going to grow at a rate of 1.6percent or above per year. The 2015-2035 Master Plan entails the use; Council's vision and mission; findings of the existing situation (SWOT analysis); planning parameters; basic assumptions; national and international programmes; population projection and conceptual growth models.

The Plan intends to enable Iringa Municipality to become a centre for higher learning institutions industrial base and centre for tourism industry in the Southern highlands zone. That means the most flourishing and prosperous Municipality in the Southern highlands zone, and the national at large to offer plenty opportunities for employment and promising economic development to attract people to come to live, invest and work. The plan has proposed development/ establishment of three new satellite towns/centres at Nduli, Mkoga and Igumbilo. These concepts entails keeping the existing built up area (existing central area/urban core) as a focal settlement to be surrounded by satellites. The satellite town development concept will give Iringa Municipality new urban structure which minimise the social disturbance of residents living in the periphery of the Municipality and maximise the provision of basic services for their betterment. Each Satellite town is conceived as a self-sufficient settlement to enhance provision socio-economic facilities and services as well as limiting the urban sprawl. The overall goals is to facilitate realization of planned urban development within the context of a 'new towns within the town' and promote enhanced utilization of inherent potentials found within municipality and use it to its advantage to promote development and balance in all areas. These concepts entails keeping the existing built up area (Central area/urban core) as a focal

settlement to be surrounded by satellite towns.The implementation process of the Plan is expected to be flexible to accommodate any pressing need/changes that might occur over the planned period. The implementation of the plan required Stakeholder's participation and commitment especially for the Iringa Municipal authority and all stakeholders including the residents.

Dr. William D. Mafwere

Municipal Director, Iringa Municipal Council

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CHAPTER ONE

1.0 INTRODUCTION

Iringa Municipality is one of the urban centres that reveal notable social economic and physical growth within the southern highland Zone of Tanzania. It has annual growth rate of 1.5 percentages and actual population growth has increased one time. For example while in 1988 the population was recorded to be 88,088 this figure increase to 117,469 in 2002, in the 2012 census report the population of Iringa Municipality was recorded to be 151, 345 present estimates (2015) reveal a population of 158,155 similarly the spatial extent of the built up area increase from 995 hectares in 1961 to 162 hectares in 1978 the last Master Plan for Iringa Municipality was prepared in 1980. The Iringa Master Plan (1980 – 2000) was expected to a tool for guiding the growth of Iringa; cope with the changing environment without the changing political context. Given the fact that the time horizon for a master plan is 20 years the legitimacy of this plan come to an end in the year 2000. These growths trends that were taking place in absence of a master plan contribute to the notable informal land development in Iringa and unguided investments in land related economic activities.

The preparation of this Master Plan is an initiative that aims at revisiting the previous plan. This Master Plan will enable the Municipal Council to formulate a more feasible and effective strategies that will provide a basis for efficient resource allocation improve services delivery and certainty over investment. It is anticipated that, this master plan will be used as a tool to guide the socio – economic and physical growth of Iringa Municipality.

Therefore, the realization of this Master Plan is considered as a timely initiative that aims at triggering sustainable local economic development and orderly spatial development of Iringa. The effort to prepare this master plan required a systematic decision making process with multi stakeholder involvement from the local to the national level. This Master plan will facilitate a systematic decision making process because it direct efforts on relevant issues which have been given priority by stakeholders. It is therefore, safe to state that this Master Plan will not only provide a general frame for land based investment can also act as a tool for priority setting but also to choose and allocate scarce resources to achieve the agreed objectives, vision and mission of Iringa Municipality.

Currently the Vision of the Iringa Municipal Council is “to aspire a better and sustainable Living standards to its residents”, while its Mission is “to collaborate with their stakeholders to facilitate efficient and effective provision of sustainable socio-economic services to its residents”

1.1 GEOGRAPHIC SETTING

1.1.1 National Setting

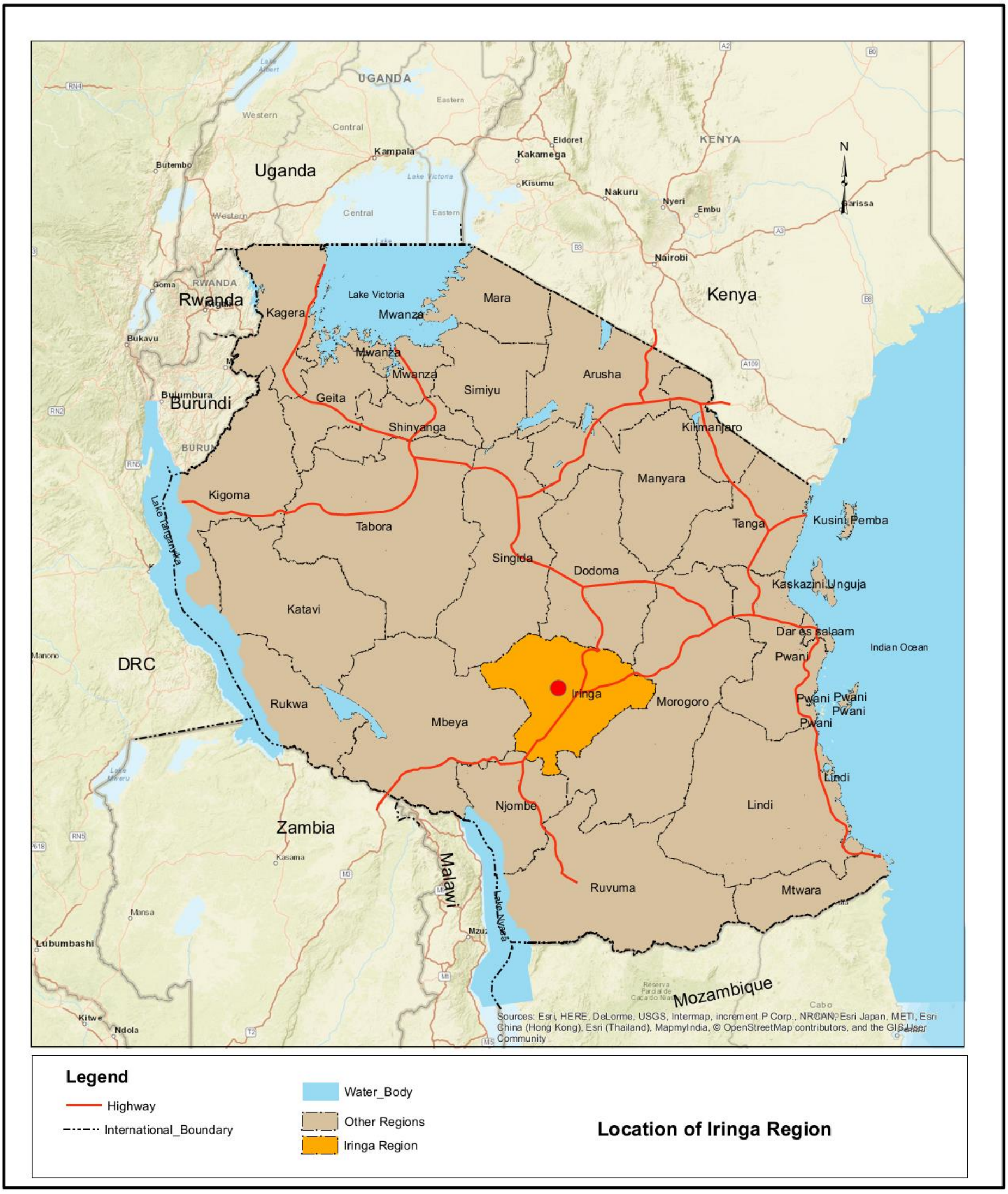
Iringa region is located in the South-West part of Tanzania with Iringa Municipality as its Headquarters. It lies between 7^0S and 11^0S of latitudes and between 34^0E and 37^0E of longitudes; Iringa region shares its borders with Singida and Dodoma in the North, Morogoro to the East, Njombe to the South, Mbeya and Singida to the West region. Iringa region covers a total area of 35,743 square kilometres of which 2,704.2 square kilometres or 7.6 percent is covered by water bodies. The water bodies covering the surface include Mtera Dam, the little and great Ruaha rivers. The remaining area of 33,038.8 square kilometres is terrestrial land see table 1.1.

Table 1.1: Distributions of land surface and water bodies

LGA	Land Area		Water Area		Total Areas	
	Sq. Kilometres	Percent	Sq. Kilometres	Percent	Sq. Kilometres	Percent
Iringa DC	19,735.48	59.7	678.50	25.1	20,413.98	57.1
Mufindi DC	6,177.00	18.7	946.00	35	7,123.00	20
Iringa MC	329.7	1.0	1.70	0.1	331.40	0.9
Kilolo DC	6,796.62	20.6	1,078.00	39.9	7,874.62	22
Total	**33,038.80**	**100**	**2,704.20**	**100**	**35,743.00**	**100**

Source: National Bureau of Statistic, 2013

Map 1.1: Iringa Region: National Setting



1.1.2 Regional Setting

Iringa region is composed by three districts which include: Iringa, Mufindi and Kilolo districts. Also it has five Local Government Authorities which include: Iringa municipal council, Iringa district council, Kilolo district council, Mufindi district council and Mafinga town council. Iringa Municipality rises up to the hilltops above Little Ruaha River to the South and spreads along ridges and valleys to the South. Iringa municipality is situated on a plateau that ranges from 1,560 metres to 2,000 metres above sea level. A significant geological feature includes numerous steep, rocky hills that break off the landscape and the Little Ruaha River that runs through the Municipality. It lies at the crossing of Longitudes 35º6" East of the Greenwich Meridian and Latitude 7º7" South of the Equator. Map 1.2 Shows the Location of Iringa Municipality within the Region.

1.1.3 District Setting

Iringa District has two Local Government Authorities which are Iringa Municipal Council and Iringa District Council the jurisdiction of these two Local Authorities share a common border with Iringa District council to the North, West and to the South where Kilolo District Council lies to the East (map 1.3)

1.1.4 Municipal Setting

The Planning Area, Iringa Municipality has one division with 18 wards and 192 Sub-wards (Mitaas). The Wards forming Iringa Municipal Council include: Kihesa, Mkwawa, Mwangata, Kitwiru, Ruaha, Mtwivila, Ilala, Makorongoni, Mivinjeni, Kitanzini, Mshindo, Gangilonga, Isakalilo, Nduli, Kwakilosa, Igumbilo, Mkimbizi and Mlandege.

The size of the wards and population therein vary significantly. The most populated wards are those constituting the central Business District (Ilala, Makorongoni, Kwakilosa, Mshindo, Mivinjeni, Kitanzini, and Mlandege). Population density decrease as one move outside the CBD similarly the spatial extent in terms of land coverage increases as one move from the inner city to (CBD) wards to the periphery. The built up area of Iringa has increased with time while in 1980 the extent of the built up area was limited to 162,000 hectares. By 2015 this area has expanded to cover 331,400 hectares. Rapid growths takes place in the peripheral wards of Igumbilo, Kitwiru, Mkimbizi, Mkwawa, Nduli, Mwangata and Isakalilo

1.2 HISTORICAL OF IRINGA MUNICIPALITY

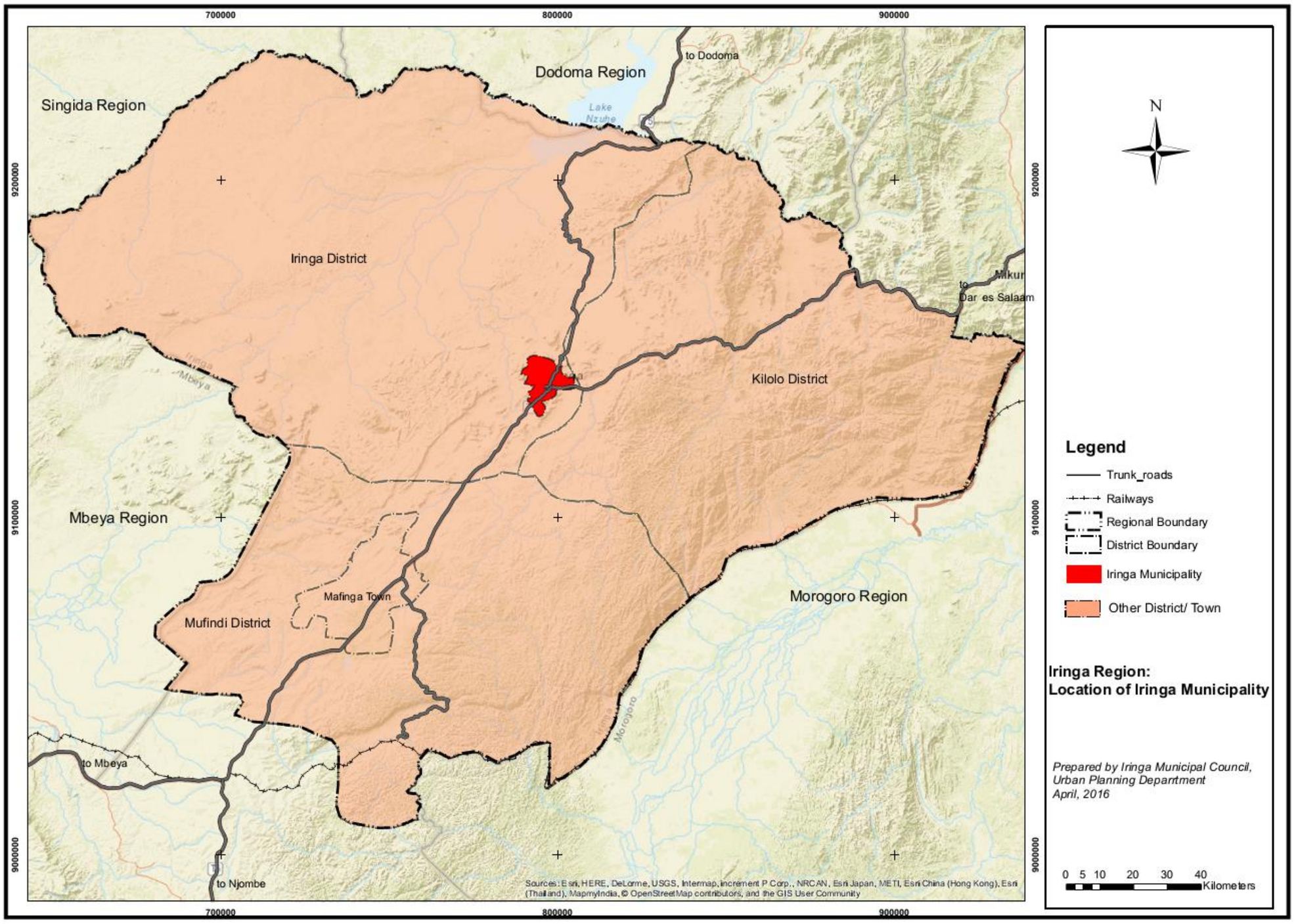
Iringa Town was established by the Germans in the 1890s as a defensive base against the Hehe uprising that was led by Chief Mkwawa. The Germans strategically selected the present site of Iringa at the elevated hill top a bit far from the Hehe ethnic fortress of Kalenga after conquest of Chief Mkwawa. Following the defeated of Chief Mkwawa they destroys his "Lilinga" (the fort) on 30th October, 1894 (Iringa was derived from Hehe word "Lilinga" meaning "fort"). Throughout the Germany and British colonial rule it remained as an administrative and strategic settlement. After independence the town retained its administrative role, but assumed other functions including industrial and commercial centre. Iringa was elevated into Township Authority in 1956 and Municipality in 1988.

It was until 1950's and 1960's that Iringa town started to grow rapidly. The sudden growth in the 1950s was triggered by maize boom in Isimani some 48 Kilometres north of the town that attracted individuals to invest part of their income from maize into the town. It was during this time that Kihesa, Mwangata and part of central areas of the town were extensively built. The fact that these areas were outside the township boundaries they developed as unplanned settlements exist as oldest informal settlement of Iringa.

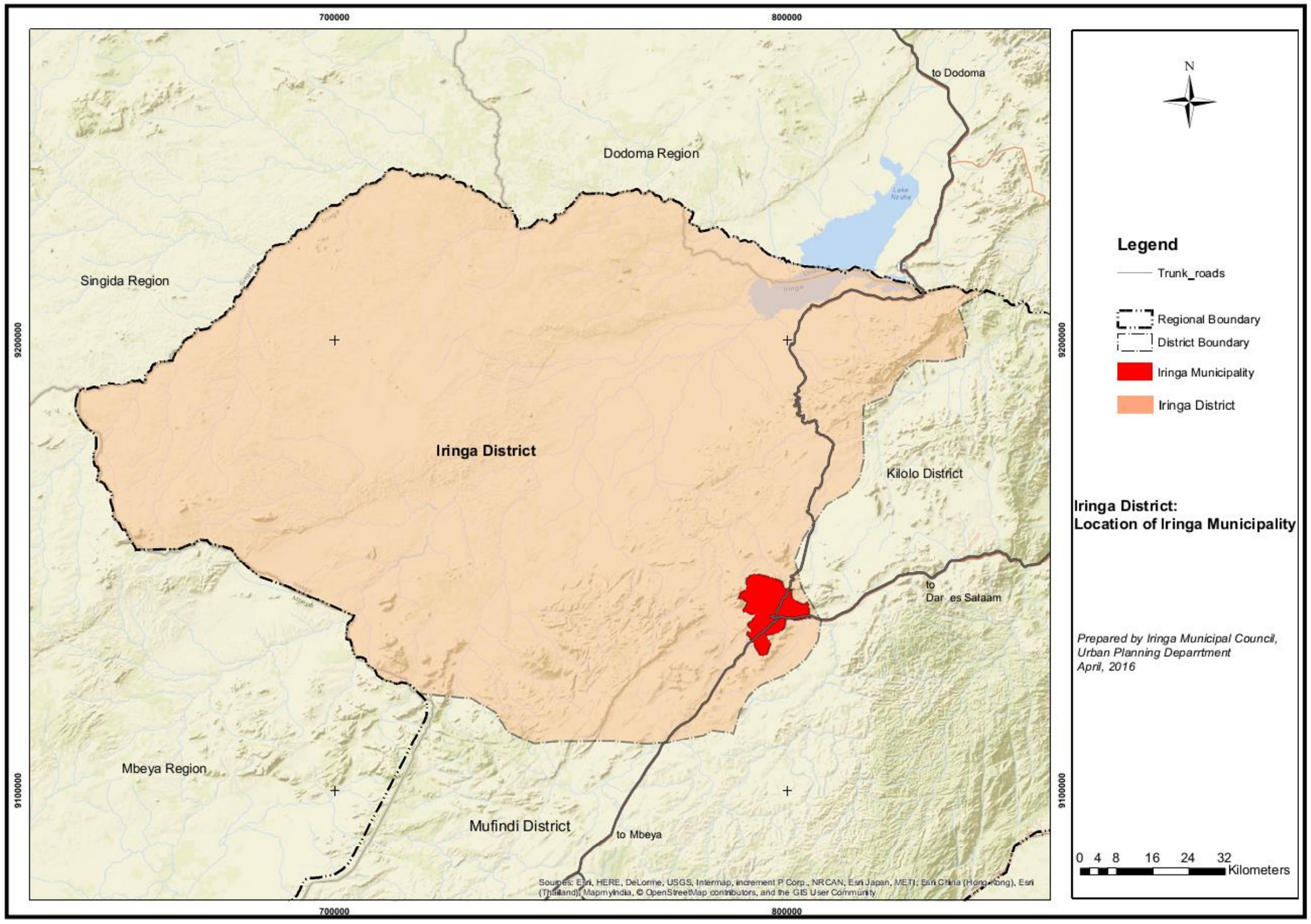
The completion of the TANZAM Highway in the early 1970s acted as another catalyst for the growth of Iringa town. This growth culminated into development of Ndiuka, Ipogolo and Kibwabwa unplanned settlements and a number of small and medium scale industrial enterprises along the highway. In the 1970's, industrial establishments included the Diamond Cutting Factory, VacuLug tyre tractors, Tobacco Parking and Storage, Coca-Cola Bottlers, the Dabaga fruit and vegetable canning, the National Milling Company and Cotton ginning factory these industrial establishments attracted a number of people from within and outside Iringa by providing employment.

Like many urban centres in Tanzania, Iringa town has been experiencing both formal and informal growth intensifying the need for extensions of the township boundaries. Today the town extends in dispersed manner with the CBD as the most densely developed area. The dispersed linear mode of development has been one of the greatest obstacles to strife for urban concept or development and equitable distribution of community facilities

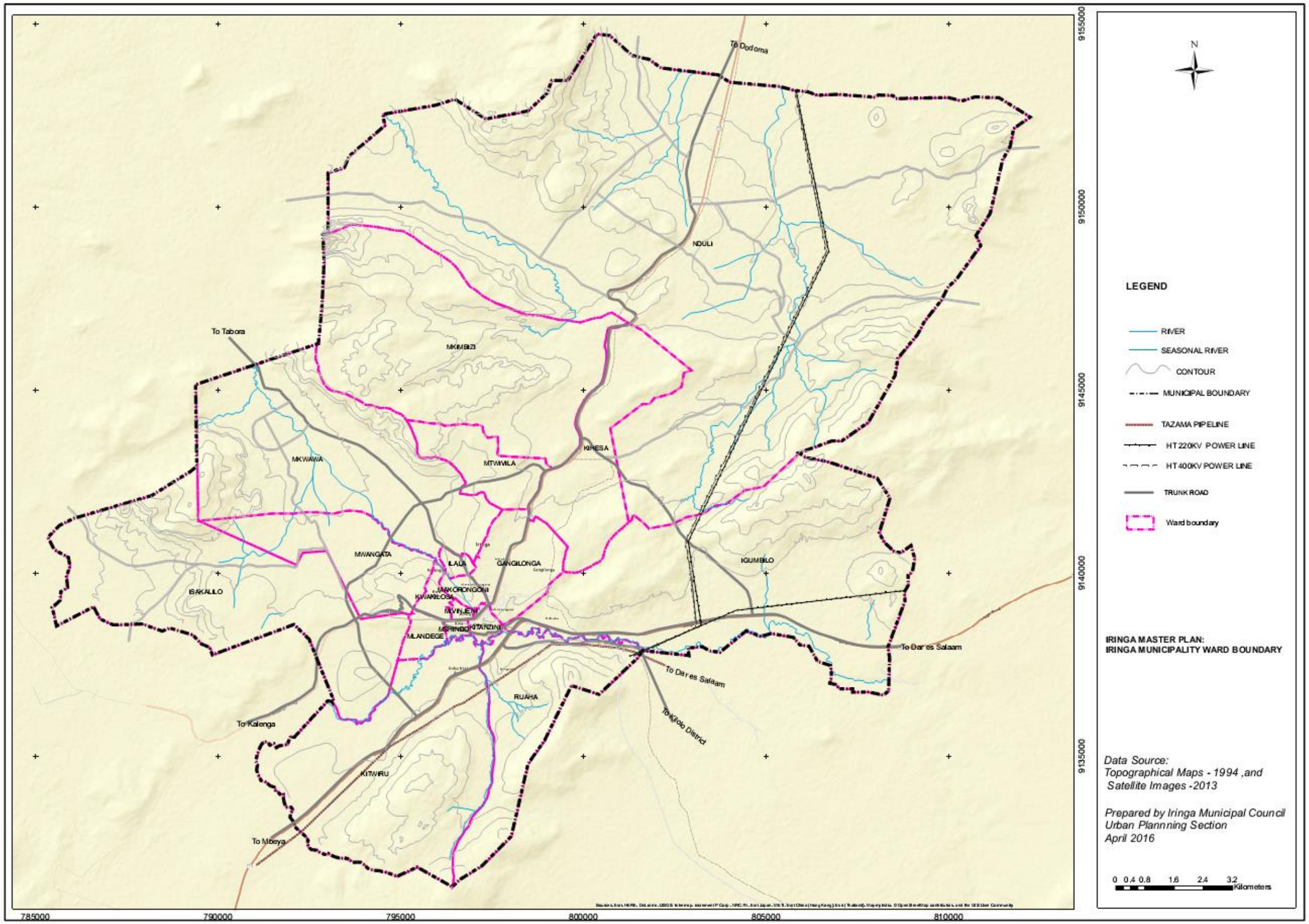
Map 1.2: Iringa Municipality: Regional Setting



Map 1.3: Iringa Municipality: District Setting



Map 1.4: Iringa Municipality: Ward Boundaries



1.3 JURIDICTION: ADMINISTRATIVE SETTING

Iringa Municipal Council was established in 1988 according to Local Government (Urban Authorities) Act. No. 8 of 1982, Cap 288 RE 2002 section 9 &10. Administratively Iringa municipality has one division, 18 Wards and 192 Sub ward (Mitaa). The municipality has one (1) Parliamentary Electro constituency and the Council has the role of facilitating activities related to social service delivery in its area of jurisdiction such as conducive environmental for investment at various levels of the municipality.

1.3.1 Administrative setup of Iringa Municipal Council

Iringa Municipal Council Organization structure consists of the three main levels namely the Full Council, the Ward Development committee (WDC) and the Mtaa Council Government (MCG). At the top of the council is the Full Council, which is the overall body in charge of policy making and strategy formulation. The Municipal Director (MD) who is an overall in charge of the council's management and secretary to the Council. He/she is an Accounting Officer, assisted by legal officer and all head of departments in running the day to day undertakings (figure 1)

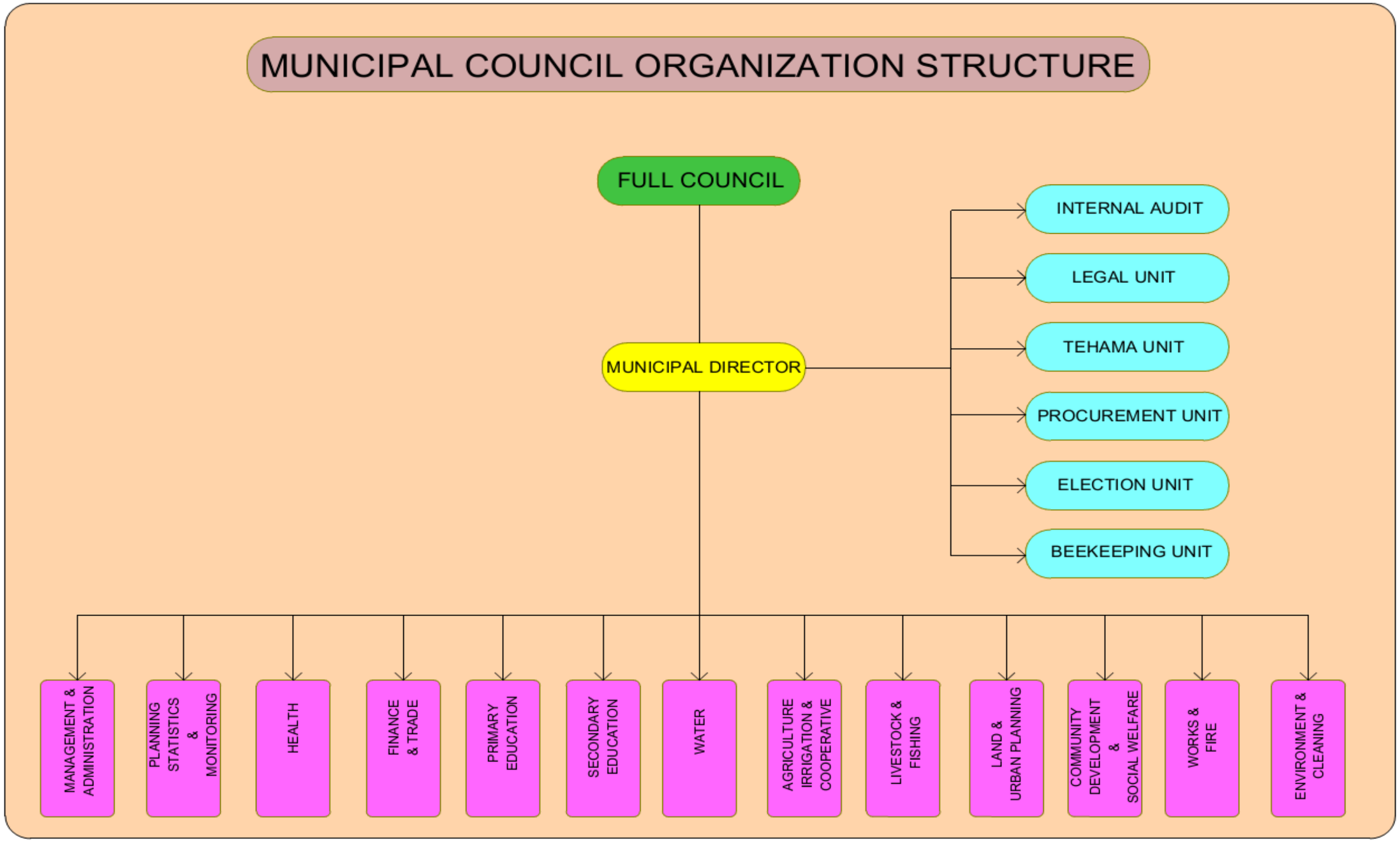
Main duties of council to its area of jurisdiction are:

i) To formulate, co-ordinate and supervise the implementation of all plans for the economic, commercial, industrial and social development in its area of jurisdiction;
ii) To monitor and control the performance of the duties and functions of the council by departments of the council and its offices and staff
iii) To ensure the collection and proper utilization of the revenues of the council;
iv) To make by-laws applicable throughout its area of jurisdiction
v) To regulate and monitor the collection and utilization of revenue of Ward and Mtaa level.

The Council has four standing committees which carry out some duties on behalf the full council. These committees are:

i) Finance and administration
ii) Economic affairs, health and education
iii) Urban planning and environment
iv) The HIV/AIDS committee

Figure 1.1: Administrative Structure



1.4 PHYSIOGRAPHIC FEATURES

The physiographic features of Iringa Municipality comprised of East – West escarpment which is part of the Southern highland ranges and the steep slopes to the South which falls into the Little Ruaha valley. The Northern circuit is characterized by gentle sloping lands punctuated by hill tops and ranges. The same physiographic environment is depicted by to the east towards Ilambilole and Igumbilo hills. The hills are rocky in character and with steep slopes ranging between 12.5 percent and 25 percent. These include Kitwiru, Lugita/Luhota ranges, Isakalilo and Chautinde, Kigonzile and Mapanda near Nduli airport. In the past the hills were covered with miombo trees over the years, these trees were cleaned as fuel wood for charcoal to the growing population of Iringa.

1.4.1 Topographic and Drainage

The general topography of the low lying land of Iringa Municipality is relatively homogeneous with gentle plains intersected by seasonal streams. Most of the Municipality land lies between 1,560 and 2,000 metres above sea characterized by two main features. The first is the central part of the town situated on the East – West escarpment, which forms the core of built up area and the steep slopes to the east that fall into the Little Ruaha valley. The second feature is the hard rock hills scattered throughout the jurisdictional area but more noticeable at in Ipogolo, Kalenga, Wilolesi, Kihesa, Ugele, Mafifi, Isakalilo, Kitwiru and Mkimbizi areas.

There are three main streams with several tributaries, which form a number of alluvial flood plains. The Little Ruaha River supplements the ever increasing demand of water supply for both industrial and domestic purposes in the Municipality. The River receives water from two streams of Hoho and Kigonzile in the west and the north-eastern party of the Municipality.

1.4.2 Soils and Geology

The Municipality land surface is covered by loam, sandy loam and alluvium soils. The soils vary between red lateritic earth grey sand to silt hardpan and iron crust “mbuga’ along Little Ruaha River. These soils are highly fertile and suitable for a wide range food and cash crops, therefore, have the potential for profitable agriculture.

1.4.3 Rainfall

The altitude plays a significant role to the climatic conditions of Iringa Municipality. Temperatures are relatively low throughout the year. The mean annual temperature is about 19ºC. The coolest months of the year are June and July with average temperatures ranging of 11ºC and 22ºC. By contrast, December is the warmest month of the year with temperatures rising ranging to 15ºC-28ºC. Iringa Municipality has only one rainy season, which is usually from December to May. Annual average rainfall is about 600mm. The seasonal rains range between December and May every year. The rains are usually reliable and favours agriculture. (Table 1.2)

Table 1.2: Annual rainfall trends from 1997 to 2015 Iringa Municipality

SEASON	RAINFALL (mm)	DAYS
1997/1998	1209.8	**87**
1998/1999	761.2	**54**
1999/2000	451.9	**47**
2000/2001	957.3	**64**
2001/2002	848.8	**77**
2002/2003	565.7	**53**
2003/2004	712.5	**67**
2004/2005	722.9	**67**
2005/2006	504	**58**
2006/2007	682.3	**60**
2007/2008	604.2	**65**
2008/2009	671.7	**64**
2009/2010	629.7	**71**
2010/2011	582.2	**69**
2011/2012	483.5	**47**
2012/2013	577.2	**36**
2013/2014	768.74	**64**
2014/2015	546.10	**64**

Source: National Bureau of Statistics (NBS), 2013

1.4.4 Humidity and Wind

The speed of wind in Iringa Municipality 7.1 kilometres per hour often blows between September to February. The air is relatively calm and as result, pollutants discharge into air remain in the layer especially within nearby housing areas. High speedy winds blow at about 10.2 kilometres per hour during

the month of March to August, hence cleaning much of polluted air in the environment. Winds and humidity of Iringa municipality is influenced by various landforms which is predominantly hilly and undulating topography. These highlands are found Gangilonga, Kigonzile, Mawelewele, Wilolesi, Mafifi, Chautinde and Luhota.

1.4.5 Forest and Vegetation

Forest reserves in Iringa Municipality are mainly located on hills such as Mapanda, Luhota, Mgongo, Wilolesi, Mafifi, Nduli, Igumbilo, Ilala, Mkimbizi, Chautinde, Kigonzile, and Hoho and other areas along Ruaha River valley. Forest and vegetation are estimated to cover about 9,729.5 hectares. About 8,491.2 hectares constitute Miombo ecosystems and the rest is riverine forests (Map 1.5)

1.5. PREVIOUS PLANS

1.5.1 Review of Previous Plans and Projects

There are several plans and projects that were prepared and implemented to guide the physical development of Iringa Municipality. The first one is the Iringa Master Plan (1980 – 2000). This plan was prepared in 1978 and approved by Director of Urban Planning in 1980. It covered an area of 162 square kilometres.This plan was implemented by almost 80 percent with where by 148 Town Planning Drawings were prepared within the planning area. Several uses that were designed in these drawings include; residential, commercial residential, green belts, hills, forest reserves, commercial, service industries, heavy industries, light industries, agricultural, open spaces, public uses and educational facilities.

The second plan was the Strategic Urban Development Plan (SUDP) 2006 – 2016). The main objective of Iringa SUDP was to enhance the environment, infrastructure and improve the capacity of staff to implement the formulated projects. This plan was prepared under the project that was implemented through the financial support from DANIDA. The project that started in 1996 and end in 2006 included other several sub-projects such as construction of solid waste collection points, provision of skip buckets, and construction of solid waste dumping site. Construction of storm water drainages in unplanned settlements Mawelewele, Kibwabwa and Makanyagio.

The thrird was the Urban Development and Environmental Management (UDEM) programme 2006-2009 aimed at improving environment and providing conducive environment for private sector (business entities) to participate in the implementations of various projects. These projects included; construction of market in Kihesa, Kitanzini and Kitwiru areas and capacity building of several groups that were engaged in environmental protection such as protection of hills and mountain reserves. This initiative culminated into protection of natural vegetation of various hills of Iringa and protection against soil erosion.

The fourth is the Iringa Central Area Redevelopment plan of (2002- 2017) whose preparation started in 1996 and its implementation started in 2002. This plan covered the wards of Kitanzini, Mshindo, and parts of the Mivinjeni, Kwakilosa, Makorongoni and Gangilonga. The total area covered by the CBD plan was of 212 hectares. The main objectives of this plan was to maximize utilization of high valued by replacing dilapidated building with modern one, provide adequate services and efficient circulation system within the central area of Iringa Municipality. To create conditions for safe, comfort and efficient circulation of vehicles and pedestrian.

Even though several attempts have been made to prepare plans as tools for guiding the socio – economic and physical growth of Iringa Municipality; these initiative were challenged by inadequate allocation of financial and human resources. Therefore, these plans could not be fully implemented. Some of the aspects needed financial resources to cover issues of compensation for land acquisitions, funding infrastructure improvement projects and provision of public services.

Another challenge that slowed the pace of implementation of these plans was the collapse of various industrial establishments in Iringa municipality. The closed of Diamond Cutting Factory, Vacw Lug Tyre tractors, coca cola and cotton fibers culminated into laying off substantial number of employees who were working with these industries. The collapse of industrial establishments had a significant impacts on the economic base of the municipality especially on revenue collection that was required to implement various project by the municipality. The pace of development of many neighborhoods was rather slow. This trend prevailed in the 1980's and 1990's. It was until late 1990's when numbers of tertiary education facilities were being established that the economic growth also started to grow. These institutions include the Ruaha Catholic University (RUCU), Iringa University, The Mkwawa University College of Education (MUCE) and other private institution. The establishment of Udzungwa National Park and increase of tourist activities in Ruaha National Park and Ismila Old Stone site also contributed to the growth of Iringa Municipality.

1.6 THE NEED FOR A NEW MASTER PLAN

The Iringa Master Plan (1980 – 2000) was prepared to guide the development of the town at a time when a population was low. The rapid increase of population and rapid development of the town accelerated by agricultural production, tourism attractions, improvement of trunk roads; and expansion of boundaries in 2013 from 162 to 331.4 square kilometres necessitated the preparation of a new Master Plan to guide the physical development of the towns. This plan is also needed as an important tool to prevent emergence and growth of unplanned settlements and urban sprawl.

The preparation of Iringa Master Plan aims at taking into account the earlier Master Plan's shortcomings, current socio-economic, political, cultural and physical developments dynamics including major developments that have taken place from the 2000 to date. In terms population, these has been a steady increase of people from 88,088 in 1988 to 151,345 in 2012 *(NBS, 2012*).

This represents the annual average growth rate of about 1.5 percent. The rapid increase in population related to the increase of municipality as administrative and functions as service centre. The Municipality is also a centre for education serving the Southern highland zone and the nation at large. Both population and physical growth have growth outpaced the capacity of the Council to plan, survey and service lands for various uses. Therefore the completion of this Master Plan is a timely initiative that will ensure orderly development of the Municipality and take on board population boom against planned plots and land for various uses.

The envisioned Master Plan aim at exploring alternative growth scenarios of Iringa to ensure that existing and anticipated developments are taken into consideration for sustainable development. This master plan will increase the competitiveness of the Iringa town in attracting new investments and commercial activities.

1.7 METHODOLOGY

The Preparation of Iringa Master Plan begun in 2013 Iringa Municipal Council as a Planning Authority passing a resolution to prepare the Iringa Master Plan. This meeting was held on 27th July 2013. This was allowed by declaration of the planning area that was made through Government Notice Number 218 of 29th May 2015. The preparation process was mainly divided into three stages: search for preliminary information stage; field work stage, and post field work stage.

The preliminary stage included making consultation with Ministry of Lands, Housing and Human Settlements Development responsible for town planning. The Municipal Director established three committees on August 2013, these committees were: General Planning Committee which comprised the Council Management Team; Technical Committee which consisted of staffs from different departments within Planning Authority and Sub-Technical Committee that was composed by Technical Committee Members and other stakeholders of the planning area. The Planning authority conducted public hearing in all 18 wards of Iringa Municipality to make the public aware of the Master plan preparation within the Planning Authority. In these public hearing, several issues were identified by stakeholders. The Planning Authority also conducted consultative stakeholder's meeting in March 2014 through which the existing situation of Iringa Municipality was presented. Through these meetings and stakeholders identified several key issues to be considered during planning process.

The second stage deal with data collection from various sectors within Iringa Municipality. The data were collected from each department in the Municipal Council, Police Traffic, Airport, Tanzania Telecommunication Company Limited, Iringa Urban Water Supply and Sanitation Authority, Tanzania Electricity Supply Company, Education Institutions based in Iringa and other key entities located within Iringa Municipality. Review of various related documents was also conducted in collaboration with Iringa Municipality Authority. Reviewed documents include the Iringa Master Plan (1980 – 2000), Social Economic Profile of Iringa (2013), Iringa CBD Redevelopment Plan of 2000-2017 and Strategic Urban Development Plan of Iringa (1996-2006).

Household's surveys and traffic count were conducted to gather basic data on household characteristics, modes and travel patterns within the municipality. During household survey a sample size of 30 households for each ward was selected. This culminated into a total sample of 540 for 18 wards of Iringa Municipality.

Traffic count was conducted in peri urban and inner parts of the town. Six peri urban nodes were established at main entrance or exit of the major roads. These points were located at Igumbilo, Kitwiru, Itamba, Nduli and Isakalilo. A total of 50 nodes were established for the inner cordon surveys

The third stage was post field work analyses where intensive and detailed analyses of the data collected from different sectors were conducted. Technical Planning Teams developed a situation analysis based on data collected from literature and field studies. International agendas, such as Sustainable

Development Goals and Millennium Developments Goals; National Policies and programmes such as MKUKUTA were analyzed in the context of Iringa Master Planning exercise.

During this stage, alternative concepts were developed including compact, radial and satellite centre, these concepts were combined to form "composite concept". The final concept was adopted by Council Management Team, full Council and stakeholders. After approval of the "composite Concept", the key consideration that were taken into account in the final concept include improvement of existing unplanned settlements; enhancing environmental management; creating tourism centres in the southern zone; turning the Municipality into centre of education excellence, transport and transportation networks. The Master Plan further focused onto developing a detailed land use plan for each of the town centre in line with an overall vision and mission of the Master Plan with clearly described role and responsibilities for each stakeholder in each proposed town centre.

CHAPTER TWO

2.0 DEMOGRAPHIC CHARACTERISTICS

This chapter presents population characteristics bringing into focus key issues related to household size, total populations, population growth, population composition and structure, dependence ratio, distribution, population density and migration trends.

2 .1 POPULATION GROWTH AND TRENDS

The population of Iringa Municipality has been steadily growing from 21,746 people in 1967 to 151, 345 in 2012. According to population census report of 1978, Iringa recorded a total population of 57,164. This increased to 73,516 in 1988 and further to 102,208 in 2002. According to the 2012 population Report, Iringa had an average household size of 4.2 which was relatively lower compared to the national average of 5.42 percent.

In terms of annual average growth rates, Iringa revealed a fascinating trend of 9.18percent between 1967 and 1978, 2.55percent between 1978 and 1988, 2.38 percent between 1988 and 2002 and 4.00 percent between 2002 and 2012. The rates are relatively lower compared to national averages of 9.29percent, 4.76percent, 4.22 percent and 5.42percent respectively. While population growth showed a steady growth in the 1960s and 1970s, the pace and rate of growth showed less in the 1980s and 1990s. This was largely attributed by the economic recession of these decades and collapse of industrial establishments in Iringa town. The resurgence of rapid population growth is notable in the 2000-2010 decade. This was largely contributed by the establishment of colleges and universities that observed a population boom of students.

2.2 POPULATION DISTRIBUTION

According to population distribution census report of 1988, 2002 and 2012, the population distribution for Iringa Municipality was un even with peripheral wards having more share than the inner city wards. These included for example Mtwivila that accommodated 14.5 percent and 13.3 percent of the total population. Other wards with significant share of population included Ruaha (11.3 percent), Mwangata (9.1 percent) and Kitwiru (7.4 percent). Table 2.1 shows the variation in population in population distribution by wards is largely attributed to the availability of land that allowed people to settle in these wards as compared to the consolidated wards of the inner city area. The ward of Mtwivila, Kitwiru, Isakalilo and Nduli are expected to continue attracting more population because of availability of land for future expansions.

Table 2.1: Population Distribution by Ward, Iringa Municipality, 1988, 2002, 2012 and 2014

SN	Wards	Population Distribution							
		1988		2002		2012		2014	
		Total	Percent of Total	Total	Percent of Total	Total	Percent of Total	Total	Percent of Total
1	Kihesa	7,313	8.3	12,417	10.6	18,196	12.0	20,742	13.3
2	Mtwivila	8,215	9.3	13,519	11.5	21,017	13.9	22,644	14.5
3	Gangilonga	8,481	9.6	9,668	8.2	9,599	6.3	9,964	6.4
4	Kitanzini	6,050	6.9	4,085	3.5	3,617	2.4	3,803	2.4
5	Ruaha	13,020	14.8	10,829	9.2	16,984	11.2	17,571	11.3
6	Mshindo	2,389	2.7	1,892	1.6	1,892	1.3	2,022	1.3
7	Mivinjeni	5,238	5.9	5,180	4.4	4,780	3.2	5001	3.2
8	Mlandege	4,450	5.1	4,204	3.6	4,640	3.1	4,856	3.1
9	Mwangata	8,612	9.8	11,508	9.8	13,486	8.9	13,968	9.1
10	Kwakilosa	4,689	5.3	6,883	5.9	7,948	5.3	8,263	5.3
11	Makongoroni	6,416	7.3	7,247	6.2	7,790	5.1	8,101	5.2
12	Ilala	4,951	5.6	3,745	3.2	4,448	2.9	4,658	3
13	Mkwawa	4,691	5.3	7,996	6.8	9,673	6.4	10,040	6.5
14	Kitwiru	*	*	7,198	6.1	11,461	7.6	11,882	7.6
15	Isakalilo	903	1.0	5,518	4.7	9,188	6.1	9,541	6.1
16	Nduli	2,670	3.0	5,580	4.8	6,626	4.4	2,827	1.8
	Total	**88,088**	**100.0**	**117,469**	**100.0**	**151,345**	**100.0**	**155,885**	**100**

Source: Population census reports (1988, 2002 and 2012)

NB. **These are new wards which were established after 2002 national population census report.*

2.3 POPULATION DENSITY

The overall population density for Iringa Municipality stands at 4.57 persons per hectare. High population densities are notable in the inner city wards of Mivinjeni, Makorongoni, Kwakilosa, Ilala, Mshindo, Kitanzini and Mlandege. These are wards that constitutes the Central Business District of Iringa Municipality. The lower population density is notable in the peripheral wards of Igumbilo, Nduli, Mkimbizi, Mkwawa, Isakalilo and Kitwiru (Map 2.1).

Table 2.2: Iringa Municipal Council Population Density by Wards from 1988 to 2012

Ward	Land Area (HA)	Population			Population Density (Person per Ha.)		
		1988	2002	2012	1988	2002	2012
Kihesa	11.24	7,313	12,417	18,196	57.92	98.31	144.04
Mtwivila	4.86	8,215	13,519	10,679	45.88	75.51	452.06
Mkimbizi	32.32	*	*	10,388	0.00	0.00	9.93
Gangilonga	5.31	8,481	9,668	9,599	300.75	342.94	340.49
Kitanzini	0.68	6,050	4,085	3,617	13,083.82	8,833.82	7,822.06
Ruaha	12.38	13,020	10,829	10,899	20.52	17.04	71.08
Igumbilo	38.35	*	*	6,085	*	*	4.15
Mshindo	0.33	2,389	1,892	1,892	21,936.36	17,372.73	17,372.73
Mivinjeni	0.27	5,238	5,180	4,780	71,055.56	71,055.56	65,570.37
Mlandege	1.23	4,450	4,204	4,640	2,941.46	2,778.86	3,066.67
Mwangata	8.6	8,612	11,508	13,486	116.40	155.58	182.33
Kwakilosa	0.86	4,689	6,883	7,948	6,339.53	9,305.81	10,746.51
Makongoroni	0.79	6,416	7,247	7,790	10,281.01	11,611.39	12,482.28
Ilala	0.52	4,951	3,745	4,448	18,309.62	13,850.00	16,450.00
Mkwawa	26.90	4,691	7,996	9,673	6.47	11.00	13.35
Kitwiru	26.69	*	7,198	11,461	*	10.12	16.07
Isakalilo	28.03	903	5,518	9,188	1.14	7.03	11.70
Nduli	131.73	2,670	5,580	6,626	0.15	0.32	0.38
Total	**331.1**	**88,088**	**117,469**	**151,345**			

Source; Population census reports (1988, 2002 and 2012)

NB. **These are new wards which were established after 2002 national population census report.*

2.4 DEPENDENCY RATIO

In the Tanzanian context, the age between 0-14 years is considered as a dependent group and has a limited role in the category of economic active population. In the same way, old aged people (above 64 years) are also considered as dependent.

The economically active age group is therefore persons aged between 15 and 63 years. Based on the 1988, 2002 and 2012 censuses reports, Iringa Municipality had 40,410 dependants in 1988 and 42,710 in 2002 and 56,302 in 2012 respectively.

According to the population census report of 2012, the economically active population for Iringa Municipality was 95,043. However, further analysis shows that a number of economically active persons were almost equal to the dependence ratio of one. This had less impact to the economy of the Municipality, since the economic resources of economically active persons mobilized for development purposes were supporting a few dependants, i.e., one to one.

Similar cases were noted in the remaining districts for which a number of economically active persons were almost equal to the number of dependants. Further analysis shows that the number of dependants as well as the number of economically active persons had increased between 1988, 2002 and 2012 in the Municipality. Although a number of dependants increased by 31 percent between 2002 and 2012, the Municipality occupiers were still economically active.

2.5 POPULATION STRUCTURE AND SEX RATIO

When the population of Iringa Municipality of 2012 was structured by age and sex, it showed similar features (figure 2.1). There was a similar proportion of the age group of 0-14 years for males and females. This cohort accounted for 35 percent each of the cohort for 15-29 years varied slightly accounting for 35 percent for male and 37 percent for females. Traditionally, males in Iringa municipality are much more mobile than females of which most of the males move to other towns in search for better employment. Slight variation was also noted for the cohort of 30-49 age group that accounted for 21 percent for males and 19 percent for females. If the age group between 0-14 and above 64 years is considered as dependents, then the dependency ratio is 37 percent. Comparing this figure with other municipalities with similar status as Iringa, the situation in Dodoma is 44 percent, Mtwara is 39 percent, Songea is 45 percent, Morogoro is 26 percent, Singida is 46 percent and Shinyanga is 45 percent. Based on these data, Iringa is therefore better compared to other towns of the similar status. As revealed in table

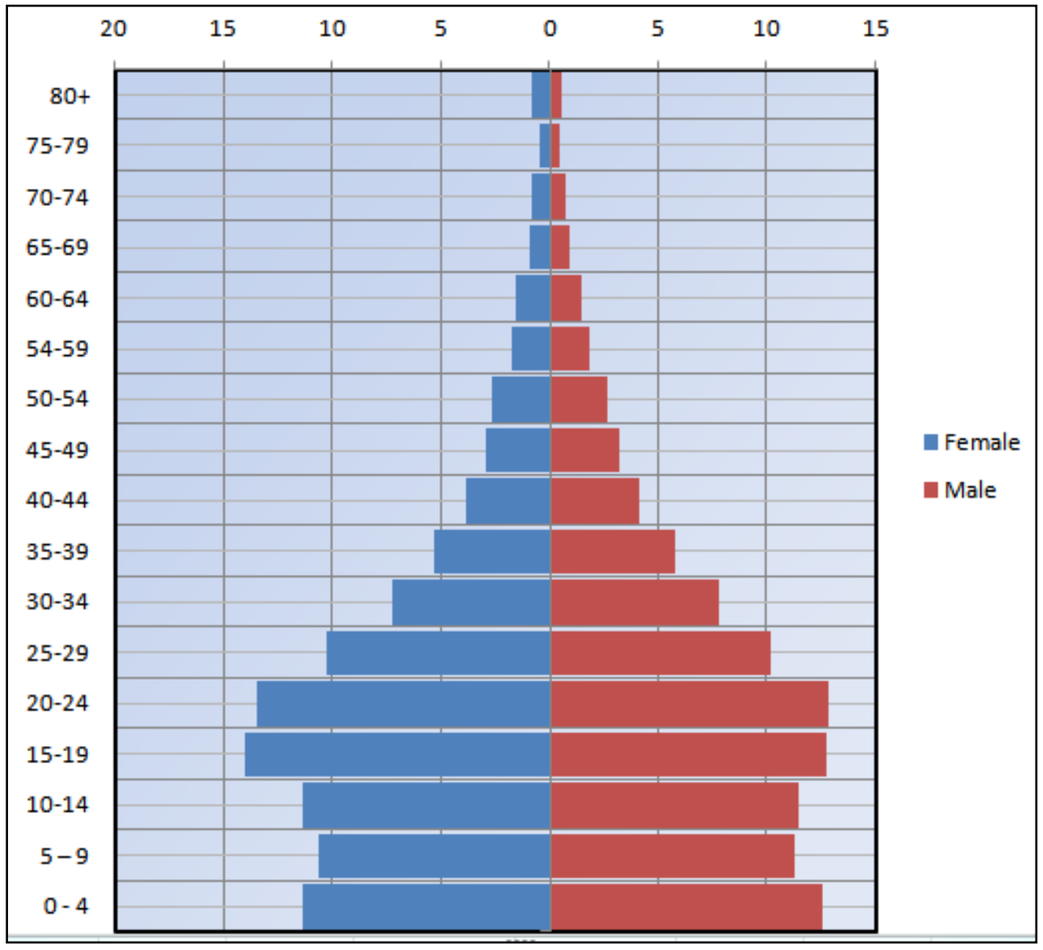
2.3, the total number of males stood as 71,413. This gives a sex ratio of male to female to be 0.91. This figure is slightly lower to the national average of 0.95. When this figure is again compared to other towns, the situation was revealed to be 0.88 for Musoma, 0.89 for Mtwara Mikindani, 0.90 for Songea, 0.97 for Morogoro, 0.96 for Singida and 0.95 for Shinyanga.

Table 2.3: Population distribution by age group and sex, Iringa Municipality, 2012

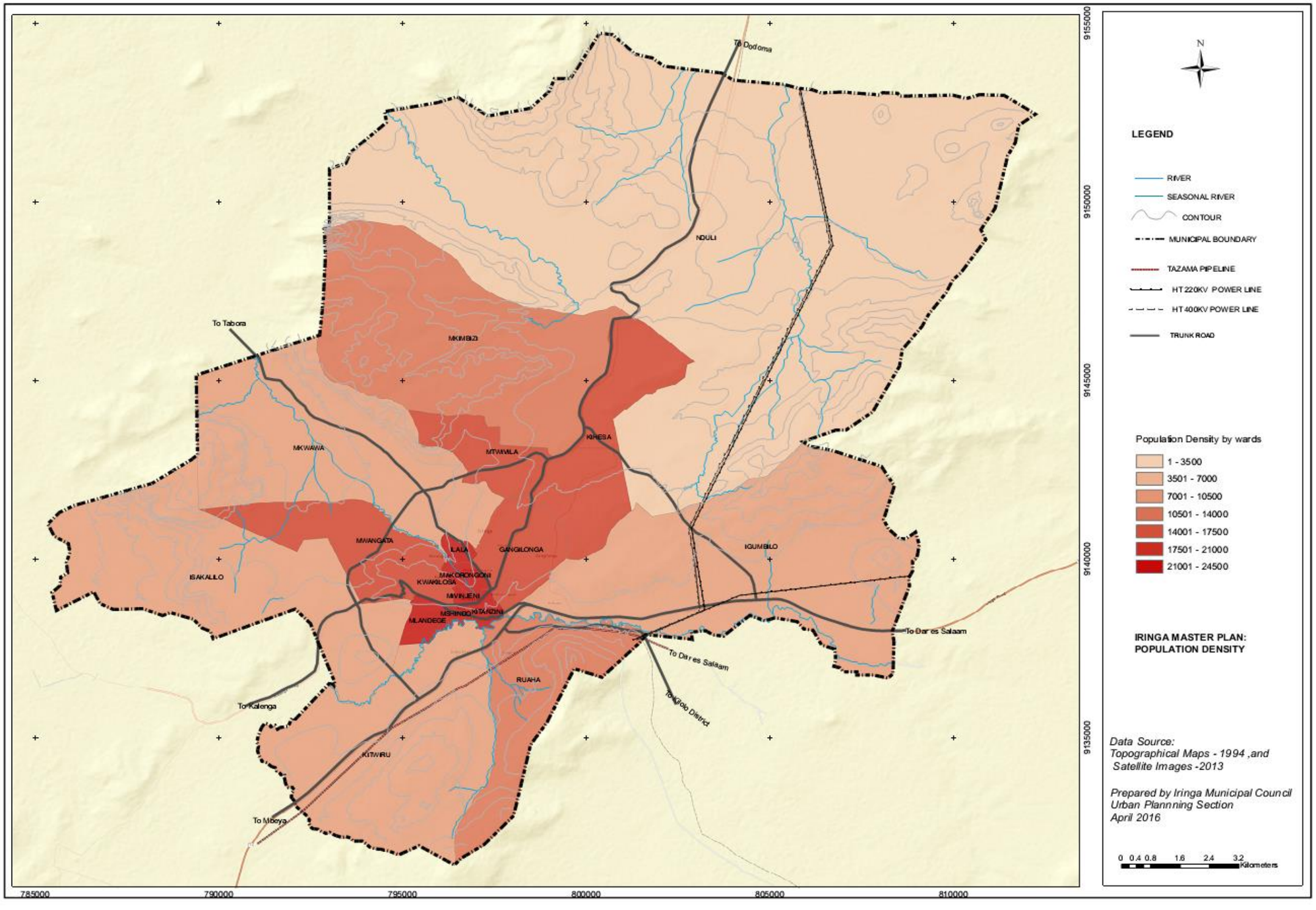
Age Group	Sex			Percent of Total
	Female	Male	Total	
80+	689	386	1,075	0.71
75-79	400	339	739	0.49
70-74	710	513	1,223	0.81
65-69	732	638	1,370	0.91
60-64	1,221	1,066	2,287	1.51
54-59	1,417	1,273	2,690	1.78
50-54	2,129	1,881	4,010	2.65
45-49	2,343	2,263	4,606	3.04
40-44	3,062	2,916	5,978	3.95
35-39	4,244	4,159	8,403	5.55
30-34	5,802	5,585	11,387	7.52
25-29	8,182	7,329	15511	10.25
20-24	10,689	9,187	19,873	13.13
15-19	11,177	9,121	20,298	13.41
10-14	9,068	8,195	17,263	11.41
5 – 9	8,490	8,059	16,549	10.93
0 - 4	9,061	9,022	18,083	11.95
Total	79416	71932	151,345	100.00

Source: Population census reports (2012)

Figure 2.1 Population Pyramid



Map 2.1: Iringa Municipality: Population density by wards, 2012



2.5.1 Households and household size count

According to the 2012 population census report, the total number of households was recorded to be 36,769 and average size of 4.2 persons. This figure had decreased from previous population census of 2002 which was recorded to be 4.4 persons (Table 2.4). When these figures are reflected upon the national averages of 4.8, the household size for Iringa seems to be lower and decreasing with time.

Housing census shows that Gangilonga ward had moderate population with the largest average size of 5.8 persons per household. This was followed by Mkwawa with an average of 5.2 persons. Mshindo ward on the other hand, revealed the lowest average household size of 3.7 in 2002. In 2012 census report, Gangilonga ward was still leading by an average household size of 5.2 followed by Kitanzini, Mwangata and Isakalilo each with 4.5 people per household. In 2002: 10 wards out of 16 had their average household sizes lower than the Municipality average of 4.4, while in 2012 only 9 wards out of the 18 had their average household size lower than the Municipality average of 4.2. Demographically, these trends could be related to increased awareness among people as a result of a long term programme of family planning countrywide.

Table 2.4: Number of households and average household size by ward, 2002 and 2012

Ward	2002 Population			2012 population		
	Total Population	Number of Households	Average Household Size	Total Population	Number of Households	Average Household Size
Kihesa	12,417	2,937	4.2	18,196	4,251	4.3
Mtwivila	13,519	3,084	4.4	10,679	2,466	4.3
Mkimbizi	*	*	*	10,388	2,235	4.3
Gangilonga	9,668	1,656	5.8	9,599	1,849	5.2
Kitanzini	4,085	906	4.5	3,617	826	4.4
Ruaha	10,829	2,695	4.0	10,899	2,681	4.1
Igumbilo	*	*	*	6,085	1,487	4.1
Mshindo	1,892	511	3.7	1,892	498	3.8
Mivinjeni	5,180	1,358	3.8	4,780	1,264	3.8
Mlandege	4,204	1,094	3.9	4,640	2,440	2.0
Mwangata	11,508	2,701	4.3	13,486	3,086	4.4
Kwakilosa	6,883	1,608	4.3	7,948	2,052	3.9
Makongoroni	7,247	1,822	4.0	7,790	1,946	4.0
Ilala	3,745	983	3.8	4,448	1,245	3.6
Mkwawa	7,996	1,537	5.2	9,673	2,309	4.2
Kitwiru	7,198	1,620	4.5	11,461	2,638	4.3
Isakalilo	5,518	*	*	9,188	2,080	4.4
Nduli	5,580	2,964	3.9	6,626	1,685	3.9
Total	**117,469**	**27,476**	**4.4**	**151,345**	**35,769**	**4.2**

Source: Population census reports (2002 and 2012)

NB. **These are new wards which were established after 2002 national population census report.*

CHAPTER THREE

3.0 RESOURCES AND ECONOMIC BASE

3.1 REGIONAL ECONOMY

Iringa region's economy is dominated by the agricultural sector. Agriculture is the major contributing sector of the region's economy accounting for 85 percent of the Region's GDP. The major crops that contribute to the regional economy and cash income include; tea, beans, maize, groundnuts, potatoes, and sunflower. Trade and Commerce is the second important economic sector that contributes 7.1 percent of the GDP. Livestock as economic sub-sector contributes about 4.5 percent of the GDP while transport and manufacturing accounts for over 1 and 2 percent respectively. The poor performance of the manufacturing sector in the region is a combination of several factors including the increased competition of imported goods, inefficiency of import substitution, inadequate working capital and high production costs. Even though manufacturing has dropped substantially in the past three decades, the per capital GDP has shown an increasing trend on the past decade. It has grown from Tshs. 558,444 in 2005 to 2,215,720 in 2014 (Table 3.1).

Table 3.1 Region's economic performance from 2005 to 2014

Year	GDP (Tshs. Million) at current market price	Percent change of GDP – Previous year	Average percent contribution to National GDP	Per Capita GDP at current market Prices in Tshs.
2005	867,482	-	5.4	558,444
2006	990,504	12.4	5.3	589,607
2007	1,435,513	13.1	5.4	870,430
2008	1,771,758	19	5.4	1,054,726
2009	1,965,354	9.9	5.2	1,149,851
2010	2,310,923	15	5.3	1,330,118
2011	2,791,441	17.2	5.3	1,125,503
2012	3,224,478	13.4	5.3	1,582,194
2013	3,677,346	12.1	5.2	1,962,155
2014	4,137,386	11.1	5.2	2,215,720

Source: NBS - Iringa Regional Office, 2015

3.2 MUNICIPAL RESOURCE BASE

Iringa Municipality is well endowed with varied resources base that is yet to be harnessed to realize the economic benefits. These include fertile land with well drained soils that is supported with good climatic conditions favouring agriculture production, granite rocks that are potentially good resources for tiles and other construction materials, water bodies (Ruaha river) traversing through the municipality and tourism potentials as a municipal centre closer to the Ruaha National Park and Ismila ancient carvings and painting. Both the climate and soil support a wide range of forest trees that can serve both as a resource for timber industry as well as conservation of natural landscape. The mountainous landscape present itself as potential resource tourism and sports including mountain climbing, natural trails for jogging and walking, picnics and botanical/rocky gardens.

3.2.1 The land

Iringa municipality is endowed with ample land resource amounting to 33,140 hectares. Out of this total 16,403 hectares is arable land used for agricultural purposes and related activities. Included in this land mass are reserved areas as hill slopes and mountains that cover a total area of 7,790 hectares or 24 percent of the total land area. Included also as a large share in terms of land mass is residential (planned and unplanned) that cover a total of 5,426 hectares or 16.2 percent of the total land. Land is yet to be fully utilized to the expected optimal levels. Many sections of the land has been left unattended and where used it has been underutilized including the dominant low-rise single storey housing development outside the Central Business District. Increasing informal housing development has started to emerge along steep slopes and valleys bottoms creating a potential for disaster impacts related to land slides and flooding. The alluvial soil along Ruaha River is used for brick making.

3.2.2 Granite rocks

Iringa municipality is surrounded with mountains and hills punctuating the continuity of the built up areas. These hills include Wilolesi, Ipogolo, Kihesa, Mtwivila, Mafifi, Ndiuka and Luhota. These hills are well patched with granite rocks that are yet to be fully exploited to produce construction materials such as granite tiles, furniture, road surface materials as well as materials for foundations and wall construction. To the large extent, granite rocks have been only used as construction materials for foundation.

3.2.3 Water bodies

Water bodies are rather limited both in terms of spatial extent and locality. These include the Ruaha River that covers a total of 17 kilometres across the municipality area. Others include the Kitwiru and Mawelewele spring that drains their water into Ruaha River. Apart from being the main source of water for Iringa, Ruaha River also serves as a fishing field for small scale fishermen, and irrigation ground along the valley.

3.2.4 Tourist attraction sites

Iringa is the nearest urban centre to the Ruaha National Park, Isimila Old Stone Age and Kalenga Fort or Museum. It is therefore a tourist destination and stop station for tourists travelling to and from the park. Other elements of tourist potential that are yet to be exploited include stones at Kitanzini, Igeleke, Gangilonga, museums (at Kalenga) and monuments (historic buildings) in the CBD of the municipality.

3.2.5 Forests

Increased human activities and rapid urbanization have resulted into clearance of miombo woodlands that covered most of the hill slopes of Iringa. Planted forests are rare apart from isolated cases along Dodoma road (Kihesa Kilolo) and few trees in the city centre. To the long extent, forest cover has been cleared with buildings especially in gentle slopping areas. There is still a great potential of replanting trees especially on mountain slopes to regenerate the lost ecosystem as well as create a good scenic environment for the municipality. Tree planting on the mountain slopes should be given high priority in recovering the lost greenery and environmental quality of Iringa.

3.2.6 Natural landscape

The natural landscape of Iringa is largely depicted by the mountain ranges and hills that create a separation between built-up and unbuilt areas. Buildings are located on gently sloping areas even though in the latter dates development on mountain slopes has started to emerge. Typical examples are Ipogolo, Kihesa, Mafifi, and Mtwivila hills. The lowest points are marked by Ruaha River that meanders along the lowest valley bottoms in Ipogoro stretching to Isakalilo areas. The CBD is still dominated by low-rise housing structures. Some new high-rise structures have started to emerge breaking the skyline. Dominant landmarks include the National Milling Silos, Mshindo cathedral church and hotel developments along Uhuru Street.

3.2.7 Human resources

One of the crucial components in the analysis of resource base is human resources. Increasingly, skilled and healthy human resource base is one of the pre-requisites for city competitiveness and socio-economic development. Access to basic community facilities including health, education, housing, water supply, electricity and telecommunication facilities amounts for a composite of requirements for a competitive human resource base. While access to health facilities for Iringa municipality is comparable to other municipalities the same has the highest levels in terms of access to water supply and education (detailed discussion has been provided in chapter 7.0). Yet, infant mortality was noted to be high (25 out 1000), high maternal mortality (432 out of 100,000), and higher HIV prevalence to the rate of 9.1 percent. This is higher than the national average of 5.6 percent.

3.3 ECONOMIC BASE

Iringa Municipality economic development depends on several economic activities namely; trade and commerce, agriculture, industry , tourism, livestock keeping, fishing and mining as shown in the Table 3.2.

Table 3.2: Percentage contribution of main economic sectors to Iringa Municipal GDP

Economic Sector	Percentage contribution
Trade and commerce	38.6
Agriculture	29.3
Tourism	17.2
Industry	13.9
Livestock keeping	0.4
Mining	0.4
Fishing	0. 2
Total	**100**

Source: Iringa Municipality social economic profile, 2013

3.3.1 Trade and commerce

The commercial sector in Iringa Municipality include: Financial institutions (National Microfinance Bank (NMB), National Bank of Commercial (NBC), Cooperative Rural Development Bank (CRDB), Tanzania Postal Bank, Barclays, Exims Bank, Diamond Trust Bank, MUCOBs); Microfinance

institutions such as FINCA, Pride, Platinum, Bayport, hospitality services, private schools and hospitals. Trade involves whole sale and retail, markets, petty trade, food product vending, and other related activities. Trade is also reflected in informal sector; whereby in Iringa Municipality informal sector contributes about 31.4 percent of the economy. Trade and commerce account for 38.6 percent of Iringa municipality GDP.

3.3.2 Informal Sector

The Tanzania Development Vision foresees that by the year 2025, Tanzania will have a strong, diversified, resilient and competitive economy which can effectively overcome the challenges and confidently adapt to the changing technology and market conditions. Iringa Municipality is also expected to have a strong and competitive economy which is based on formal sector. Statistics indicate that informal sector in Iringa Municipality contributes 31.4 percent of the GDP. This is due to the support given by Iringa Municipal Council in collaboration with other stakeholders. Informal sector activities play a great role in creating employment opportunities and this has enabled almost 5,000 people to earn their living.

The informal sector business activities operated in Iringa Municipality include: motorcycle (Bodaboda), taxi drivers, tailoring marts, street vendors, food vendors, barbershops, retail shops and shoes shines. Most of these economic activities are conducted in the Central Business District (CBD) and in areas such as Mlandege, Kitanzini, Kihesa market and in spaces along the main roads.

3.3.3 Industries

The industrial sector is very important in the economy of Iringa Municipality. It is both a source of foreign exchange and employment. The type of industrial establishments in Iringa Municipality is largely small scale operating at low level. Even though manufacturing industries are non-existent in Iringa, this industries contributes about 13.9 percent of municipal revenue. Small scale industries include welding and metal fabrication, carpentry and food processing. These industrial establishments are distributed unevenly throughout the wards of Iringa municipality. The most common industrial establishment across the municipality are milling machines (91 units), carpentry workshops (62 units), garages (38 units), tailoring marts (26 units) and oil processing (17 units). In total, there were 237 industries (Table 3.3).

Table 3.3: Number of small scale industries by ward, type and its location

Ward	Bakery	Carpentry	Garage	Milling Machine	Oil processing	Poultry feed	Tailoring	Total
Gangilonga	1	11	13	0	3	0	0	28
Ilala	0	0	0	1	0	0	0	1
Isakalilo	0	0	0	1	0	0	0	1
Kihesa	1	5	3	9	0	0	14	29
Kitanzini	0	0	0	4	1	0	12	17
Kitwiru	0	0	4	7	3	1	0	15
Kwakilosa	0	6	9	16	0	0	0	31
Makorongoni	0	3	0	8	1	0	0	12
Mivinjeni	0	18	4	3	0	0	0	25
Mkwawa	0	2	0	6	0	0	0	6
Mlandege	0	7	4	2	0	0	0	6
Mshindo	0	7	0	1	0	0	0	8
Mtwivila	2	2	0	11	6	0	0	21
Mwangata	0	0	1	4	1	0	0	6
Nduli	0	0	0	7	2	0	0	9
Ruaha	2	6	3	11	0	0	0	22
Total	**6**	**62**	**38**	**91**	**17**	**1**	**26**	**237**

Source: Socio-Economic Survey, September, 2014

According to the socio-economic survey that was conducted in September, 2014, these small scale industrial establishments employed a total of 1165 persons. Apart from small scale industries, Iringa Municipality has medium scale industries which are concentrated in Kitwiru and Ruaha wards. These include three bakeries located in Kitwiru and Ruaha wards, one biscuits processing plant, fruit and vegetables canning, bottle manufacturing and manufacturing of tanks (Table 3.4). These industrial establishments provided a total employment to 1,196 persons.

Table 3.4: Medium scale industries in Iringa Municipality

Industry	Kitwiru	Ruaha	Total
Bakery	1	2	3
Biscuits processing	1	0	1
Confectionary	2	0	2
Crisps	1	0	1
Fruits and vegetables	1	1	2
Milk processing	1	0	1
Bottle manufacturing	1	1	2
Tank manufacturing	0	1	1
Total	**8**	**5**	**13**

Source: Socio-economic Survey September, 2014

The resurgence of industrial establishments in Iringa is associated with various factors including infrastructure improvements. Iringa Municipality enjoys a coverage of tarmac road of about 67.47 Kilometres, gravel road 112.61 Kilometres. All these roads are passable throughout the year. Iringa is also easily connected to important commercial centres like Dar es Salaam, Morogoro Dodoma, and Mbeya, by trunk roads. Availability of agriculture products is another attractor of industrial establishment in Iringa. Agricultural production of maize, sunflower, Irish potatoes, honey and dairy products, has influenced the growth of agro-processing industries including edible oils, bakeries and milk processing. Similarly availability of markets and improved or modern technology has contributed to the production of high quality goods that can compete both locally and in the market abroad.

3.3.4 Agriculture

Agriculture employed approximately 30 percent of the total population of Iringa's workforce. Agricultural sector ranked second after trade and commerce as the main source of income to residents of Iringa Municipality. Subsistence farming is most practiced in all peripheral wards of Iringa Municipality. It involves cultivation of crops such as maize, vegetables, sunflowers, soya beans, garden peas, beans, millet, tomatoes, sweet pepper and onions. Maize and paddy as staple food crops are grown in some areas and river valleys though at small scale. Agricultural activities are more pronounced in Nduli ward that accounted for 64.6 percent of all cultivated land in the municipality. This was followed by Isakalilo ward with 21.2 percent of the area; Ruaha ward accounted for 5.7 percent and the remaining practiced in other wards. Agricultures contribute about 29.7 percent of municipal economy. According to the household survey that was conducted in all wards 27.9 percent of al interviewed respondents indicated to engage in agricultural activities.

Urban farming is one of the economic activities in Iringa Municipality within the portfolio of agriculture activities. It provides employment up to 29 percent of the labour force and contributes 40 percent of the food requirements of the Municipality. Of 16,403.408 hectares of land which is suitable for farming only 5,620 hectares of land is under cultivation. Urban farming contributes greatly to food security. For example, in the year 2013/2014 about 12,275 tons of food crops and 1045.4 tons of cash crops were produced. Livestock keeping is also another economic activity under the same portfolio of urban farming. Livestock keeping was mainly carried out in the peripheral wards of Ruaha, Mkwawa, Mwangata, Kihesa, Kitwiru, Mtwivila, Isakalilo and Nduli. Livestock husbandry is an important income generating activity for sale of milk, meat, skin, eggs, and horns (Table 3.5).

Table 3.5: Crop yield from Urban Farming (2013/2014)

No	Food Crops	Production	
		Hectares	**Yields (tones)**
1	Maize	4657	10711
2	Potatoes	16.3	299
3	Millet	7	14
4	Beans	812	974
5	Garden Peas	5	6
6	Vegetables	51	271
	TOTAL	**5,548.3**	**12,275**
	Cash Crops		
1	Sunflowers	11	9.9
2	Soya Beans	5	6.5
3	Tomatoes	49	1,029
	TOTAL	**65**	**1045.4**
	GRAND TOTAL	**5,620**	**13,320.4**

Source: Iringa Municipal agricultural officer, September, 2014

Both indigenous and improved dairy cattle are kept in the town, while indigenous cattle accounts for 46.1 percent, improved dairy accounted for 53.9 percent of all cattle respectively in the Municipality in 2012. The largest number of cattle was noted in Nduli which had about 2,181 cattle (34.9 percent of the total cattle in the Municipality). This was followed by Ruaha ward (1,024 cattle or 16.4 percent), and Isakalilo ward (703 cattle or 11.3 percent). Least number of cattle was noted in Mshindo ward (7 cattle or 0.1percent) and Ilala and Kwakilosa each with 10 cattle or 0.2 percent respectively (Table 3.6). According to the household surveys that were carried in September 2014, there were a total of 102 households who were engaged in livestock keeping. This represents 0.37 percent of all households in Iringa Municipality.

Table 3.6: Distribution of cattle population by type and ward in Iringa Municipality

Ward	Indigenous Cattle	Improved Dairy Cattle	Total	Percentage of cattle by ward Total
Mshindo	4	3	7	0.1
Mlandege	4	13	17	0.3
Mwangata	484	101	585	9.4
Gangilonga	18	190	208	3.3
Mtwivila	211	135	346	5.5
Makorongoni	4	32	36	0.6
Kihesa	28	104	132	2.1
Ilala	3	7	10	0.2
Kwakilosa	0	10	10	0.2
Mkwawa	91	351	442	7.1
Kitwiru	356	188	544	8.7
Ruaha	746	278	1024	16.4
Isakalilo	602	101	703	11.3
Nduli	325	1856	2181	34.9
Total	**2876**	**3369**	**6245**	**100.0**
Percentage by Type		**46.1**	**53.9**	**100.0**

Source: Socio-economic survey September, 2014

Apart from dairy cattle, there were several households who were keeping pigs. Increasingly, pigs play an important role in the livelihood of both urban and sub-urban communities. Pigs account for the third important livestock in the Iringa Municipality after poultry and cattle. The ward with the largest number of pigs is Ruaha ward with 18.5 percent of all pigs that were being kept, followed by Mkwawa with 16.8 percent, Kitwiru ward accounted for 16.1 percent, and Nduli ward with 14.0 percent. In total, 4031 pigs that were kept when these data were being collected.

Another component of urban farming was poultry keeping. Poultry farming plays a significant role in rural and urban people's livehoods. Indoor poultry farming is an emerging industry, and hygienic poultry production seems to provide to better incomes to residents without compromising sustainable development of the town. This industry involves more women than men, thus, providing a window for women economic empowerment. The changed practice and nature of the industry from traditional chickens has significantly improved production and living conditions of many rural-urban families in terms of enhancing nutrition and income generation through sales of surplus chickens and eggs. In 2013/14, the ward with largest number of chickens was recorded to be Mtwivila with 21,264 chickens (25.7 percent of the total chicken in the Municipality). This was followed by Gangilonga ward (16,404 chicken or 19.8 percent); Mkwawa ward (384,927 chickens or 13.5 percent) and Ruaha ward (9,777 chickens or 11.8 percent).

The contribution of agriculture sector to the Municipality's economy cannot be overemphasized. For example, the number and value of the dominant livestock products marketed in the years 2012/13 and 2013/14 earned Iringa Municipal Council a total of Tshs. 9,759,834,000. Highest earnings were from cattle meat at Tshs. 5,757,444,000 which was equivalent to 59.0 percent of total revenue earned from sales of livestock products in the Municipality. This was followed by pigs meat with Tshs. 2,276,430,000 that accounted for 23.3 percent and poultry meat of Tshs. 1,522,224,000 and accounted for 15.6 percent. Sheep meat earned the least amount of money which summed up to Tshs. 15,132,000 or 0.2 percent.

Table 3.7: Market of Livestock product by type (official Markets) and revenue earned; Iringa Municipality.

Type of Livestock	Total number of livestock slaughtered		Total No. of Meats Sold (Kgs)		Annual Revenue collected (TShs.)			Percentage (percent) Total Revenue
	2011/12	2012/13	2011/12	2012/13	2011/12	2012/13	Total Revenue	
Indigenous cattle	1,608	8,057	733,040	886,270	439,824,000	5,317,620,000	5,757,444,000	59
Goats	1608	2,019	12,864	16,152	83,616,000	104,988,000	188,604,000	1.9
Poultry	55,761	96,452	69,701.30	120,565	557,704,000	964,520,000	1,522,224,000	15.6
Pigs	2,261	3,127	146,965	203,255	955,272,500	1,321,157,500	2,276,430,000	23.3
Sheep	135	156	1080	1,248	7,020,000	8,112,000	15,132,000	0.2
Total	**61,373**	**109,811**	**963,650**	**1,227,490**	**2,043,436,500**	**7,716,397,500**	**9,759,834,000**	**100**

Source: Iringa Municipal livestock office, September, 2014

Milk is another important livestock product which contributes significantly to income generation to both urban and rural population. Dairy products play an important role in nutrition improvement and reduction of poverty. The Iringa Municipal Council emphasizes on dairy cattle keeping increasing milk production. According to the socio-economic surveys conducted in Iringa, improved dairy cattle were the main producer of milk than indigenous cattle. Milk production stood at 674,556 liters in 2010/11 and increased to 2,013,422litres in 2013/14. Revenue collected in 2013/14 increased to Tshs. 2,617,448,600 from Tshs. 630,709,860 collected in 2010/11. Average price per litre of dairy cattle milk in the whole four years rangded between Tshs 935 and Tshs 1,300 (table 3.8).

Table 3.8: Milk production for the period between 2010/11 and 2013/14

Year	Volume produced (Litres)	Total Revenue in (Tshs.)	Average price per (Litre)
2010/11	674,556	630,709,860	935
2011/12	1,885,822	1,885,822,000	1000
2012/13	1,982,184	2,378,620,800	1,200
2013/14	2,013,422	2,617,448,600	1,300
Total	**6,555,984**	**7,512,601,260**	**4,435**

Source: Iringa Municipal livestock office, September, 2014

Increased private sector participation in marketing of livestock products in recent years have increased marketing channels for the livestock sub-sector. Due to high demand and good infrastructure, urban areas provide reliable markets for livestock products than rural areas. Iringa Municipality has high demand for livestock products than other rural districts in Iringa Region.

3.3.5 Fishing

Fishing activity is practiced at small scale due to the limited number of water bodies. Most of the fish consumed in the Municipality is imported from Mtera dam, Dar es Salaam, Mwanza, Ifakara and Ludewa. Small scale fishing is carried out in several Wards in Municipality including Mtwivila, Gangilonga, Isakalilo (Mkoga Village), Mkwawa and Kitwiru by individuals who have established small fishing ponds. Fish production activities contribute about 0.2 percent of the main economic activities in Iringa Municipality.

3.7 TOURISM

Iringa Region is endowed with a number of tourist attraction sites – both natural and man-made. These include Ruaha National Park which is the largest park in Africa covering 22, 000 square kilometres, Udzungwa National Park and other historical sites such as Ismila Stone Age site, Kalenga Fort and the Museum for chief Mkwawa, Kikongoma Mlambalasi god's bridge over Ruaha River and the Zelewisky Grave (Popularly known as "Nyundo Grave'). While Iringa Region is a centre of Southern Highland

Tourism Circuit, Iringa Municipality is a hub for tourism in Iringa Region which is responsible for promoting tourism sector.

Tourism sector in Iringa Municipality is one of the sources of employment and income. It contributes to about 17.2 percent of Iringa Municipality's GDP. There are a number of historical sites in Iringa Municipality including: Germany buildings and Gangilonga Stones, located in Gangilonga. (Table 3.9)

Table 3.9: Areas for tourism by ward in Iringa Municipality

Type of Historical Heritage Available	Sub-ward (Mtaa)	Ward
Gangilonga Stone	Gangilonga	Gangilonga
Commonwealth Graves, Historical Building and Monuments	Magereza	Gangilonga
Igeleke Paints	Igeleke	Mtwivila
Kitanzini	Kitanzani	Kitanzini
River Ruaha Ox Bow Lake	Kibwabwa	Kitwilu

Source: Iringa Municipal Tourism officer, September, 2014

3.7.1 Gangilonga Stone

Gangilonga is a Hehe compound noun made up of two Hehe words: Iliganga lyelilonga. "Liganga" means the stone; "lilonga" means "speak". Thus, the word: "Iligangalyelilonga" literary means "the stone which speaks". Therefore the refined "Gangilonga" word is used to refer to a place where there is a speaking stone. The stone was used by Hehe people as a traditional shrine where ritual activities were carried out in the time of difficulties and natural calamities such as sickness, drought and native wars. For example, during war times, the Hehe people used the place to contact their ancestors and gods to know whether they would defeat their enemies or not. In so doing, It was believed that the stone would speak through a human voice to answer the inquiry made by the one in need. The stone's shape is unique as it is wider and flat in its top lane where more than 20 people can sit freely on it. The place gives tourists a panoramic view of most of Iringa Town, fresh air feeds this place. It is a very good place for leisure or study reading, picnics, aerial view. Apart from its uniqueness, this stone is also blanketed by Miombo forest, a heaven to varieties of flying and creeping creatures, which is coupled with beautiful scenarios. However, oral tradition indicates that the stone stopped talking in 1950s through paradigm shift from traditional leadership to modern administration under colonial influences.

3.7.2 Commonwealth Graves, Historical Buildings and Monuments

Historically, Iringa was a site of several battles during the first and second world wars. The commonwealth war grave yards are located just near the town centre. The Germans, who were the colonial masters up to the end of the First World War, the strategic importance of the town, as a result, they constructed a few old colonial buildings at the centre of the town.

There are a few original colonial buildings that can be seen in the town strongly built of stones. These include; the Iringa District Court building (Bomani) and the District Commissioner's Office. In 1894, The Hehe's Chief Mkwawa built 8 Kilometres long and 12 metres high stockade in an attempt to fight against the advance of German urbanization. The presence of the stockade up to date are reserved and used as a historic site. There are also two monuments located within the town to commemorate soldiers who fought the Maji maji war of 1905 to 1909 and First World War of 1914 to 1918.

Igeleke Rock Art (Igeleke paints)

Igeleke Rock Art is another historic site in Iringa Municipality where ancient paints beneath the rocks are available. This is believed to be the God's miracle creation rock situated at Igeleke hill. Beneath this Rock, one will find Rock paintings. In the past, this rock was used as a place for prayers and not everybody would be allowed to come to this place. Currently, a good number of both domestic and foreigner tourists have been visiting this site.

A group of youth known as Kikundi cha Utunzaji Mazingira cha Kihesa-Kilolo (KIUMAKI) is currently working on protection and conservation of the Igeleke hill ecosystem and forest resources with different natural vegetation and historical sites associated with Igeleke Rock Art.

Kitanzini Site

"Kitanzini" is a Swahili word which means the execution site. It's root word is Kitanzi, a Swahili name for hanging loop. This place was used by the German Colonial Administration in Iringa to execute the captured Hehe soldiers during the war against Chief Mkwawa. Kitanzini is located at Miyomboni/Kitanzini Ward within from town centre. There was a very big miombo tree at this place which was used for execution. This site was established in 1896. Oral tradition believed that it was Chief

Mkwawa's young brother called Mpangile who was proposed to be hanged first. Despite that, the hanging did not put Mpangile to death because of traditional beliefs of immunity that protected him from death. Thus, the use of "Luambambano" herbs by Mpangile protected him and hanging could not take his life. Mpangile was betrayed by one of his folks and was killed by spear, but the betrayers (Mkwawa's soldiers) were also hanged to death.

Unfortunately, the Miombo tree used for execution is no longer there as it was removed out through urbanization. Iringa Municipality has constructed an icon on the memorial site to give a sense of historical excitement. Historians, archeologists, and others enjoy visiting this place and are provided with information about strangulation activities, war tactics as well as intelligence skills by the Hehe soldiers under Chief Mkwawa.

River Ruaha Ox Bow Lake

Iringa Municipality is also endowed with Little Ruaha River which traverses across the municipality. This river has meanders and ox-bow Lakes. The meanders make Ruaha River a spectacular interesting and breath-taking tourist attraction that is close to the town centre. Apart from natural scenic beauty, Ruaha River is a reservoir of numerous resources and potentials. Among the resources which can be observed is gentle flowing water (meanders), variety of birds, fish, as well as pythons. The number of Tourists who visited these attraction sites between 2011 and 2013 is indicated in Table 3.10

Table 3.10: Number of tourists visited tourists attractions in Iringa Municipality by 2011- 2013

Year	Foreigner	Local	Total
2011	595	120	715
2012	618	207	825
2013	617	328	945

Source: Iringa Municipal Tourism office, September, 2014

3.8 MINING

Mining in Iringa Municipality is not a major economic activity as compared to others. Mining is largely limited to activities include extraction of gravels and sand and stone for construction purposes. Also mining provides materials for building and road constructions as well as other related construction works. Mining also provides a means of earning a living for many people as some engage in mining sand, stone crushing and brick making. The Municipality has unexploited potential for converting the abundant granite rocks, stone, sand and clay soils into construction materials. Stones are mined at Kihesa Kilolo, Gangilonga, Ugele and Kitwiru. Sand is mined along Kigonzile, Ruaha and Hoho Rivers

3.9 FOREST AND BEEKEEPING

The forestry sector plays an important role in maintaining ecological balance, soil and water conservation and human livelihood. Forests are a source of industrial raw materials and provide wood and non-wood products such as timber, honey and beeswax. There are 16 forest reserves covering 8,727.94 hectares within the municipality. Ugele Forest Reserve is the largest of the whole forest cover in Iringa Municipality covering about 1654.8 hectares, followed by Mkwawa forest reserve that covers 1460 hectares (table 3.11).

Table 3.11: Forest reserve by wards; Iringa Municipality 2013 and 2014

Ward	Name of Forest Reserve	2013			2014
		Size in Hectares	Illegal Harvesting level	Size of Encroached Area (Ha)	Size in Hectares
Mshindo	Mshindo	8.1	Fair	2.2	8.1
Mlandege	Mlandege	24.3	Fair	9.5	24.3
Mwangata	Mwangata	24.1	Fair	8.4	24.1
Gangilonga	Gangilonga	29.5	Fair	7	29.5
Mtwivila	Ugele	1654.8	Fair	661.92	1654.8
Makorongoni	Mwembetogwa	27.34	Insignificant	8.202	27.34
Kihesa	Iringa Local Authority Reserve	233.1	Severe	209.79	233.1
Kihesa	Mafifi	22.3	Severe	16	22.3
Ilala	Ilala	11.6	Insignificant	0.2	11.6
Kwakilosa	Kwakilosa	24	Severe	19	24
Kitanzini	Kitanzini	28.6	Fair	9	28.6
Mkwawa	Mkwawa	1460	Fair	590	1460
Kitwiru	Kitwiru	973.4	Fair	272.552	973.4
Ruaha	Igumbilo	1230	Fair	393.6	1230
Isakalilo	Mkoga	1030	Fair	350	1030
Nduli	Mgongo	1946.8	Fair	778.72	1946.8
Total		**8,727.94**	**Fair**	**3,110.294**	**8,727.94**

Source: Iringa Municipal forest office, September, 2014

3.9.1 The status of hills ecosystem in Iringa Municipality

Iringa Municipality enacted a by-law in 2008 to conserve hills ecosystem in the Municipality. However, this by-law has not been effectively enforced because competing demands for natural resources have overshadowed conservation initiatives under this by-law. Most of the Miombo forests have been cleared for initially, especially in 1970s, as fuel wood for tobacco curing. Tobacco curing was abandoned in the 1990s before been officially abandoned in 1990s. Some of the heavily degraded hills include: Mafifi, Sinai, Kitwiru, Ipogolo, and Chautinde. Present activities that provide a threat to ecosystem services and miombo forests in Iringa include; bricks making, agriculture, construction of various infrastructure, charcoal making, residential development, and firewood for domestic use.

Following a continued threat to deforestation of miombo woodland, Municipality decided to involve the communities to conserve the hills. This strategy was initially accompanied with incentives provided by Sustainable Iringa Project (SIP). This project was implemented between late 1998 and 2006. As a result of this initiative, some Miombo trees are regenerating at Ilala, Makorongoni, Mkimbizi, Nduli Itamba, Kitanzini and Mgongo hills.

In addition to miombo woodland conservation initiatives the Iringa Municipal Council organized communities to participate in environmental conservation especially tree planting campaign. Over 45 Community Based Organization (CBO) and Non Governmental Organisations (NGOs) were involved in this initiative. These organizations participate in planting seedlings for sale and distribution to various conservation sites with a view to reducing pressure on hills ecosystems in the Municipality (Table 3.12).

Table 3.12: Number of tree seedlings raised in Iringa Municipality; 2013 and 2014

Ward	Institution	2013	2014
Ruaha	Municipal Council	580,418	251,200
Gangilonga	NGO's	37,250	40,000
Mtwivila and Kihesa	CBOs	129,400	141,000
Total		**227,079**	**240,212**

Source: Iringa Municipal forest office, September, 2014

3.9.2 Bee-keeping

Bee-keeping has not constituted a primary economic activity on Iringa residents. Bee-keeping initiatives started in 2010 by sensitizing communities to get involved in this and donating modern beehives to communities who were willing to be engaged in this business as an alternative source of income. More than 100 beehives were distributed. Bee-keeping in Municipality is practiced in hilly area declared by the by-law as Tree planting and Protection areas. As a result of these initiatives, honey and wax production have shown an increasing trend. While honey production increases from 1,408 kilogram to 3,708 kilogram between 2011 and 2012, Bee-wax increased from 6 kilogram's to 15 kilograms in the same period (Table 3.13). Revenue realized from honey sales increased from Tshs. 11.3 million to 29.7 million respectively. The same trend was revealed from sales of Bee-wax with accrued revenue increasing from Tshs. 30,000 to 75,000 respectively.

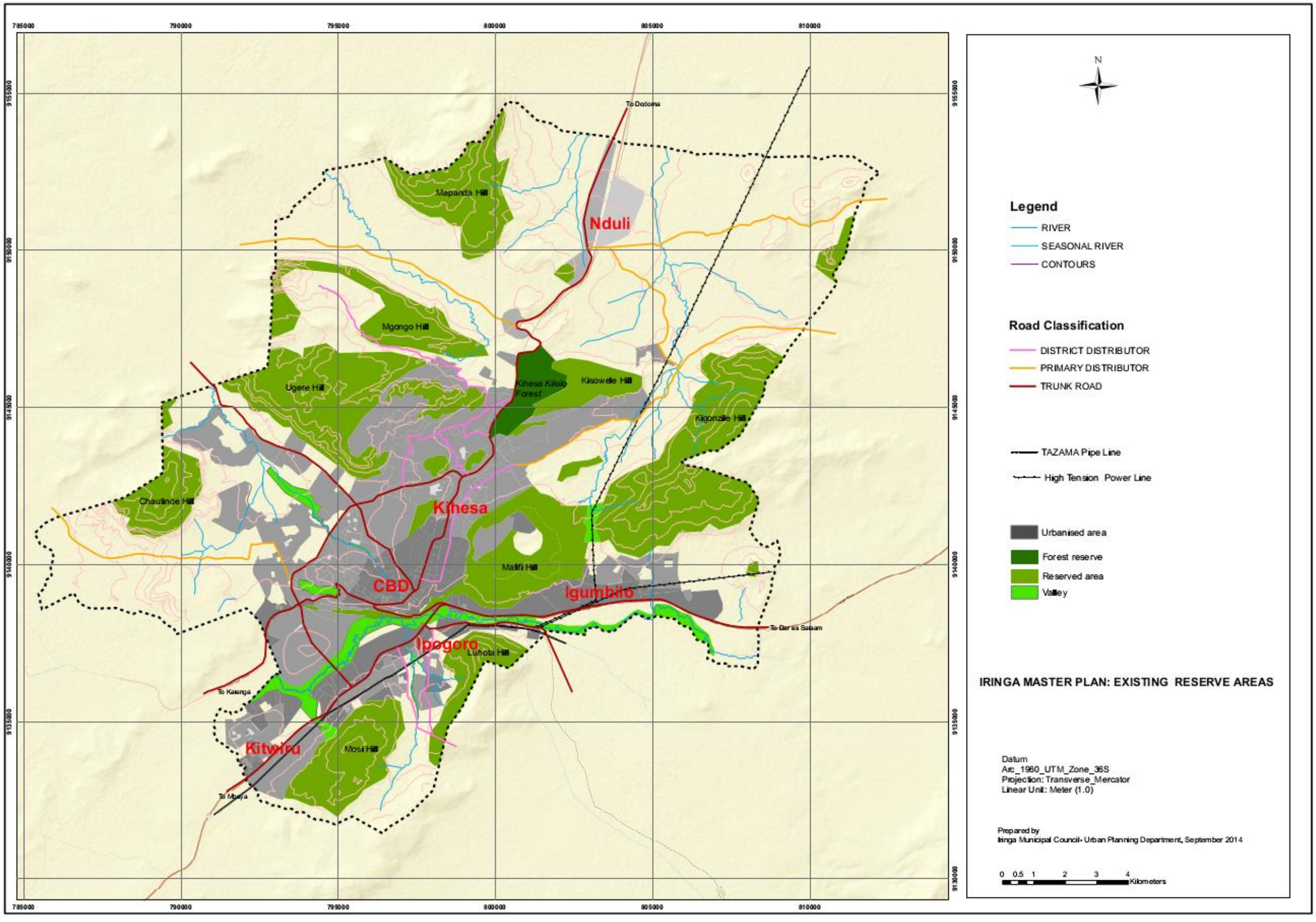
Table 3.13: Beekeeping and bee-wax products (2011-2013)

Year	Honey		Bee-wax	
	Kgs.	TShs.	Kgs.	TShs.
2011	1,408	11,264,000	6	30,000
2012	3,708	29,664,000	15	75,000
Total	**5,116**	**40,928,000**	**21**	**105,000**

Source: Iringa Municipal forest office, September, 2014

Honey and wax production levels in Iringa Municipality could be raised if bee-keepers are given the necessary support to enable them increase the number and technology modern beehives which are more efficient in honey production. This could be achieved through improved extension services and where possible provision of micro-credits to bee-keepers as seed money. The work-force living in areas which are favorable for bee-keeping, especially those in close proximity with forest reserves could be encouraged to engage in this important off-farm or non-resource exploitation economic activity. Bee-keeping has an advantage of being carried out alongside with other economic activities but more specifically during the off-farm periods starting from July to December each year.

Map 3.1: Iringa Municipality: Exiting forestry and reseved area



3.10 ECONOMIC INDICATORS

The economic indicators used to analyze the economic status of residents and their municipality included the Gross Domestic Product (GDP), Per Capital Income main sources of income for the residents as well as poverty indicators. The poverty indicators cover demographic characteristics, health, education status, access to safety drinking water and quality housing conditions. As discussed under section 3.3, the economic base of Iringa Municipality is dominated by trade and commerce, manufacturing industry, agriculture, irrigation farming, tourism, mining, fishing and livestock keeping.

3.10.1 GDP and per capital GDP

The per capital income of the Municipal residents in 2008 was estimated at Tshs. 429,440 which was less than that of Tanzania Mainland of Tshs. 693,470 (Table.3.14). Iringa Municipality makes a significant contribution to the Regional GDP and per capita GDP. The 2008 Regional GDP Survey Report indicated that Iringa Municipality share of the Regional GDP was 7.6 percent. This was equivalent to TShs. 60,479 million.

Table 3.14: GDP at current prices, share and ranking; Iringa Region, Tanzania

Districts/ Councils	GDP (000,000)	Percent contribution to Region GDP	Rank	Per Capital GDP	percent contribution to Region Per Capital	Rank
Iringa Municipality	60.479	7.6	4	429,440	14.2	3
Kilolo District Council	80, 743	10.2	3	362,841	12.0	4
Iringa District Council	274,839	34.6	2	1,031, 508	34.0	2
Mufindi District Council	377, 612	47.6	1	1,206,917	39.8	1
Iringa Region	**793,673**	**100**		**3,030,706**	**100**	

Source: Iringa Region Socio-economic Profile, 2013

3.10.2 Poverty indicators

There are several indicators used to describe poverty. These indicators include Gini coefficient, poverty gap, and percent of households below basic needs poverty line. Specific indicators including main source of cash income, food consumption patterns, school enrollment, adult literacy rate, health indicators, and access to safe and clean drinking water have been invariably applied to analyze poverty. When a composite of these indicators is applied and compare poverty across the four councils that constitute Iringa Region, council with the highest percentage of people living below the basic needs poverty line is Mufindi with 32 percent of its population below poverty level, followed by Iringa Rural at 31 percent (Table 3.15). Iringa Municipality had only 5 percent and was ranked first in the region. According to Poverty and Human Development Report (2005), Iringa Municipality recorded 18 percent of the residents lived below the basic needs poverty line.

Table 3.15: Selected poverty indicators by districts:Iringa Region

District/Council	Percent of people living below poverty line	Poverty Gap	Gini Coefficient Rate	Number of poor / sq.kilometres
Iringa Municipality	18	5	35	132
Kilolo District	29	7	31	7
Iringa District	31	8	32	4
Mufindi District	32	9	35	11

Source: National Bureau of Statistics (NBS), 2013

(i) Main sources of cash income

The 2012 Population and Housing Census Report shows that Iringa Municipality had a vibrant economic potentials for trade and commerce, agriculture, tourism, manufacturing, as well as mining. According to household survey conducted in September 2014, it revealed that most of source of cash income came from trade and commerce where both formal and informal sectors operate. Where 58 percent of the respondents were generating their cash income from trade and commerce followed by agriculture with 19 percent while manufacturing had 13 percent with others have 11 percent which includes mining and tourism activities

(ii) Health Indicators

Residents of Iringa Municipality have good access to social services like health, education and water; however, HIV/AIDS pandemic is among the diseases that have had a negative impact to the health and economy of its residents. As per 2002 population and Housing Census report, the orphan rate was 3.8 percent compared to 2.6 percent regional average which places Iringa Municipality to the top with high orphan rate; however, widowhood rate of 5.3 percent was noted to be below that of region average rate

which is 6.5 percent. The health situation of the people in Iringa Municipality can also be observed in relation to the available health facilities.

Infant Mortality Rate of 83 per 1000 infants was again below regional and the national rates which were 102 and 95 per 1000 infants respectively. The Mortality Rate of 133 per 1000 for Children under Five Years was as well below that of regional and national rates which were 166 and 153 per 1000 respectively. Iringa Municipality is one of leading districts on HIV prevalence with high rate of 9.1percent in the Iringa region. This is also above the Tanzania Mainland rate of 5.3 (URT, 2012) HIV prevalence.

(iii) Food consumption patterns

The level of food consumption is also an indicator of the poverty level at household level. A number of meals taken in a day and the frequency of protein intake per week, particularly meat and fish are used to measure food poverty levels of the households. The 2007/08 National Sample of Agriculture reveals that about 51 percent of the households in Iringa Municipality had two meals per day, about 46 percent of them had three meals per day and 3 percent had one meal per day. The frequency of consumption depended mainly on the season, whereby during the dry season the frequency of consumption was two to three meals per day while in the rainy season the frequency was one to two meals per day.

3.11 SOURCES OF IRINGA MUNICIPALITY REVENUE

Iringa Municipality had a number of revenue sources, the major ones are: Service levy, Market dues, Property Tax, Bill boards, Hotel levy, business license taxes, earning from tourism sector and parking fees.

Table 3.16: Sources of revenue and trend from year 2009/2010 – 2013/2014

SN	Item	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014
1	Property tax	83,784,986	117,758,215	135,981,686	179,119,461	299,706,820
2	Service Levy	130,416,221	169,595,974	161,170,717	221,022,191	251,720,370
3	Bill boards	111,808,850	92,933,823	62,497,083	163,455,191	121,722,470
4	Hotel Levy	65,341,384	58,481,500	74,546,500	92,224,831	99,965,000
5	Parking fee	197,181,700	182,130,350	194,422,180	266,063,500	252,107,212
6	Licence	470,000	-	-	-	251,731,074
7	Market due	174,864,000	189,404,000	136,845,200	152,630,000	180,062,000
	Total	763,867,141	810,303,862	765,463,366	1,074,515,174	1,457,014,946

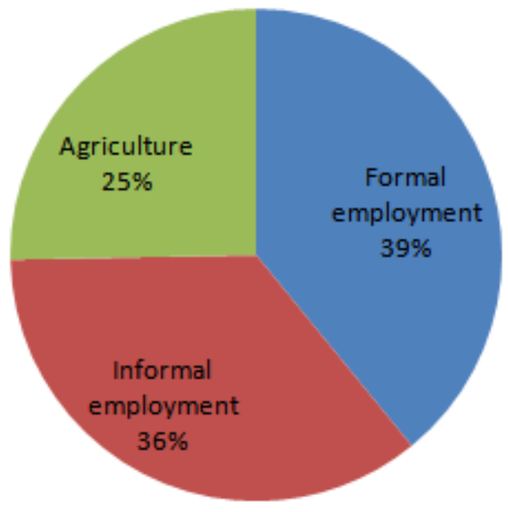
Source: Iringa municipal Finance department, September 2014

In terms of annual own source revenue collection trends, Iringa revealed a fascinating trend of Tshs 810.3 million in 2010/2011 from 763.8 million in 2009/2010 financial year, collection decreased in the financial year 2011/2012 due to government not collecting taxes in business licenses. The financial collection trends gradually increases in the next three financial years with effort of collections of taxes in property taxes and service levy while taxing business license started again.

3.12 EMPLOYMENT AND INCOME STRUCTURE

The workforce of Iringa municipality is distributed between the three sectors which are agriculture, formal employment and informal employment. According to household survey conducted in September 2014 revealed that, 39 percent of the respondents are employed in formal employment, 36 percent are employed in informal employment while 25 percent are employed in agriculture.

Figure 3.1: Employment Structure in Iringa Municipality



CHAPTER FOUR

4.0 EXISTING LAND USES

Iringa Municipality has a total area of 33,140 hectares out of which 34 percent of the land is planned for various uses and the remaining 66 percent is unplanned. Unplanned land is constituted by unplanned settlements and agricultural land use. Constraint land which includes valleys and hills cover a total land area of 641 hectares. The overall land is distributed in different land use categories including residential, commercial, commercial/residential, industrial, recreational and open spaces, institutional, agricultural, water bodies and conservational (forest, valleys and hills). Included in these categories are physical infrastructure (transportation network, air strip, and electricity and water way-leaves), parking, bus terminals, oxidation ponds, cemeteries, dump sites and abattoir.

4.1 LAND USE CATEGORIES

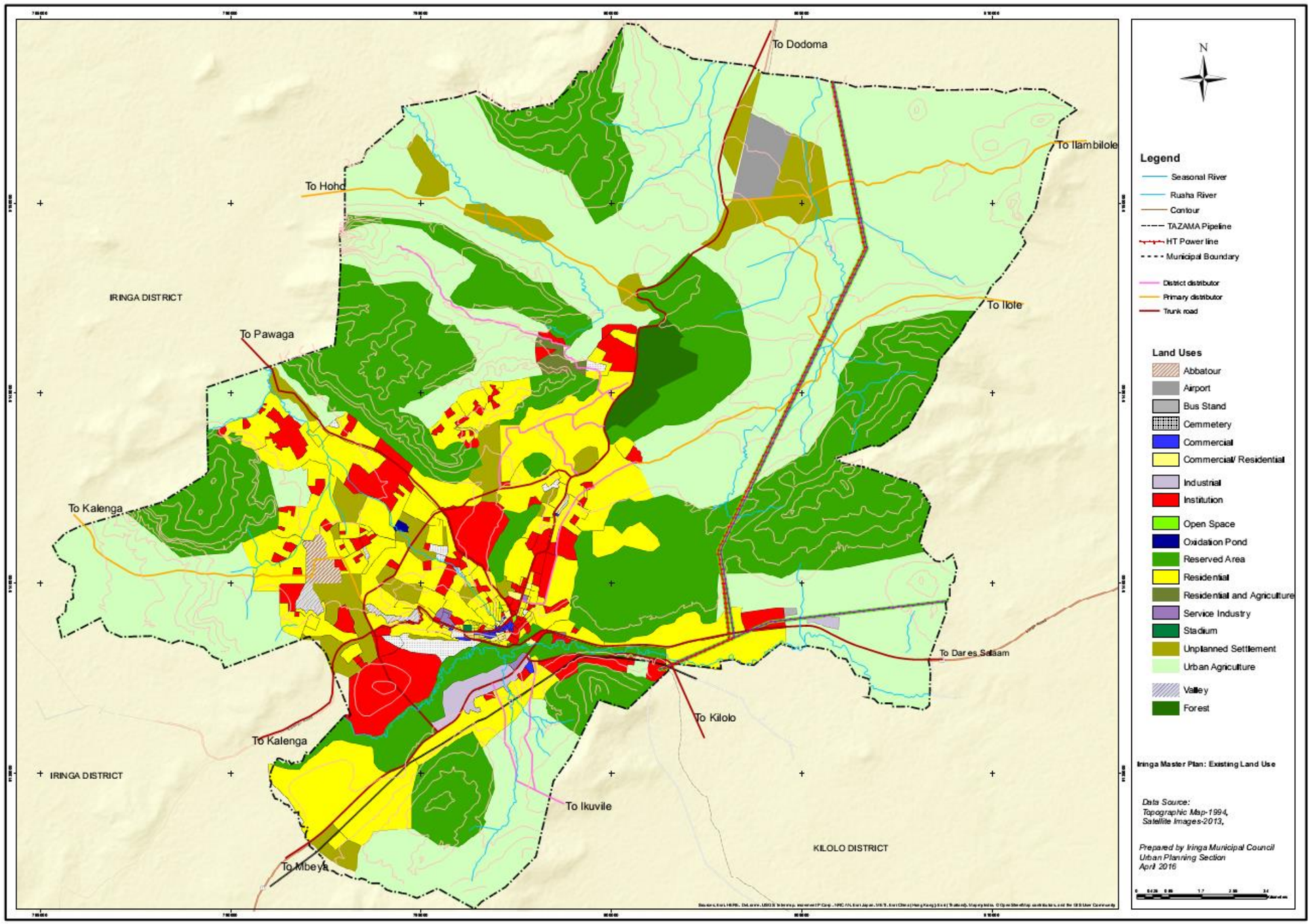
The land use survey that was conducted in September 2014 revealed the dominant land use category was agriculture that covered 14,193 hectares or 42 percent of all municipal land. This was followed by mountains and hills with land coverage of 7,790 hectares or 4 percent. Other uses with larger land coverage included residential planned and unplanned that covered 5,426 hectares (16 percent), agriculture and scattered settlements with 2,182 hectares (7 percent) and institutional land with 1,982 hectares (6 percent). Residential uses occupied a larger part of Mtwivila, Kihesa, Mwangata, Mivinjeni, Makorongoni, Mkwawa, Mlandege, Mwangata and Ilala, while commercial uses were dominant in CBD, Gangilonga, Miyomboni and Kitanzini wards. Industrial uses were found mainly along TANZAM-highway (Table 4.1).

Table 4.1: Existing land uses

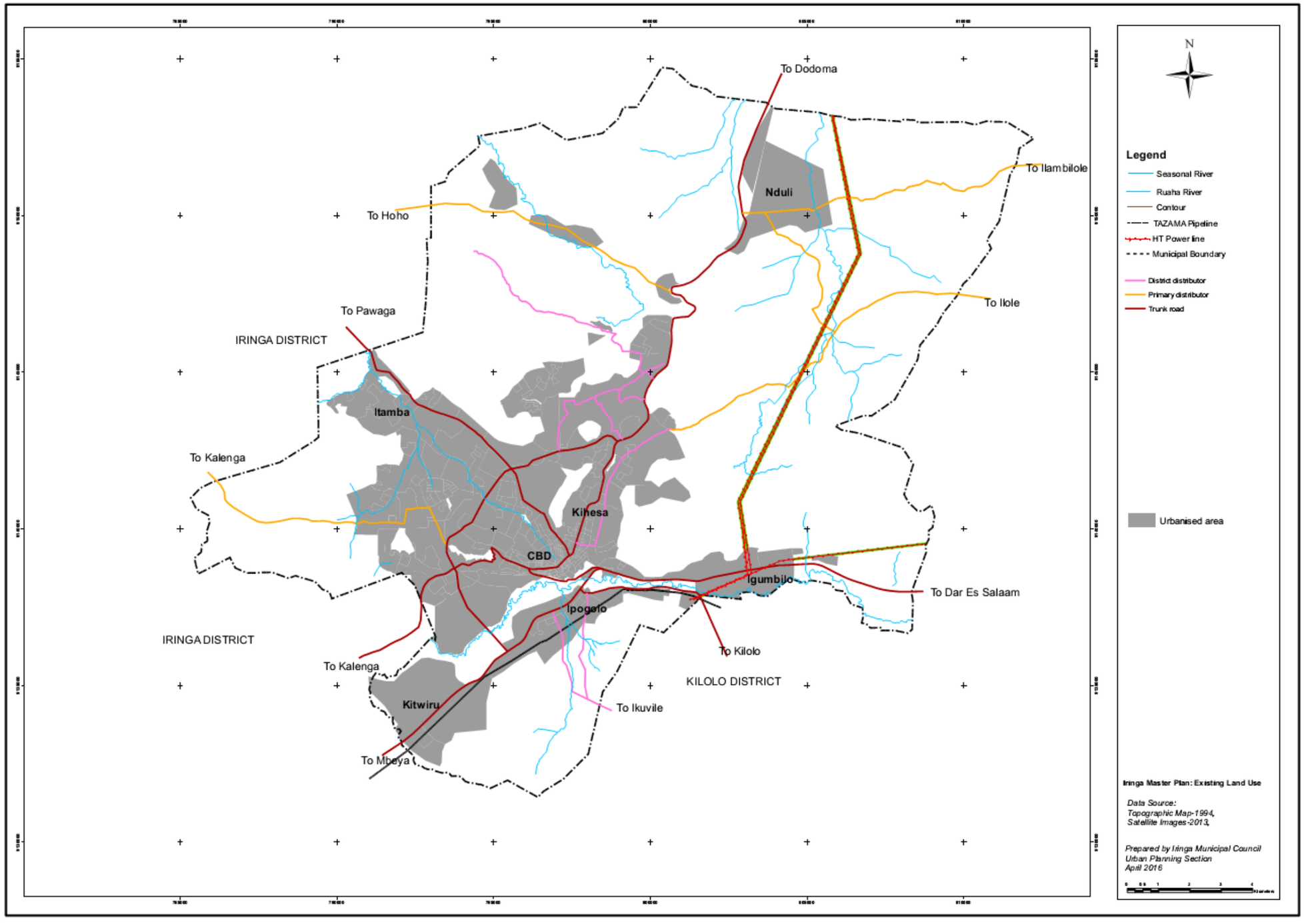
Na	LAND USE	AREA (Ha.)	PERCENTAGE
1	Planned Residential	2,434.606	**7.346**
2	Unplanned Settlements	2,990.493	**9.024**
3	Agriculture and scattered Settlements	2,175.498	**6.565**
4	Commercial	52.798	**0.159**
5	Commercial/Residential	39.95	**0.121**
6	Institutional	1,981.932	**5.980**
7	Agriculture	14,192.91	**42.827**
8	Industrial	73.464	**0.222**
9	Water Bodies	4.528	**0.014**
10	Forestry reserve	233	**0.703**
11	Golf course	44.99	**0.136**
12	Bus stand /Parking	1.078	**0.003**
13	Recreational/ Open space/Parks	51.602	**0.156**
14	Hills	7,789.943	**23.506**
15	Valley	617.727	**1.864**
16	Road Network (Circulation)	258.86	**0.781**
17	Bus stand and	1.078	**0.003**
18	Dumpsite	6.0	**0.018**
19	Air strip	143.273	**0.432**
20	Cemetery	35.558	**0.107**
21	Oxidation pond	10.71	**0.032**
	Total	**33,140**	**100**

Source: Basemaps and Field surveys - September, 2014.

Map 4.1 Municipality: Existing land uses



Map 4.2: Iringa Municipality: Urbanised Area



4.1.1 Residential

The distribution of residential uses reflects the stratification of the society in different income groups. This feature reflects the colonial legacy of settlement stratification based on racial segregation of Europeans, Asians and Africans. Typically Gangilonga or "uzunguni" was designated for Europeans, "uhindini" for Asians and the rest of Kitanzini, Mivinjeni and Makorongoni for Africans. The Low density areas of Gangilonga, Wilolesi and Mafifi have been occupied by high income people. The remaining residential planned areas are high and medium density development dominated by low and middle income people.

Table 4.2: Planned and unplanned areas in Iringa Municipality

No	WARD	STATUS	TOTAL AREA (Ha)	PLANNED AREA		UNPLANNED AREA	
				Ha.	Percentage	Ha.	Percentage
1	Kitanzini	Urban	64	64	100	-	-
2	Gangilonga	Urban	531	531	100	-	-
3	Kihesa	Urban	1124	314	28	810	72
4	Mtwivila	Urban	477	462.69	97	14.31	3
5	Ilala	Urban	52	52	100	-	-
6	Mivinjeni	Urban	27	27	100	-	-
7	Kwakilosa	Urban	86	86	100	-	-
8	Mlandege	Urban	123	120.45	97.03	2.55	2.07
9	Mwangata	Peri-urban	860	825.6	96	34.4	4
10	Isakalilo	Peri-urban	2803	336.36	12	2466.64	88
11	Mkwawa	Peri-urban	2698	2185	71	513	19
12	Makorongoni	Urban	79	79	100	-	-
13	Mshindo	Urban	33	33	100	-	-
14	Ruaha	Urban	1229	1203	97.88	26	2.12
15	Kitwiru	Peri- urban	2669	2479.50	92.9	189.50	7.1
16	Nduli	Peri-urban	13173	206	1.56	12,967	98.44
17	Igumbilo	Peri- urban	3882	924	23.80	2958	76.20
18	Mkimbizi	Peri- urban	3230	1209	37.40	2021	62.60
Total area			**33,140**	**11,137.6**		**22,002.4**	

Most of the planned areas are found in urban and peri-urban areas. The planned area covers a total of 11,137.6 hectares which is 34 percent of the total area. Unplanned area covers 66 percent of the total area. Wards within and nearby Central Business District (CBD) area are well planned while wards in the peri-urban areas have a mixed pattern of planned and unplanned areas (table 4.2).

4.1.1.1 Planned residential areas

Planned residential area covers a total land of 434.606 hectares of which 45 percent of the total area used for residential purposes. The planned residential areas includes: Gangilonga, Mshindo, Kitanzini, Kwakilosa, Mlandege, Ilala, Mivinjeni, Mtwivila part of Mkwawa, Kitwiru, Mwangata, Isakalilo, Ruaha, Kihesa and Makorongoni wards. The Municipal Council has planned new residential area in Kitwiru, Igumbilo, Ngelewala, and Mafifi in the peri - urban areas to with a view of combating the increase of informal settlements around the steep slopes of the hilly sites (Map 4.3).

4.1.1.2 Unplanned residential areas

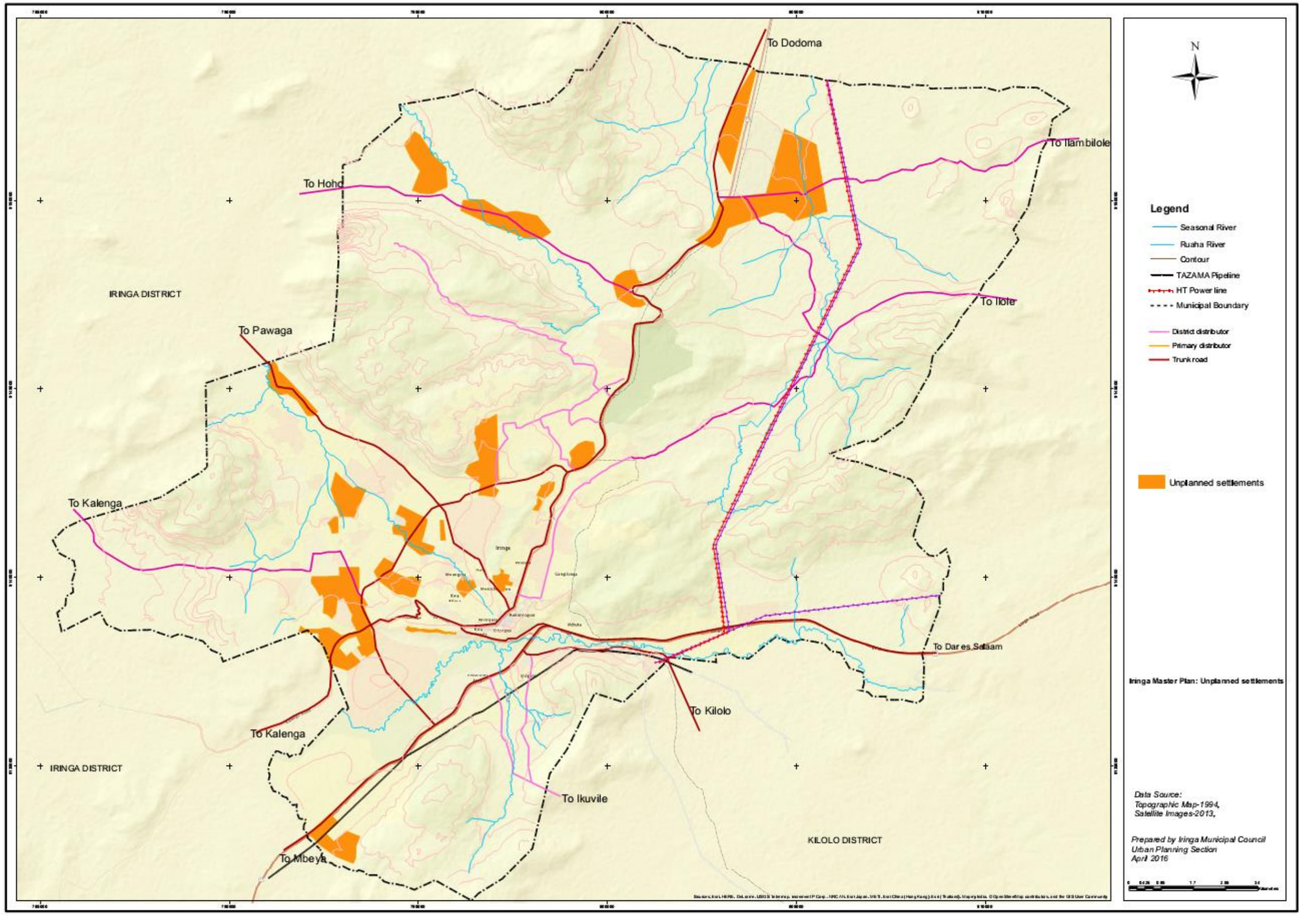
Unplanned residential areas cover 2,991 hectares which accounts for 55 percent of the total residential area. Unplanned settlement areas are found in Ipogolo, Lukosi, Isakalilo, Don Bosco, Makanyagio, Nyamuhanga, Kisiwani, part of Kihesa, Mtwivila, Mafifi, Igumbilo and Isakalilo. Most of these areas are either saturated stage resulting into poor environmental conditions or consolidation stage calling for regularization.

The Municipality in collaboration with Property and Business Formalisation Programme (MKURABITA) have regularised informal settlements at Mwangata A, Mwangata B, Isoka A, Kihodombi A and Kihodombi B. Under this programme, a total of 739 properties were regularized. The aim of regularisation is to improve unplanned settlements by negotiating and acquiring land for basic infrastructure services such as roads, water supply, electricity, schools and dispensaries.

4.1.2 Agriculture and scattered settlements

Agriculture and scattered settlements include areas covered by settlements and agriculture. This category of land use covers an area of 2,181.498 hectares which is equivalent to 6.6 percent of the total area. Most of these areas are found in the peri - urban sections of the municipality. The dominant activities in this area include; agriculture, livestock keeping, poultry and housing. These areas are found in Mkoga, Kitasengwa, Nduli, Kigonzile, Ulonge, Igumbilo, Ugele, Itamba and Mosi.

Map 4.3: Existing planned and unplanned settlements



4.1.3 Central Business District (CBD)

Currently, there is one Central Business District Area (CBD) located on the southern trim of plateau underlying Iringa Municipality. It forms a narrow corridor of about 2.8 kilometres in length but not wider than 1.0 kilometres at its broadest manner. It flanks the Great North road (Iringa – Dodoma). The central area has an area of 212 hectares, which covers about 1.2 percent of the entire town. Being a core for commercial, social and economic activities of the town and the region at large, the central area is linked with other neighbouring regions by road network. This road network is notable through two National trunk roads. These are: The TANZAM highway (Tanzania – Zambia) and the Great North road. The CBD area is part of Kitanzini, Mshindo, Kwakilosa, Gangilonga, Mivinjeni, Mlandege and Makorongoni wards (Map4.4). The development of the CBD area is based on guidelines provided in the CBD Redevelopment Plan (2002-2017) that recommend vertical development of buildings starting from two to six storeys and above. Presently, there are only 92 high rise buildings in the CBD area.

4.1.4 Commercial

Most of the commercial activities are concentrated along Uhuru Avenue, Uhindini, Jamat and Mashine tatu, along major roads and areas surrounding market centres. Market centres are located at Mlandege, Kihesa, Mashine tatu, and the Central market. Commercial area covers a total land of 5.8 hectares which is equivalent to 0.19 percent of the total area. Minor commercial activities are conducted in peri-urban area including small corner shops and open markets.

4.1.5 Commercial/residential uses

Most of the commercial/residential activities are again found in the CBD and along the major roads especially TANZAM highway, Dodoma, Kalenga, Pawaga, Kihesa, and TIB. Other commercial/residential activities are located in neighborhood centres. Other areas where concentration of commercial/residential uses are found include; Nduli, Isakalilo, Kihesa and Ipogoro.

4.1.6 Industrial uses

Industrial development in the municipality covers an area of 73.464 hectares which represents 0.2 percent of the total area. These industries are categorized into small and medium scale industries. Small scale industries are engaged in welding and metal fabrication, as well as carpentry. Others include food processing industries some of which are located in unplanned settlements. Medium scale industrial establishments are found along TANZAM Highway to the southern part of the town namely Ipogolo and Kibwabwa. There are also service industries at Mashine tatu, Kihesa, Gangilonga, Kwakilosa (Mlandege), Itamba, Mawelewele and Ngelewala.

4.1.7 Institutional land uses

The area covered by institutions is 1,981.932 hectares which accounts 5.985 percent of the total area of the planning area. The major public institutions include: government administration, health and education facilities, prisons and universities. Others include administration and religious facilities; these areas are either owned by either public or private institutions.

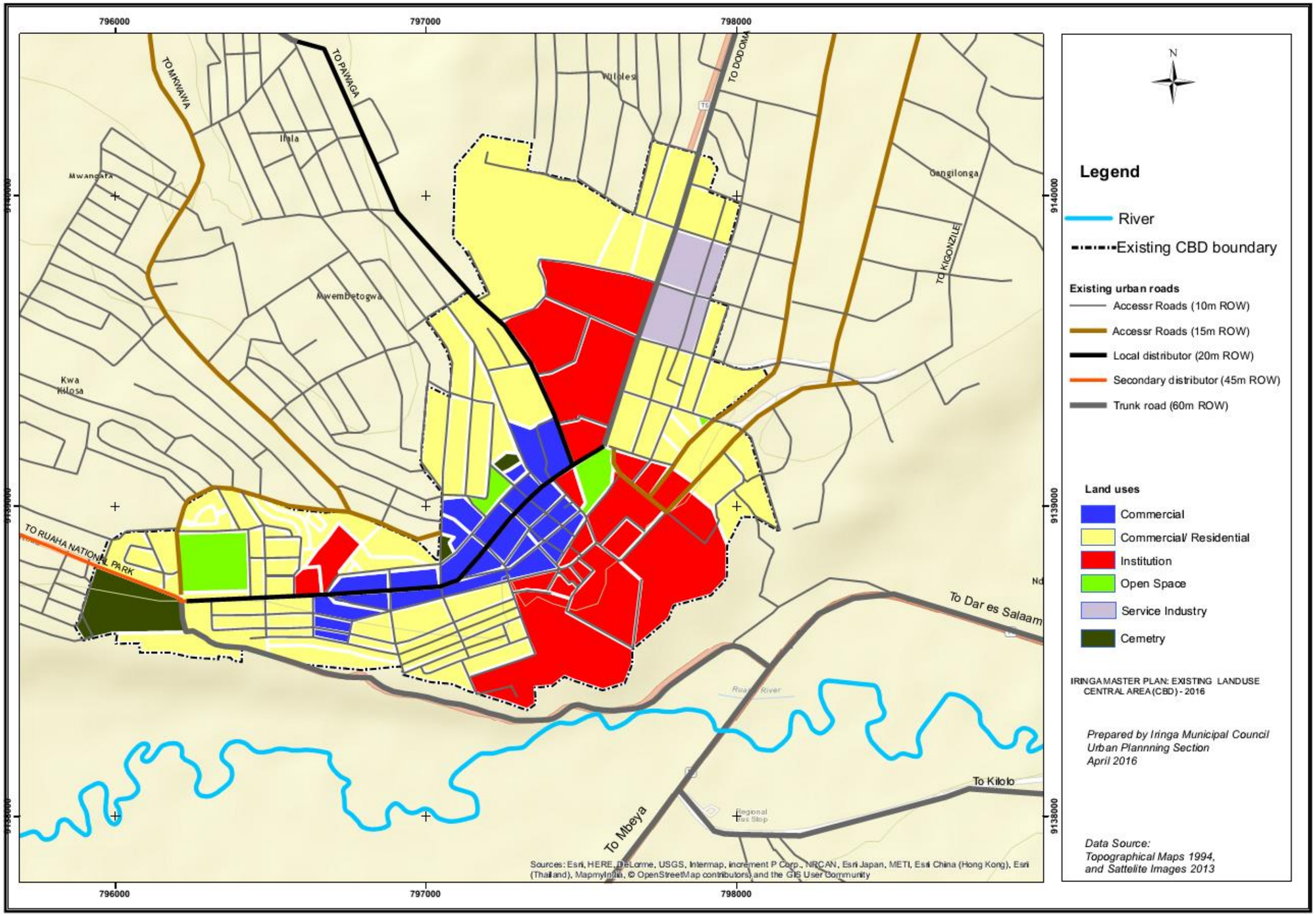
Primary Health Care Institute, VETA and Primary and Secondary Schools. Other institutions include Churches, Mosques, Dispensary, Police Station, Prisons, Health Centre's and hospitals. The most dominant education facilities that occupy a sizeable land include Mkwawa University, Iringa University, Ruaha Catholic University (RCU), Open University Iringa Branch, Moshi University Collage of Cooperative Society (MUCUS) Iringa Branch, Ruaha Community Development Training Institute,

4.1.8 Recreational areas and open spaces

Recreational land uses cover both active and passive recreational sites. Passive recreational sites include; open spaces, neighborhood parks, community recreational parks, recreational parks (amusement) and central park. On the other hand active facilities include playing grounds /open spaces. Many of these open spaces are located in Kwakilosa, Gangilonga and Makorongoni wards. Playing grounds are scattered throughout the municipality area often attached with primary and secondary schools.

Recreational areas and open spaces have total coverage of 51.602 hectares which is equivalent to 0.2 percent of the total area. This provision is too small for cities and municipalities that are considered as livable. At settlement level, open spaces and recreational grounds should cover at least 10 percent of the area.

Map 4.4: Iringa Municipality: Exiting land use Central Area (CBD)



4.1.9 Road network

Car transport is the dominant modes of transport in Iringa Town. Iringa is well linked with two international trunk roads i.e. TANZAM highway and the Great North road. The TANZAM highway connects Iringa Municipality with Morogoro, Dar es Salaam and Moshi to the north; Njombe, Mbeya and Songea to the South. The TANZAM highway by-passes the Iringa CBD to the south, thus, eliminating externalities emanating from congestion, noise and air pollution that may be caused by heavy traffic.

Road network in the municipality covers a total area of 258.9 hectares with a total length of 399.13 kilometres. Tarmac road has a total length of 59.19 kilometres out of which 42.62 kilometres is under TANROAD and 16.57 kilometres are Municipal roads. Municipal gravel roads cover 237.23 kilometres and 103.71 kilometres are earth road.

4.1.10 Air Strip

In Iringa Municipality there is an airstrip located in Nduli ward which is about 15 kilometres away from the CBD. The airport covers an area of about 143.27 hectares. Presently, this airport serves small aircrafts due to shorter runway and limited facilities of the airport.

4.1.11 Agriculture (Crop Farming and Grazing)

Agricultural land is the largest category of land uses covering an area of 14,222.91 hectares. This is equal to 42.74 percent of the total area. Agriculture is also an economic activity that provides employment to many residents in Iringa Municipality. Major agricultural areas include: Mkoga, Itamba, Ulonge, Mgongo, Nduli, Kigonzile and Mkimbizi. Other agricultural activities are conducted in scattered settlements in the Peri-urban areas of Mapanda, Kitasengwa, Igumbilo, Wahe, Kitwiru and mawelewele.

4.1.12. Water Bodies

Iringa Municipality has several water bodies which cover 4.528 hectares of the total area. This coverage is equivalent to 0.14 percent of the total area. These bodies are Ruaha River, Kitwiru spring, Mawelewele water spring and seasonal streams within the town. Little Ruaha is the main source of domestic water in the municipality with support of Kitwiru and Mawelewele natural springs. Another seasonal stream is Hoho stream which starts in the Iringa Central area flowing towards Itamba area, this stream is formed by Kitasengwa stream, Mwangata stream and Itamba steam while Kitwiru stream, Kibwabwa stream and Kinegamgosi stream forms a tributary of little Ruaha river. Kihesa stream formed by Kleruu natural spring, Kisowele stream, Tumaini stream and Kigonzile stream which starts from Kleruu Teachers College towards Nduli. These streams are very important for economics activities of people because water from these streams is used for irrigation purposes.

41.13 Parking

Parking as land use are found along the roads within the urban centres. Concentration of parking lots is located along Uhuru Avenue, Uhindini and Kalenga roads.

4.1.14 Bus terminal

There are two bus terminals located within the municipality which covers 0.32 hectares and min bus terminals (daladala) which cover about 0.06 hectares both are located at Miyomboni. The planned main bus terminal with coverage of 4.0 hectares is under construction at Igumbilo area.

4.1.15 Conservation areas

Most of the conserved areas involve areas covered by forestry, hills and valleys. These areas are managed by either public institutions or private groups; these are Kihesa-Kilolo forest is the only declared forest reserve. This reserve was declared in 1953 by a Government Notice number 37. It is located 7 kilometres from the Urban Centre. This forest reserve covers a total area of 233 hectares on the slopes of Mawelewele hills. The forest is managed by the Ministry Natural Resources and Tourism. Within this forest reserved there is an area of about 6 hectares which is used as temporary dump site.

Another category of conservation areas include hills which cover a total area of 23.53 hectares. These hills are covered by natural vegetation of grass and short trees. Some of these hills are being managed by community group such as Mafifi, Wilolesi, Ilala, Mtwivila, Chautinde and Luhota. Others conservation areas have no management arrangements and therefore have been encroached by settlements at Kihesa, Mtwivila, Lukosi, Kibwabwa, Kinegamgosi at Ruaha ward and Kihesa Mafifi. River valleys constitute another category of conservation areas. These valleys are located within Little Ruaha river and seasonal streams. The seasonal stream valleys include Hoho, Itamba, Kibwabwa, Kinegamgosi, Kitwiru, Kisowele, Nduli, Kitasengwa, Mkoga, Tumaini, Kigonzile and Mwangata. Seasonal stream valleys cover a total area of 617.73 hectares.

4.1.16 Other land uses

Area covered by cemetery sites is 35.6 hectares. These sites are managed by the Municipal Council. Large cemetery sites are located at Mlandege, Mtwivila, Cagirielo, Makanyagio, Kitwiru, Kihesa, Mlolo, Kihesa Kilolo and Kitasengwa. Included under this category of land uses are abattoir sites. There are two main abattoir sites; the Ngelewala site which is owned by the Municipal Council with a total area coverage of 30 hectares. The small abattoir site is located at Kitwiru ward and privately managed by individuals. Oxidation Ponds constitute another category of land uses. It has a total area of 10.71 hectares located at Donbosco.

CHAPTER FIVE

5.0 HOUSING AND RESIDENTIAL DEVELOPMENT

Housing is one the basic needs for human development. It is therefore the government's priority to ensure that every citizen has an access to secure, decent, and affordable housing. Iringa Municipality has also a responsibility to provide land for housing and residential development. The analysis presented in this chapter focuses on housing characteristics and importance, housing types and stock, production and quality, building materials and occupancy rate, provision of services, and housing requirement. Housing occupies 60.5 percent of urban gross areas. However, inadequate housing remains one of the unresolved problems for many urban centres in Tanzania including Iringa Municipality. Housing provision systems are inadequate to cope with the rapid population increase and growth. While the requirement for housing has been increasing, the supply of serviced plots is declining. This mismatch is constraining national economic growth and productivity, resulting into development of unplanned settlements.

5.1 EXISTING HOUSING PATTERNS

The household survey conducted in September 2014 revealed three types of settlement patterns namely; linear, nuclear and spread; while linear settlement was dominant in some areas of the town particularly along the major roads of TANZAM high way, Dodoma, Kalenga, Pawaga and Kilolo roads. Nuclear settlement pattern was found in Central area and other small centers such as Kihesa, Mkimbizi, Mtwivila, and Ipogoro. Nucleated clusters were also found in peripheral areas of Nduli, Ulonge, Mkoga, Zizi, Isakalilo and Itamba. Scattered settlements pattern was mostly found in the peripheral especially in areas where agriculture activities were taking place. The nature of these scattered settlements was largely influenced by the established land distribution by the former villages' administration where by different land uses were located separately.

5.2 HOUSING CONDITION

It has been a common practice in Tanzania to assess housing conditions based on the type of building materials used in the construction. Such condition surveys have analyzed status of foundations, roofing, walling, fencing, floor material and utilities associated with the house. Accommodations of these factors have culminated into judging whether houses are in good, fair and poor condition. As highlighted in the foregoing chapter, Iringa Municipality has a total number of 25,000 houses. According to the household survey conducted in September, 2014 about 55.5 percent of the buildings' condition was *fair* followed by 25.6 percent *good* and 18.9 percent poor. Majority of the buildings in the CBD were in fair condition because most of the houses were built during colonial era. Table 5.1 shows the housing condition.

Table 5.1: Housing conditions

Building condition	Good	Fair	Poor	Total
Number of houses	6400	13,880	4720	25,000
Percentage	25.6	55.5	18.9	100

Source: household survey, September, 2014

Houses that were categorized to be in good condition were found in planned areas of Gangilonga, Mawelewele, Ngelewala, and part of Mtwivila, Mkwawa and in isolated sections of unplanned settlements. Housing with fairly good conditions was located in Mtwivila, Mkimbizi, Kihesa, Kitwiru and Mwangata Wards. Poor condition houses were found in peri - urban areas of Nduli, Kitwiru, Ruaha, Isakalilo, Mkwawa and part of unplanned areas near urban centre of Mwangata. The building materials used are unburnt bricks, mud walls and thatched or roofed with poor quality iron sheet.

Poor housing condition is also manifest in some government institutions housing such as Police Quarters at Lugalo (FFU), and those in the central area. Municipal houses in Mlandege and Makorongoni were also in very poor condition. These houses on prime land with high value in the municipality. In order to optimize land value of these areas, there is a need to redevelop these dilapidated single storey houses and replace with high rise buildings that will accommodate more households and, thus, contribute to increased housing supply to the municipality.Based on household survey conducted in September 2014, Iringa Municipality had a total of 25,000 housing buildings. About 47 percent of the total housing stocks were located in unplanned areas and the remaining 53 percent were in planned areas.

5. 2.1 Housing condition in planned areas

Housing condition in planned areas was generally good. Most of the buildings were constructed by permanent materials. Most of these houses were fenced and some with gardens within the compound. These areas were served by all facilities and infrastructure including piped water, access roads, electricity, storm water drainage and solid waste management services. These areas include the Central Area, Kitwiru, Mawelewele, Mkimbizi, Mtwivila, Mkwawa and Igumbilo.

5. 2.2 Housing condition in unplanned areas

Houses in unplanned areas were relatively small in size, irregularly shaped and majority of the plots were less than 400 square metres. Some of these houses were built in hazardous areas which were prone to floods and landslides. Most of the unplanned housing areas lacked basic public utilities including piped water, access roads, electricity, storm water drainage channels and solid waste management. These areas include: Isoka, Mwangata, Makanyagio, Kihesa, Mafifi, Mtwivila and Ipogoro. Household onducted in September 2014 revealed that 162 households where in unplanned settlements, of which 132 houses have access to both water and electricity while 112 connected to water only, 98 houses have electricity only. Also 87 houses have on-site sanitation and 75 had offsite sanitation.

5.3 HOUSING DENSITY

Housing density decreases as one move from the Central Business District to the peri - urban areas and higher densities are also notable along main roads. The wards of Miyomboni/Kitanzini, Mshindo, Mivinjeni, Ilala, Makorongoni, Mwembetogwa and part of Mlandege, Mtwivila, Kitwiru, Mwangata, Isakalilo and Kihesa depict higher housing density. Gangilonga was planned as low density area is accommodated white settlers and administrators and Asian business men. Currently there is high transformation of land use changes and plot subdivision to meet the current market demand (Map 5.1).

Table 5.2: Housing density by wards

S/N	Ward name	Area	Number of houses	Housing density
1	Kitanzini	64	537	8.39
2	Gangilonga	531	631	1.19
3	Kihesa	1124	2,652	2.36
4	Mtwivila	477	1,983	4.16
5	Ilala	52	539	10.37
6	Mivinjeni	27	524	19.41
7	Kwakilosa	86	783	9.10
8	Mlandege	123	972	7.90
9	Mwangata	860	1,972	2.29
10	Isakalilo	2803	1,802	0.64
11	Mkwawa	2698	2,483	0.92
12	Makorongoni	79	662	8.38
13	Mshindo	33	194	5.88
14	Ruaha	1229	2,972	2.42
15	Kitwiru	2669	2,348	0.88
16	Nduli	13173	985	0.07
17	Igumbilo	3882	2,024	0.52
18	Mkimbizi	3230	937	0.29
		33,140	25000	

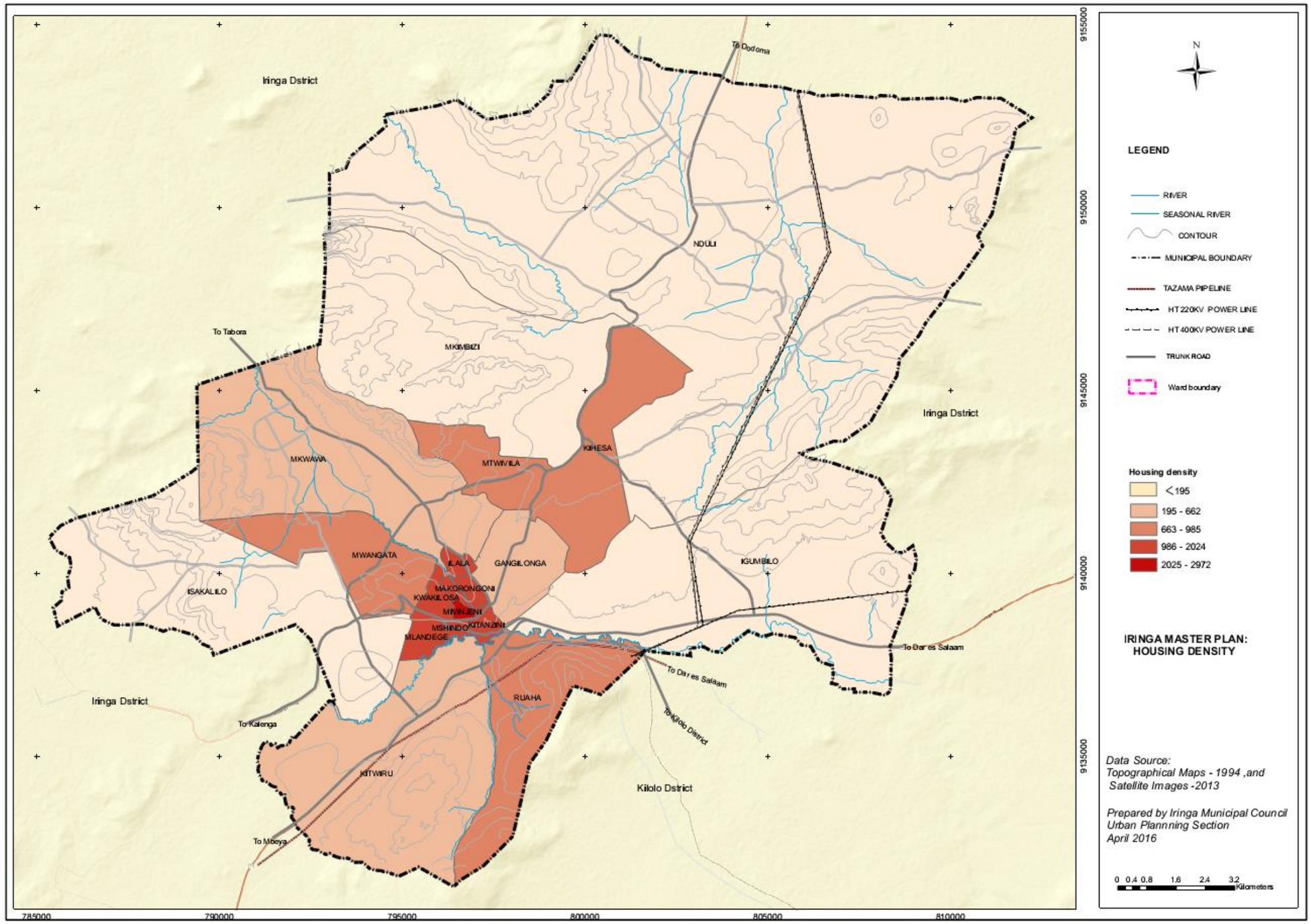
Source: Municipal Town Planning Office, Iringa Municipal council - September, 2014

5.4 HOUSING TYPE

The existing house types in Iringa Municipality are classified into five main categories namely; detached houses, blocks of flats, row houses, semi-detached and traditional houses. Detached houses are large, one family residential houses of basically high-income earners. Most of these houses are located in Gangilonga and Mawelewele. According to household survey conducted in September 2014, about 74.8 percent of all household fall in the category of detached houses. Many blocks of flats are found in the Central Business District (CBD). A few others are found in Kihesa near Iringa University and Mawelewele. Block of flats accounts for 0.5 percent of all houses stock in Iringa. Row houses are found in government premises such as police quarters and National Housing Corporation buildings. This type of housing account for 0.2 percent of all houses in Iringa Municipality.

Traditional houses are built of mud walls and roofed with corrugated iron sheets or thatched roof. Usually they are occupied by single families. Traditional houses are dominant in peri-urban wards of Nduli, Itamba, Mkoga and Ulonge, some parts of Mtwivila, Isakalilo and Mwangata unplanned settlements. The fact that most of these areas are not planned prior to development, they lack basic infrastructure services such as water supply, electricity and decent sanitation. Traditional houses accounts for 24.5 percent of total houses.

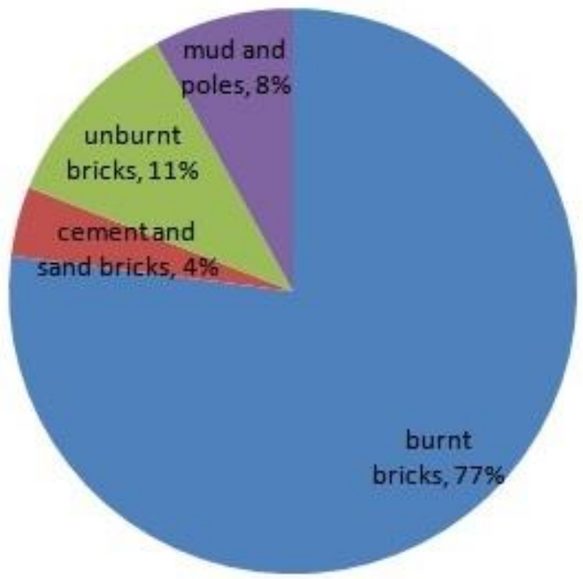
Map 5.1: Iringa Municipality; Housing Density



5.5 BUILDING MATERIALS

Most of the buildings in planned areas are built of permanent materials such as burnt bricks, corrugated iron sheet, and cemented floor. In peri-urban areas, most of houses were built of traditional building materials namely; mud and poles, un-burnt bricks, mud and poor quality corrugated iron sheet or thatched. These areas also lacked basic facilities of water, electricity, access roads and decent sanitation systems. Stones were dominant in foundation materials due to its availability from nearby mountainous areas. However some of the houses in peri - urban areas, had no stone foundations because traditionally they were made up of mud and unburnt bricks as foundation materials. Walling materials were mainly burnt bricks which accounted for 76.7 percent of all houses in the municipality. Unburnt bricks accounted 10.8 percent, and 7.8 percent for mud and poles. Sand and cement blocks account for 4.7 percent only. Mud bricks and mud walls were common in the peri- urban areas. (Figure 5.1)

Figure 5.1: Walling Building Materials



Most houses were roofed with corrugated iron sheets. Other materials used for roofing were thatch, asbestos, concrete and mud. According to the household survey of September 2014, 72.6 percent were houses roofed with corrugated iron sheets; 5 percent with roofing tiles, 11.5 percent with concrete and 10.9 percent with mud and thatch. Thatch roof was typically found in peri - urban areas of Itamba, Ugele, Kitwiru, Mkoga, Nduli and Igumbilo wards. Cement floor, tiles, mud, and loose earth were used flooring materials. Tiles as floor material were more dominant in the urban Centre, followed by cement and mud and loose earth for most of the peri - urban houses.

5.6 HOUSING SERVICES

Water

About 95 percent of the houses are connected with piped water supply. Water reticulations network has reached even the peripheral wards of Nduli and Ulonge sub ward. Other peri-urban were water supply is yet to be extended access water through community water kiosk and borehole. In Mkoga ward people are still using traditional wells.

Electricity

Approximately 75.6 percent of the houses are connected with electricity. Both planned and unplanned areas of the town are connected to electricity supply. Houses in peri-urban areas of Itamba, Nduli, Kigonzile, Mgongo Mkoga and Ulonge, are not well served with electricity this is due to the nature of the temporary building materials. Materials such as mud and poles, and thatched roofs are considered vulnerable to fire accidents.

Sewerage

The sewerage network in Iringa Municipality covers a total distance of 5.5 kilometres. About 2.5 percent of houses are connected with central sewerage system. These comprise areas of Ilala, Mshindo, Mwembetogwa, Miyomboni, Kitanzini, Mkwawa, Don Bosco and part of Frelimo. According to the household survey of September 2014, houses with pit latrines take up 13.6 percent followed by septic tank 68 percent and cesspit systems 6.4 percent.

Solid wastes management

About 97 percent of the households' dispose their wastes in metal and plastic bins as well as other improved waste storage bins. Secondary storage of solid waste is by way of skip buckets as well as on the ground. The total number of secondary storage points, which are also known as collection points was

noted to be 79. There were only 56 collection points with skips bucket, 4 provided collection platform (vizimba). The main dumping sites were located in Kihesa Kilolo and Isakalilo.

Road network

All planned areas of Miyomboni, Mshindo, Gangilonga, Ilala, Mlandege, Kwakilosa, and Mivinjeni were well accessed by roads. In most of the unplanned areas few houses were accessed by roads while many houses were accessed by foot paths. Peri-urban areas infrastructures were not good. Yet these areas are either gravel or earth providing a limitation for passability during rainy seasons. It is important for the Municipal Council to tarmac access roads to avoid frequently maintenance of gravel roads and minimize maintenance costs.

5.7 HOUSING PRODUCTION

According to the household survey of September, 2014, it was revealed that the average annual supply of houses stood at 480 units per year. This trend was extrapolated for a period of three years. More houses were constructed in the Central areas due to housing transformation whereby low-rise houses were being replaced with high rise buildings. On average, 30 new high rise buildings per year were being built in the municipality. It is equally important to note that rapid construction of new houses was also taking place in newly planned areas of Mawelewele, Ngelewala, Kitwiru, Itamba and Isakalilo. The same trend prevailed in unplanned areas. These areas include; Isakalilo, Ipogoro, Semtema, Lukosi, Nduli and Kitwiru.

5.8 HOUSING OWNERSHIP AND OCCUPANCY CHARACTERISTICS

Privately developed houses accounted for 97.6 percent of all residential houses in Iringa. Rental housing is still marginal depicted by few units owned by the National Housing Corporation, Mkwawa University College and Parastatal Organizations including pension funds, government quarters and other institutions. According to the household survey of September, 2014 a total of 236 respondents were tenants representing 43.7 percent and 304 houses owners that accounted for 56.3 percent.

In Mawelewele area Parastal Social Pension Fund (PSPF) constructed 25 houses which were ready for sale on loan bases to prospective buyers. In the same area PSPF owns 175 plots for purpose of constructing more houses. While the largest of rental housing was supplied by the private sector, namely private individuals, it is the same sector that leads for owned houses. The collapse of the Tanzania Housing Bank and higher interest rates prevailing in most of the commercial banks are still the key challenges that constraints rapid growth of the housing sector.

5.9 HOUSING DEMAND AND SUPPLY

Following emergence of high learning institutions such as University of Iringa, RUCO and Mkwawa University College of Education Housing demand has been increasing in the municipality. The capacity of the municipality to provide accommodation cannot keep pace with the increasing population. The increase in student enrolment in higher learning institutions as well as the related businesses that constantly attract more people to the municipality has culminated into increase demand for houses. It was estimated that while housing demand stood at slightly above 1000 units per annum, actual supply was less than 500 units per annum.

The expansion of unplanned settlements to the hill slopes is a testimony of the fact that the provision of planned and serviced plots for housing constructing is still low as compared to the demand. This shortage is largely attributed to shortages of funds to acquire land and pay compensation for urban development. In the financial year 2009/2010, Iringa Municipal Council has worked out a strategy to reduce borrowing from financial institutions for providing surveyed plots to prospective developers. It was managed to survey more than 1,573 plots since 2009/2010.

Table 5.3: Number of surveyed plots (2009/2010 – 2013/2014).

Financial year	No. surveyed plots	location	Allocated		Use
			Individuals	Institutions	
2009/2010	800	Mawelewele	640	160	Housing
2010/2011	76	Igumbilo	50	16	housing
2011/2012	100	Mafifi	50	50	Housing
2012/2013	414	Ngelewala	330	84	Housing
2013/2014	700	Kitwiru	540	160	Housing

Source: Municipal Town Planning Office: Iringa Municipality, September 2014

5.10 HOUSING CONSTRAINTS

Presently, there are various challenges that underpin the housing provision within the planning area. These include a large percentage of informally employed population housing and urban sprawl. In addition to the foregoing, lack of adequate and affordable building materials and insufficient incomes have contributed to the low pace of developing surveyed plots more specifically in Mafifi area. Limited financial capacity to provide adequate surveyed and serviced plots to people precipitates further the current in accessibility to housing by many residents of Iringa. The housing sector is constrained by the following factors:

i) Difficulties in accessing housing loans from financial Institutions

A large percentage of the individuals wishing to secure loans from the financial institutions, fail to meet the pre-requisite conditions and other challenges including: high interest rate, short recovery period and small amount of loan given for housing development. Many of the financial institutions charge between 16 to 0 percent interest rates for money borrowed on short and long terms. These rates are prohibitive for prospective borrowers but more constraining for low income people.

ii) High Cost of Building Material

Finding obtained during household survey and consultative meeting with the community revealed that, cost of building construction is very high due to an increase of the cost of construction materials like bricks, timber, iron sheet, tiles and nails. Even though cement has shown a decrease in price following the establishment of the large cement factory in Mtwara, other materials have remained to be high. The community tends to use traditional materials because they are cheaply available and obtained locally.

iii) Poor Infrastructure Services

Development of housing is also constrained by infrastructure development. Indeed, areas which are not surveyed and serviced of Nduli, Ugele and Ulonge lack infrastructure such as roads, water and electricity which have constrained housing development in these areas.

5.11 PREVIOUS AND EXITING HOSING DEVELOPMENT INITIATIVES

Several initiatives from various stakeholders for housing improvement in Iringa municipality have been carried out since the establishment of Iringa Municipality. These include; The Sustainable Iringa Project (SIP) that was implemented between 1999 and 2004. The project aimed at improving infrastructure services in unplanned settlements. The project was implemented in four areas of TRM along Dodoma Road, Isoka, Semtema and Makanyagio/ Don Bosco. The second project was the CBD Redevelopment Plan that was prepared in 1996 and started its implementation in 2000. The CBD area covers the two wards of Miyomboni/Kitanzini and Mshindo and parts of Makorongoni, Kwakilosa, Mivinjeni and Gangilonga wards. Presently, these are remarkable transformation of building in the CBD from low rise to high rising building. The third initiative was the Squatter Upgrading Project of the 1980s. In order to improve the level of services in unplanned settlements the squatter upgrading project was implemented during the fiscal year 2012/2013 in Isoka A, Mwangata A and B and Kihodombi A and B within Mwangata and Isakalilo wards. To replicate these initiatives the municipal council extended this project to other unplanned settlements of Mawelewele Block ‘E’, Itamba Block ‘A’ and ‘B’, Igumbilo and Kitasengwa. The forth project is the new residential areas. This project aimed at increasing the number of surveyed plots for housing construction. The municipal council managed to prepare and survey plots in the areas of Mawelewele, Kitwiru, Mkimbizi, Itamba and Mafifi. Most of the plots in these areas are under construction.

CHAPTER SIX

6.0 SOCIAL AND COMMUNITY FACILITIES

Iringa Municipality has various social and community facilities, all of which serve to improve living standards of the residents. These facilities include: education, health, religious, administrative, recreational and cemeteries.

6.1 EDUCATION FACILITIES

One of the main objectives of the Tanzanian National Education Policy (2015) is to provide primary education for children of school-going age and promoting ability to read, write and do arithmetic in early childhoods. Besides primary education, the policy calls for rigorous efforts to expand secondary and tertiary education. Iringa Municipality has several education establishments ranging from pre primary schools to Universities. List of education facilities of all levels found in Iringa Municipality (Table 6.2 & table 6.2).

Table 6.1: Distribution of Schools by Ward And Location

SN	WARD	PRE PRIMARY	PRIMARY SCHOOLS	SECONDARY SCHOOLS	TOTAL
1	Ruaha	2	2	4	**8**
2	Kitwiru	4	5	4	**13**
3	Mshindo	1	1	0	**2**
4	Mwangata	5	5	1	**11**
5	Kwakilosa	3	3	2	**8**
6	Mkwawa	2	2	3	**7**
7	Ilala	2	2	1	**5**
8	Gangilonga	7	8	5	**20**
9	Kihesa	3	3	1	**7**
10	Nduli	3	3	1	**7**
11	Mtwivila	2	4	1	**7**
12	Isakalilo	3	3	2	**8**
13	Kitanzini	0	0	1	**1**
14	Igumbilo	3	3	0	**6**
15	Mkimbizi	4	5	0	**9**
16	Mivinjeni	0	0	0	**0**
17	Makorongoni	1	1	1	**3**
18	Mlandege	0	0	0	**0**
	Total	**45**	**50**	**27**	**122**

Source: Iringa Municipal Education office, September, 2014

Table 6.2: Education Facilities in Iringa Municipality

Type of education institution/level	Number of institutions	Government ownership	Percent of Government ownership	Private ownership	Percent of private ownership
Pre-primary schools	45	38	84	7	16
Primary schools	50	43	86	7	14
Secondary schools	32	15	48	17	52
Adult Education	-	-	-	-	-
College/ Institute	3	3	100	-	0
Vocation Training	3	1	33	2	67
Higher learning Institution	5	3	60	2	40

Source: Iringa Municipal Education office, September, 2014

6.1.1 Pre-primary education

Iringa Municipal Council has 45 pre-primary schools out of which 38 representing 84 percent of the total stock are owned by the government and 7 or 16 percent are privately owned. The total number of pupils in these pre-primary schools is 3,567 whereby 1,904 are boys and 1,663 are girls. Enrolment for pre-primary education in the municipality for the period 2010-2014 shows an increasing trend especially in government owned schools. This may be attributed to increased awareness among parents to send their children for pre-primary education. This trend has been also attributed to the new education policy (2015). As per government education policy, all primary schools (government and private) must have pre-primary schools. This policy has been well implemented in Iringa whereby out of 50 primary schools 45 primary schools have established pre-primary schools. Similarly, the number of qualified teachers in pre – primary school is 56. These initiatives are key reasons for increased trend in number of pre primary schools children.

Figure 6.1: Pre-Primary Education Enrolment for 2010-2014

Figure 6.2: Primary Education Enrolment for 2010-2014

6.1.2: Primary education

Iringa Municipality has 50 primary schools whereby 43 are owned by government and 7 are private owned. In the year 2014 there were 26,862 primary school pupils, out of whom 13,220 were boys and 13,642 girls. In addition, there is one specialized primary school for the deaf and deaf-blind which serve children with this disability from all over the region. The total number of pupils enrolled in this school was repoted to be 123 children with disabilities. This school is run under the partnership between the government and religious institution. In terms of growths trends enrolment data for primary schools show an increase between 2010 and 2014. The majority of primary schools pupils are still enrolled in government owned schools (figure 6.2).

As per government policy, the required ratio of class rooms to pupils is 1:40.Iringa Municipal Council requires 553 classrooms; while available classroom are 367 and therefore there is a shortage of 186 classrooms. In term of teachers and as per government policy, the required ratio of primary school teachers is 1:40. There were a total of 753 teachers against 703 teacher requirement. There was therefore an excess of 50 teachers.

Another component worth examining that reveals the quality education is the student – desk ratio. As per government policy, the required ratio of primary school desks is one desk with chairs per three pupils (1:3). There were a total of 7,245 desks against the requirement of 10,223. These were therefore a shortage of 2,978 desks across the schools in the municipality. There was acute shortage of pit latrines. While the policy provides for ratio of pupil's pit latrines 1:25 for boys and 1:20 for girls. There were only 565 Pit latrines for all 50 primary schools while the required number of pit latrines was 1316 and therefore there was a shortage of 751 pit latrines. Further shortfalls were noted I teachers houses. While the total requirement stood at 790 houses, only 79 houses were available. Despite these shortages, the overall performance of primary school children was noted to be good. The passing rate for the period from 2010 to 2013 was recorded to be 77, 88, 93, and 82 percent respectively (Table 6.3)

Table 6.3: Standard seven performances

YEAR	EXAMINEES			PASSED			
	M	F	TOTAL	M	F	TOTAL	Percent
2010	1451	1527	2978	1187	1098	2285	**77**
2011	1605	1782	3387	1384	1549	2933	**87**
2012	1543	1626	3169	1425	1520	2945	**93**
2013	**1618**	**1734**	**3352**	**1317**	**1406**	**2723**	**82**

Source: Iringa Municipal Education office – September, 2014

6.1.3: Secondary education

The role of the private sector in secondary school education was more visible in secondary schools. Out of a total of 27 secondary schools of which 14 were privately owned and 13 were government schools. In the year 2014 there were a total enrolment of 12,950 secondary school students, out of them 5,855 were boys and 7,095 girls. Out of 27 secondary schools two of them provide specialized education namely; Iringa Girls Secondary School that accommodated deaf students and Lugalo Secondary School accommodated the blind. Out of 27 secondary schools five schools of them provided advanced secondary education whereby two were government and three privately owned. The total student's enrolment in advanced secondary schools in 2014 is presented in the Table 6.4.

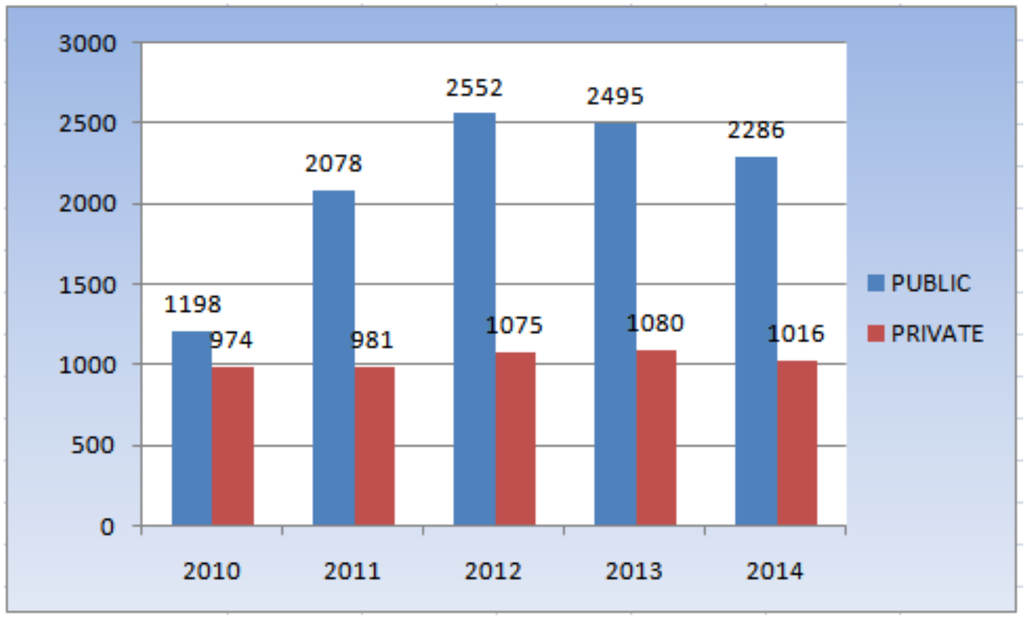
Table 6.4: Advanced Secondary Education Enrollment for 2014

NAME OF THE SCHOOLS	ENROLMENT FIGURES		
	MALE	FEMALE	TOTAL
Iringa girls	-	411	411
Lugalo	-	292	292
Mwembetogwa	135	49	184
Highlands	32	5	37
Ruaha	8	7	15
Total	**175**	**765**	**939**

Source: Iringa Municipal Education office – September, 2014

Unlike primary school education where the trend for enrolment showed a rather steady increase enrolment for secondary school showed stagnation with slight decrease in the years of 2013 and 2014. The reason for this trend could be speculated against non increase or expansion of secondary schools and increased performance standards prior to joining secondary schools (figure 6.3).

Figure 6.3: Secondary Education Enrolment for 2010-2014



6.1. 4 Adult education

Iringa Municipality has made remarkable improvement in the eradication of illiteracy since the 1970's. Along with the expansion of primary and secondary education, the Municipality has also expanded the education for the over -aged children using primary schools as centres. Head teachers were charged with the responsibilities of adult education campaigns through the MEMKWA* programme. The Municipal Council in 2010 established a "Matumaini Centre" meaning centre of Hopes which supports under aged pregnant girls and single mothers in Iringa. The enrollment of Municipal residents in MEMKWA programme has been increasing over the years. This is revealed in the Table 6.5:

Table 6.5: Recruitment of over aged Children into MEMKWA by Ward.

No	Ward	2010			2011			2012			2013		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	Kihesa	3	2	5	5	6	11	7	5	12	6	4	**10**
2	Mtwivila/Mkimbizi	0	0	0	0	0	0	0	0	0	0	0	**0**
3	Gangilonga	21	16	37	32	19	51	33	21	54	40	31	**71**
4	Kitanzini	0	0	0	0	0	0	0	0	0	0	0	**0**
5	Ruaha/Igumbilo	0	0	0	0	0	0	0	0	0	0	0	**0**
6	Mshindo	0	0	0	0	0	0	0	0	0	0	0	**0**
7	Mivinjeni	0	0	0	0	0	0	0	0	0	0	0	**0**
8	Mlandege	7	9	16	17	9	26	12	14	26	11	15	**26**
9	Mwangata	0	0	0	0	0	0	0	0	0	0	0	**0**
10	Kwakilosa	0	0	0	0	0	0	0	0	0	0	0	**0**
11	Makorongoni	0	0	0	0	0	0	0	0	0	0	0	**0**
12	Ilala	10	18	28	5	14	19	8	14	22	6	11	**17**
13	Mkwawa	0	0	0	0	0	0	0	0	0	0	0	**0**
14	Kitwiru	0	0	0	0	0	0	0	0	0	0	0	**0**
15	Isakalilo	0	0	0	0	0	0	0	0	0	0	0	**0**
16	Nduli	0	0	0	0	0	0	0	0	0	0	0	**0**
Total		**41**	**45**	**86**	**59**	**48**	**107**	**60**	**54**	**114**	**63**	**61**	**124**

Source: Municipal Education office – Iringa Municipal Council September, 2014

A number of centres offering MEMKWA programme to over-aged children in Iringa Municipality has been increasing yearly. Gangilonga ward was leading in the number of over-aged children at MEMKWA programme. Table 6.6 presents the distribution of MEMKWA centres by ward for the period of 2010 – 2013.

Table 6.6: Distribution of Adult Education Centers By Ward

No	Ward	Number of centers			Total enrollment			
		2010	2011	2012	2010	2011	2012	2013
1	Kihesa	0	9	2	5	117	93	**76**
2	Gangilonga	4	21	7	37	274	326	**358**
3	Mlandege	1	13	4	16	171	186	**203**
4	Ilala	0	8	3	28	104	141	**192**
Total		**5**	**51**	**16**	**86**	**666**	**746**	**829**

Source: Iringa Municipal Education office – September, 2014

6.1.5 Colleges and Institutes

Iringa Municipality has three colleges institutes which offer certificate and diploma courses in different disciples. List of these are provided in the Table 6.7.

Table 6.7: Other Colleges found in Iringa Municipality

SN	Name of College/ Institute	Courses Offered	Location
1.	Kreruu Teachers College	Diploma in Science Education	**Gangilonga Ward along Iringa – Dodoma Road, 1.5 kilometres from CBD**
2.	Community Development Training Institute	Certificate in Community Development Studies	**Ruaha Ward along Iringa-Kilolo road, 5kilometres from CBD**
3.	Iringa Primary Health Care Institute (Iringa PHCI)	• Diploma in health care promotion, clinical medicine, nursing and health management • Certificate in Nursing	**Gangilonga Ward along Iringa – Dodoma Road , 1 kilometres from CBD**
4.	IREBUCO	Certificate in Business Administration	
5.	CAPRICON	Certificate in Tourism	
6.	DELIMA	Certificate in Tourism	
7.	RUAHA	Certificate in Tourism	
	SOPHIST	**Certificate and diploma in Law, Procurement and Tourism**	

Source: Municipal Education office – Iringa Municipal Council September, 2014

6.1.6 Vocation Training

Vocational training is mainly offered by the Vocational Education Training Authority (VETA) which is a government institution the Mgongo Faraja VTC and Don Bosco, Vocation Training Centers which are affiliated to with Roman Catholic Church. These institutions have been very active and enterprising in preparing the youths in vocational skills for self-employment. They were offering vocational trainings in printing, tailoring, carpentry, welding and fabrication; motor vehicle mechanics; electrical installation and masonry. They were running three-year courses, which were equivalent to VETA Grade three and two. The Don Bosco and Mgongo Faraja centres were also accommodating youth and orphanage centres for social activities. .

6.1.7 Higher Learning institutions

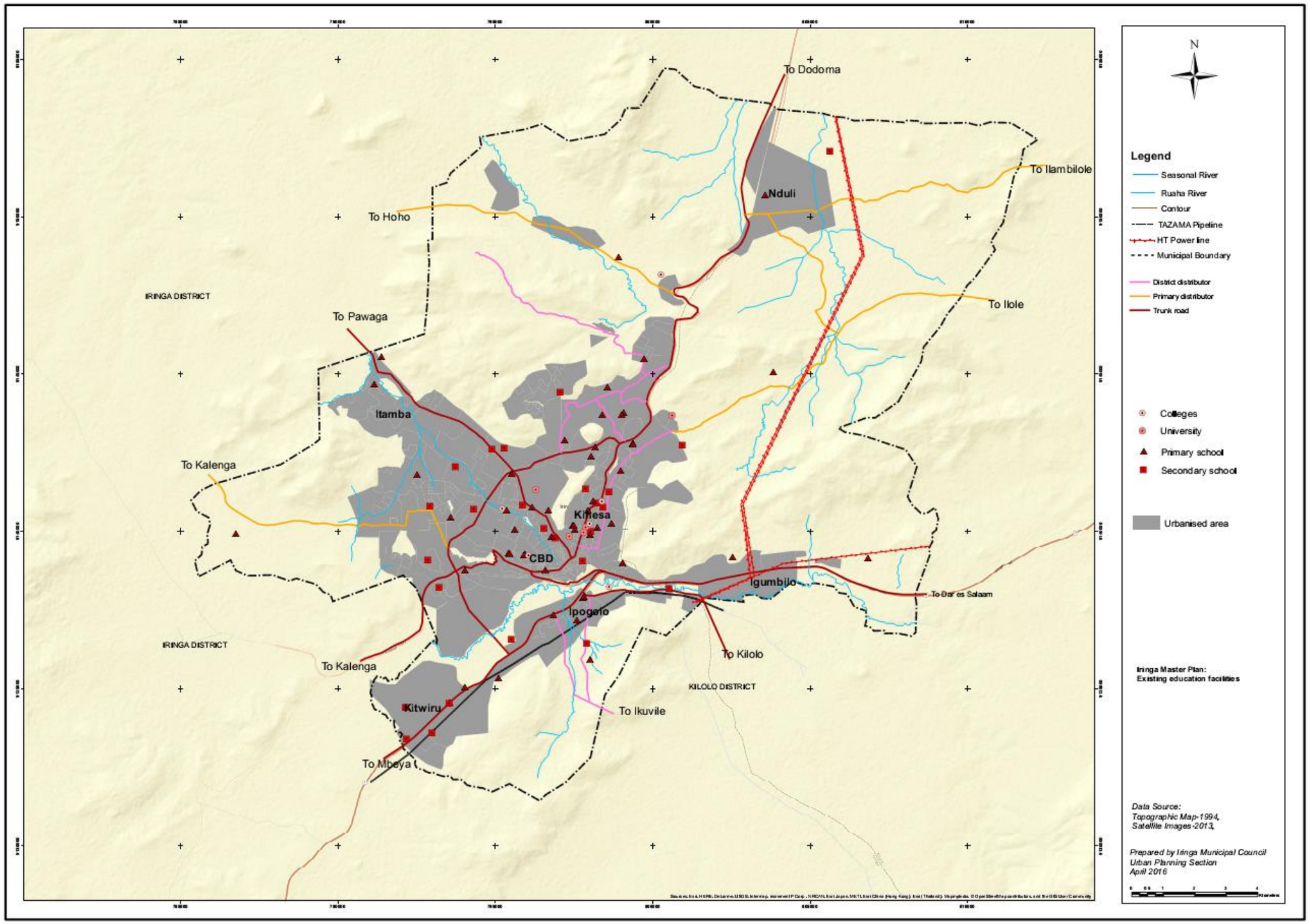
Iringa Municipality well endowed with higher learning institutions. These were: University of Iringa (UoI), Ruaha Catholic University (RUCU), Mkwawa University College of Education (MUCE), Open University and a branch of Moshi University College of Business Studies (MUCoBS). These Universities offered various academic programmes ranging from Certificate to Master's Degree except for MUCE which offered bachelor's degree and post graduate Diploma in Education. (Table 6.8)

Table 6.8: Higher learning Institution in Iringa Municipality

SN	Name of university	Courses Offered	Location
1.	Mkwawa University College of Education (MUCE)	Degree and Masters in Education science	**Mkwawa Ward along Pawaga Road, 2.5 kilometres from CBD**
2.	Ruaha Catholic University (RUCU)	Degree and Masters in Education, Law, Business and Health	**Gangilonga along Iringa-Dodoma Road, Within CBD**
3.	Iringa University	Degree and Masters in Education, Community Development, Law, Business and Health	**Kihesa Ward along Iringa – Dodoma Road, 4.5 kilometres from CBD**
4	Open University of Tanzania	Distance learning education	**Gangilonga along Iringa-Dodoma road, within CBD**
5	**Moshi university College of Business and Coorperatives (MUCoBs)**	**Center of university which offer short courses and assistance for admission**	**Gangilonga along Iringa-Dodoma Road, within CBD**

Source: Iringa Municipal Education office – September, 2014

Map 6.1: Iringa Municipality: Distribution of education facilities



6.2 HEALTH FACILITIES

Health facilities in Iringa Municipality include hospitals, health centres and dispensaries. By the year 2014, there were three hospitals, four health centres and 20 dispensaries. The total number of beds in health facilities stood at 550 (including those found in the regional referral hospital). Average number of patients per day was approximately 500 for hospitals, 400 for health centers and 500 for all dispensaries combined.

Table 6.9: Health facilities by type and ownership

Hospitals	Government	Private	Total
Hospitals	2	1	**3**
Health Centres	3	1	**4**
Dispensaries	**8**	**12**	**20**

Source: Iringa Municipal Health office – September, 2014

Table 6.10: Distribution of health facilities by ward

SN	WARD	HOSPITALS	HEALTH CENTRES	DISPENSARIES
1	Kitanzini	-	1	**3**
2	Gangilonga	2	0	**6**
3	Mlandege	-	0	**1**
4	Kihesa	-	1	**1**
5	Ruaha	-	1	**2**
6	Kitwiru	-	-	**1**
7	Mkwawa	-	1	**1**
8	Mwangata	1	-	**1**
9	Isakalilo	-	-	**1**
10	Nduli	-	-	**2**
11	Makorongoni	-	-	**1**
12	**Mshindo**	-	-	**1**

Source: Iringa Municipal Health office – September, 2014

6.2.1 Dispensaries

Again the contribution of the private sector in health services provision is well notable on the number of dispensaries that operate as private units. Out of 20 dispensaries, 12 were privately owned. It was estimated that 67 percent of the dispensaries were within a walking distance of 0.5 kilometres. In terms of buildings infrastructure, it was found that 82 percent of the buildings were in good condition. The more the private sector is allowed to contribute to social services the more the services are brought closer to the users.

6.2.2 Heath centres

Health centre provide preventative care, as well as reproductive health services and minor surgery with at least 10 and 20 beds per facility. Inventory surveys that were conducted in September 2014 revealed that three out of four health centres were owned by the government and one privately owned. It was also found that most of these facilities were within a walking distance of 0.5.

6.2.3 Hospitals

Iringa Municipality has three hospitals of which two are owned by government and one is private owned which are Iringa regional hospital, Frelimo hospital and IMEC hospital. The Regional Hospital is the only referral hospital in Iringa; located in the central area. The average number of patients per day is approximately 500 for all three hospitals.

6.2.4 Pharmaceutical Shops

There were 10 pharmacies which offered retail and wholesale services. These are all located at the central business area. Apart from these, there were 85 accredited drug dispensing outlets (ADDO) distributed in the peripheral areas, which offered exclusively retail services. There was also a Medical store department (MSD) zonal office which distributed medicine, medical equipment, hospital supplies and utilities to public health facilities in the three regions of southern highlands zone namely Iringa, Njombe and Mbeya.

6.2.5 Human Resource for Health

The Municipality has 28 medical doctors, 302 nurses, 89 clinical officers, 10 pharmacists, 24 medical laboratory technicians and 70 registered traditional healers. Approximately 60 percent of the available medical personnel in the Municipality were found in the regional referral hospital. The Doctor – patient ratio was reported to be 1:2002. This is very low ratio compared to the international requirement of 1.30.

6.2.6 Common diseases in Planning Area

For long time Malaria has been the leading cause of morbidity both in Out Patient Department (OPD) and In Patient Department (IPD) set ups, while Maternal and prenatal deaths are the leading causes of mortality. Table 6.11and table 6.12 summarizes the leading causes of morbidity and mortality for the year ending June 2014.

Table 6.11: The top OPD diagnoses by percentage

DIAGNOSIS	<5	>5 AND ADULTS
Malaria	25.6	**31.4**
Acute Respiratory Infections (ARI)	27.2	**24.5**
Skin Diseases	16.6	**12.0**
Diarhoea Diseases	10.6	**7.2**
Oral Conditions	0.4	**10.4**
Pneumonia	9.5	**2.5**
Eye Conditions	5.2	**2.6**
Genital Discharges	0.0	**5.6**
Pelvic Inflammatory Diseases (PID)	0.0	**3.1**
Trauma	**0.0**	**1.0**

Source: Iringa Municipal Health office – September, 2014

Table 6.12: The top 10 IPD diagnoses and causes of deaths 2013

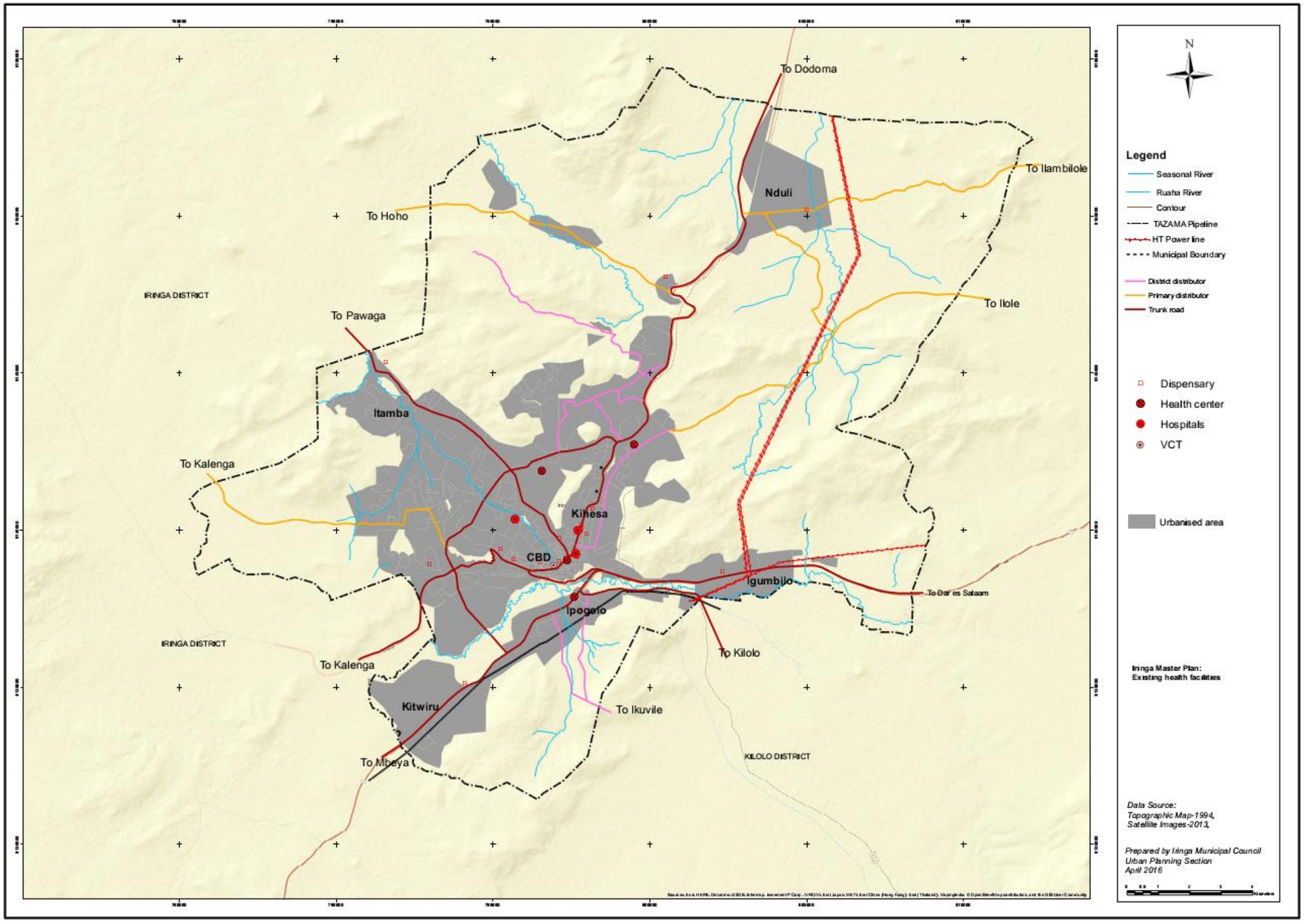
SN	DIAGNOSIS	ADMISSIONS		DEATHS		CFR
		M	F	M	F	(percent)
1	Labor and delivery	0	7,015	0	22	**0.31**
2	Pneumonia	317	378	14	19	**4.75**
3	Fractures	334	163	0	0	**0.00**
4	Diarrhea diseases	146	156	0	0	**0.00**
5	Severe malaria	118	124	2	3	**2.07**
6	Cardiovascular diseases	102	136	0	0	**0.00**
7	Uncomplicated malaria	62	142	5	7	**5.88**
8	Acute Respiratory Infections (ARI)	88	91	4	4	**4.47**
9	Tuberculosis	49	52	0	0	**0.00**
10	Clinical AIDS	36	39	0	0	**0.00**
	TOTAL	**1,252**	**8,296**	**25**	**55**	**0.31**

Source: Iringa Municipal Health office – September, 2014

According to Municipal records of 2013, infant mortality rate was 25 out 1000 live births and the maternal mortality rate was 432 out of 100,000. The target is to reduce these figures by half by the end of 2015. One major health issue in Iringa Municipality is the pervasiveness of HIV/AIDS. The first case of HIV, the virus that causes AIDS was recorded in 1985 in the Municipality. Since then Iringa has been one of the regions with the highest prevalence of HIV/AIDS cases in Tanzania. Prevalence cases of 9.1 percentages, just second to Njombe which leads prevalence of 14.7 percentage cases against the national average of 5.6 percentages.

The Council is currently focusing on activities to address three zeros as directed by the 2020 National Target i.e., by 2020 we should have zero new infections, zero stigma and zero deaths related to HIV/AIDS. In this regard, different programmes are taking place in the health sector Map 6.2 to address these challenges.

Map 6.2: Iringa Municipality: Existing health facilities



6.3 COMMUNITY FACILITIES

6.3.1 Administrative facilities

Being the Headquarters of the region, a number of administrative facilities exist within the Municipality. These include; the Regional Commissioner's Office which is located in Gangilonga ward, about 500 metres from central area. Other offices include, the Regional Police Commanding officer (RPC), The Tanzania Revenue Authority (TRA), District Commissioner Office (DC), Municipal Directors Office, TANESCO, Prisons, Water Supply and regions unit entities.

6.3.2 Religious facilities

The planning area residents are mainly divided into two religious namely Muslims and Christians. The dominant religious denominations include Christians and Muslims. There are also Hindu and traditional believers. The main Christian Denominations are Roman Catholic (RC), Evangelical Lutheran Church Tanzania (ELCT), Full Pentecostal Church of Tanzania (FPCT), Seventh Day Adventist (SDA), Anglican Church, The Church of Bible Tanzania and Evangelical Assemblies of God Tanzania (EAGT).

There are many Mosques distributed all over the planning area. The socio-economic survey reveals that almost each religious entity required an additional land for establishing community facilities such nursery, primary and secondary schools and Vocational Training Centres.

Table 6.13: Distribution of Religious Facilities

RELIGION/SECT	FACILITY	LOCATION
Roman Catholic	Churches	**Mkimbizi, Igeleke, Kihodombi, Kihesa, Kigonzile, Mshindo, Igumbilo, Ipogolo, Kitwiru, Mkwawa.**
Lutheran	Churches	**Miyomboni, Kihesa, Ruaha, Mkwawa, Mkimbizi, Mtwivila, Ugele**
Assemblies of God	Churches	**Mlandege, Frelimo, Gangilonga, Kihesa.**
Pentecoste	Churches	**Mkimbizi, Ilala, Kihesa.**
Adventist	Churches	**Gangilonga, Mkimbizi, Ilala.**
Othodox	Churches	**Gangilonga, Nduli, Isakalilo, Mkoga**
Moravian	Churches	**Lugalo**
Islam	**Mosques**	**Miyomboni, Kihesa, Mwachang'a, Mshindo, Mwangata, Mlandege, Mivinjeni (Hidaya), Ilala, Frelimo, Ipogolo, Wilolesi, Mkimbizi, Itamba, Kitanzini, Nduli, Igumbilo**

Source: Iringa Municipal Health office – September, 2014

6.3.3 Cemeteries

There were nine main cemeteries distributed within the planning area. These included the war memorial cemetery site near District Commissioners Office covering 0.4048 hectares. Other communal cemetery site are located at Kihesa/Mtwivila (5.79 hectares), Makanyagio (19.68 hectares), Kihesa/Mafifi (5.2 hectares), Mlandege (10.62 hectares) . The customary family burial sites are common practice in the peripheral parts of the planning area. The scattered burial sites do not optimise the use of land. Despite the strong uncultured belief of the Iringa people to cemetery sites, there is a need to create awareness on the need of having planned cemeteries in neighbourhood for common burial services.

6.3.4 Recreational facilities

Recreational facilities in this category included mainly community halls and sports ground. There were four social halls within Iringa Municipality located at Makorongoni, Kitanzini and Gangilonga wards. These halls were being used for social functions like wedding ceremonies, sendoff, graduations and music concerts. The capacity of these halls was variable because they combined indoors and outdoors spaced depending on the nature of the activity that was being undertaken.

On the part of sports grounds, there were three sports of which only one is operational and the other two are yet to be developed. The functional one was Samora stadium located at Mshindo. Others were located at and Isakalilo. Play grounds were also provided within the education institutions. There were fields for a variety of sports and games like: football, basketball, volleyball and athletics. They were used for most of the local competitions and for general public exercises. Well developed football play ground is located at Mtwivila ward, owned by the NGO called Iringa Development of Youth, Disabled and Children Care (IDYDC) as was built by FIFA for the purpose of identifying football talents from children. Other recreational areas included Central Garden located at the central area, and open spaces scattered within all planned neighborhoods.

6.3.5 Civil Society Organizations

Iringa Municipality had a total of 87 civil society organizations. Out of these, 50 were Non Governmental Organizations (NGOs), 6 Faith Based Organizations (FBOs) and 31 Community Based Organizations (CBOs). In general these organizations had their focus of activity on HIV/AIDS prevention and home based care for people living with HIV/AIDS. Other had their activities focusing on reproductive and child health, orphanage homes care, provision of school fees and studying material to

orphans and Vulnerable children (OVCs), poverty alleviation/financial capital for small enterprises, agriculture and livestock keeping aids and environmental conservation.

6.3.6 Library service

In Iringa Municipality there was one Regional library located at the central area in Gangilonga ward, along Dodoma- Iringa road It offers services to residents in need of reference books, magazines and newspapers. Despite its great role, its efficiency is not satisfactory due to the noisy environment emanating from the fronting road of Dodoma – Iringa and limited space for the increased population of the town.

CHAPTER SEVEN

7.0 PUBLIC UTILITIES

Water supply, sanitation and electricity are essential public utility which ought to be provided in sufficient qualities to meet domestic, institutional, commercial and industrial demands. Other public utilities of equal necessity and demand include sewerage, solid waste disposal and telecommunication.

7.1 WATER SUPPLY

The estimated water demand for Iringa Municipality residents stood at 16,000cubic metres/day. However, the Iringa Urban Water supply and Sanitation Authority (IRUWASA) could supply only 12300 cubic metres per day despite the fact that the installed pump capacity of 24,000 cubic metres per day. There was therefore a shortfall of 3,700 cubic metres per day. This shortfall was attributed is due to limited infrastructure distribution networks. Thus, even though this network covers 95 percent of the total population the supply is only 76.8 percent of the demand. There is another water source which produces 300 cubic metres per day at Mawelewele to supply water for Mawelewele and Mkoga areas.

The main water source for Iringa Municipality is Ruaha River. Water processing is done at Ndiuka area. The abstraction is done by using two pumps with capacity of 450cubic metres hour each. Water then conveyed to conversional treatment plant before pumped to the storage and distribution tanks. After treatment water is pumped to 13 storage and distribution tanks. These storage and distribution tanks are located at Mkwawa, located at Wilolesi, located at Wilolesi, located at Lugalo, located at Mtwivila, located at Mkimbizi, located at Gangilonga, located at Donbosco, located at Ipogolo, located at Kibwabwa, Kitwiru, Kitasengwa and Mgongo. The capacity of these all is 6,978 cubic metres (Table 7.1 and Map 7.1). The water distribution network comprises the distribution tanks and water pipe networks. There are 13 distribution tanks and piped network with a total coverage of 372.5 kilometres as indicated in table. 7.2.

Table 7.1: Water intake, Distribution Tanks with their respective capacities

S/No	Tank Name	Capacity (cubic metres)
1	Tank A at Mkwawa	1089
2	Tank B at Wilolesi,	592
3	Tank C at Wilolesi	592
4	Tank D at Lugalo	592
5	Tank E at Mtwivila	592
6	Tank F at Mkimbizi	37
7	Tank G at Gangilonga	1089
8	Tank H at DonBosco	37
9	Tank I at Ipogolo	352
10	Tank J at Kibwawa	1089
11	Kitwiru Tank	100
12	Mgongo tank	150
13	Kitasengwa tank	75
	TOTAL	**6978**

Source: IRUWASA September, 2014

Plate 7.1: Intake structure and conventional treatment plant at Ndiuka

Table 7.2: Pipe Materials for water distribution

S/No	Pipe material	Length (m)	Status
1	HDPE	166,723	Relatively new
2	UPVC	144,758	50percent new
3	Cast Iron	28,000	Relatively new
4	GS	4,000	Old needs replacement
5	Cement mortar lined steel	29,547	Old needs replacement

Source: IRUWASA September, 2014

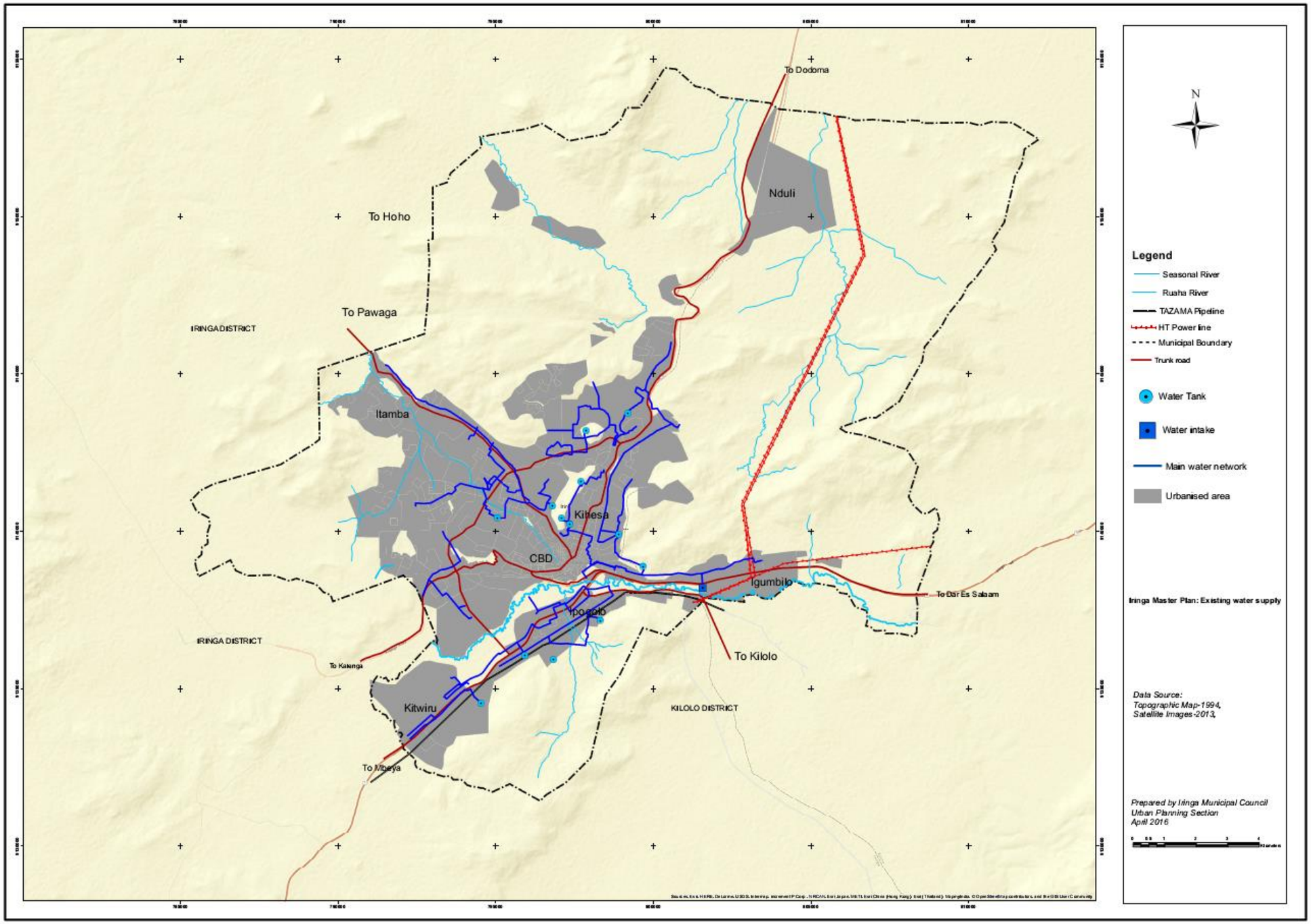
The quality of water supplied to Iringa Municipality complies with the WHO and TBS standards for the clean and safe water supply for domestic/people consumption as specified in the Table 7.3.

Table 7.3: Water quality before treatment

S/No	Parameter	Before treatment	After treatment
1	PH	6.13	7.39
2	Turbidity	70.7	2.53
3	Chlorine residue	0	0.2
4	*E-coli*	-	No *E.coli* seen
5	Total Disolved Salts	25.1	48.9

Source: IRUWASA record September 2014

Map 7.1: Iringa Municipality: Existing water network system



7.2 SOLID WASTE MANAGEMENT

In Iringa Municipality solid wastes were generated from residential (or household or domestic waste), commercial, institutional, street sweeping, construction and demolition, sanitation and industrial wastes. Generally, all human activities create waste and the way these wastes are handled, stored, collected, transported and disposed-off can pose risks to the environment, public health and eco-diversity. Solid waste management involves storage, collection, transportation and intermediate treatment or disposal.

Solid wastes were being collected from 108 waste collection points distributed allocated within the centrally populated areas, industrial and peri- urban areas. Of 108 points, 78 were legal collection points, 30 were illegal collection points. Out of the legal, 68 points had skips buckets for solid waste storage and others did not. These skips were transferred to other collection points. The wastes in each collection point were removed after every 1 to 7 days depending on the waste generation rate in that particular area. Container haulage system was the method adopted in Iringa Municipality.

There were two (2) Skip Masters for transferring waste to the dump site. In other areas such as Ilala, Mkwawa, Mwangata, Donbosco and Mawelewele, house to house solid waste collection is was being done using compact truck in specified days. In other areas there were refuse bays where solid waste collection vehicles could load by causal labour then transported to Kihesa- Kilolo damp site.

In Iringa Municipality waste composition was classified as follows: domestic solid waste (that constitutes mainly food based on organic wastes) which represent 62.5 percent , Inert matter represented 26.5 percent, paper wastes accounted for 6.2 percent, metals and textiles accounted for 1.2 percent and bones and glass represented 0.3 percent (Table 7.4)

Table 7.4: Solid waste compositions by percentages

S/N	Type of Waste	Percent by Weight
1	Vegetable	62.5
2	Paper	6.2
3	Glass	0.3
4	Metals	1.2
5	Textiles	1.2
6	Plastic and Rubber	1.8
7	Bones	0.3
8	Inert Matter	26.5
	Total	100.0

Source; Iringa Municipal Environmental & cleaning office - September, 2014

Iringa Municipality was generating an average of 48,180 metric tons of solid waste annually. This is equivalent to the generation rate of 132 metric tons per day. The per capita waste generation rate was approximated of 0.87 kilogram per person per day. The generation rate and composition of solid waste varied from season to season due to changing human activities that also varied from one season to another. For example; during rainy season solid wastes are wet and heavy with much organic matters. During dry season solid wastes are dry and lighter. Generally, the generated solid wastes had a high content of vegetables, sand, metal, glass, ash, dust and stones.

Solid wastes were categorized according to their sources. This enabled the Municipal Waste engineer to plan for the type of vehicles required for transportation and the routes for waste transportation. Solid wastes were categorized according to their sources as shown in table 7.5.

Table 7.5: Waste generation

S/N	Solid Waste sources	Tons/day
1	Household level	56
2	Stand and market	24
3	Commercial areas	21
4	Institutions	16
5	Industrial wastes	10
6	Medical wastes	5
	Total	**132**

Source Iringa Municipal Environmental & cleaning office - September;, 2014

Plate 7.2: Skip located at Mshindo ward

Plate 7.3: Vehicle used to carry skip busket

Table 7.6: Refuse bays

Na	Location	Number
1	Mwangata	4
2	Kihesa	2
3	Mkwawa	2
	Total	**8**

Source; Iringa Municipal Environmental & cleaning office - September, 2014

An assessment on the adequacy of equipment for solid waste management reveled shortages in ship buckets, skip master, wheel barrows, Dust bins, Refuse weighing scale and Refused Bays (Table 7.7)

Table 7.7: Solid waste collection equipment assessment

S/N	Equipment	Required	available	working	Shortage
1	Skip buckets	192	104	68	124
2	Skip Master	4	2	1	3
3	Wheel barrows	80	24	16	64
4	Dust bins	460	60	60	400
5	Refuse weighing scale	1	0	0	1
6	Refuse bays	16	8	4	12

Municipal Environmental & cleaning office - September, 2014

Table 7.8: Solid waste collection points

No	Ward	Served point
1	Kwakilosa	9
2	Kitanzini	9
3	Gangilonga	9
4	Mkwawa	4
5	Mtwivila	4
6	Kihesa	11
7	Mivinjeni	4
8	Mshindo	3
9	Ruaha	5
10	Makorongoni	5
11	Ilala	2
12	Mwangata	5
13	Mlandege	3
14	Kitwiru	4
15	Isakalilo	3
16	Nduli	1
17	Mtwivila	3
18	Igumbilo	2
	Total	**86**

Source; Municipal Environmental & cleaning office - September, 2014

Hospitals and related facilities generate untold metric tons of toxic wastes as a result of activities related to the practice of medicine and sales of pharmaceuticals. Some of the health-care wastes discharged from hospital or institution were similar in nature to domestic solid wastes, and may be called “general health-care wastes”. The remaining wastes pose serious health hazards because of their physical, chemical or biological nature, and so are known as “hazardous healthcare wastes”.

In many cases, the most dangerous items in health care wastes are needles from syringes and drips, anatomical wastes (teeth and placenta), pathological waste (sputum and test tube containers). These wastes shield virus and the infected items allows easy access for the viruses into the blood stream of anyone who is handling the infected items without protective gears. Most of the health care wastes are taken care in the specific health facilities through construction of incinerators and the waste generated are segregated at the source of production.

Plate 7.4: Incinerator at Ipogolo Health centre

The waste dumping area located at Kihesa-Kilolo about 7 kilometres from the town centre. The dump area cover 15 acres, the waste collected from all waste collection points were disposed in a controlled manner. The dumping process was open, landfill that is controlled. The dump is characterized by the lack of Weigh Bridge and equipment for controlling overflow of solid waste such as CD4 Caterpillar. This dumping site was approximated to last for 50 years from the year 2000. Due to limited compassion, this life span may be shorted

Plate 7.5: Wheel loader at work (KihesaKilolo damping site)

Separation of solid waste materials at the household level, waste collection points, and at final dumping site was practised to a limited extent. Few people re-used the valuable materials and this include scavenging for direct selling scraps, bottles and metals for some extent.

Waste tires were being re – used as sandals and car bushes. This created employment to some Iringa residents. Organic wastes in peri-urban areas in wards such as: Nduli, Mtwivila ward, Mkwawa, Isakalilo, Kitwiru and Ruaha were stored in pits, decomposed and used as composite manure is used in farms. Carpentry wastes were used for animal nurseries in poultry production, cattle resting and burning of bricks.

Plate 7.6: Waste water stabilization ponds at Mkwawa wards.

7.3 LIQUID WASTE MANAGEMENT

Four types of sanitation methods to manage liquid waste pre dominated in Iringa. These methods were: central sewer, Pit latrines, Septic tanks and cesspit. According to household surveys conducted in September 2014, it was revealed that Sewerage system connection accounted for 12.5 percent, pit latrines 13.6 percentage, septic tanks 68 percent and cesspit systems 6.4 percent. Central sewer system covered mainly the CBD, with the network of 35.6 kilometres. The areas of Gangilonga, Wilolesi, Kihesa, Mtwivila, Semtema, Ipogolo, Kibwabwa and other areas outside the CBD area were not connected to central sewerage network. Septic tanks and cesspits were being used in urban areas not covered by central sewer while pit latrines were commonly used in peri-urban areas.

Waste water generated in Iringa Municipality is from different sources. These sources of waste water are domestic, institution, commercial and others from industries. The generation of the waste water from all these sources was estimated to be 75percent of the water supplied. The waste water was from the daily washing of the equipments, water from the kitchen, laundry baths and flushing of the toilets. Waste water generated from industries sometimes contained chemicals.

The collection of waste water was largely dependent on the type of the generated water. The water from the toilets was collected in septic tanks, cesspits and in pit latrines. In areas with central sewer people dispose waste water in the sewerage system.

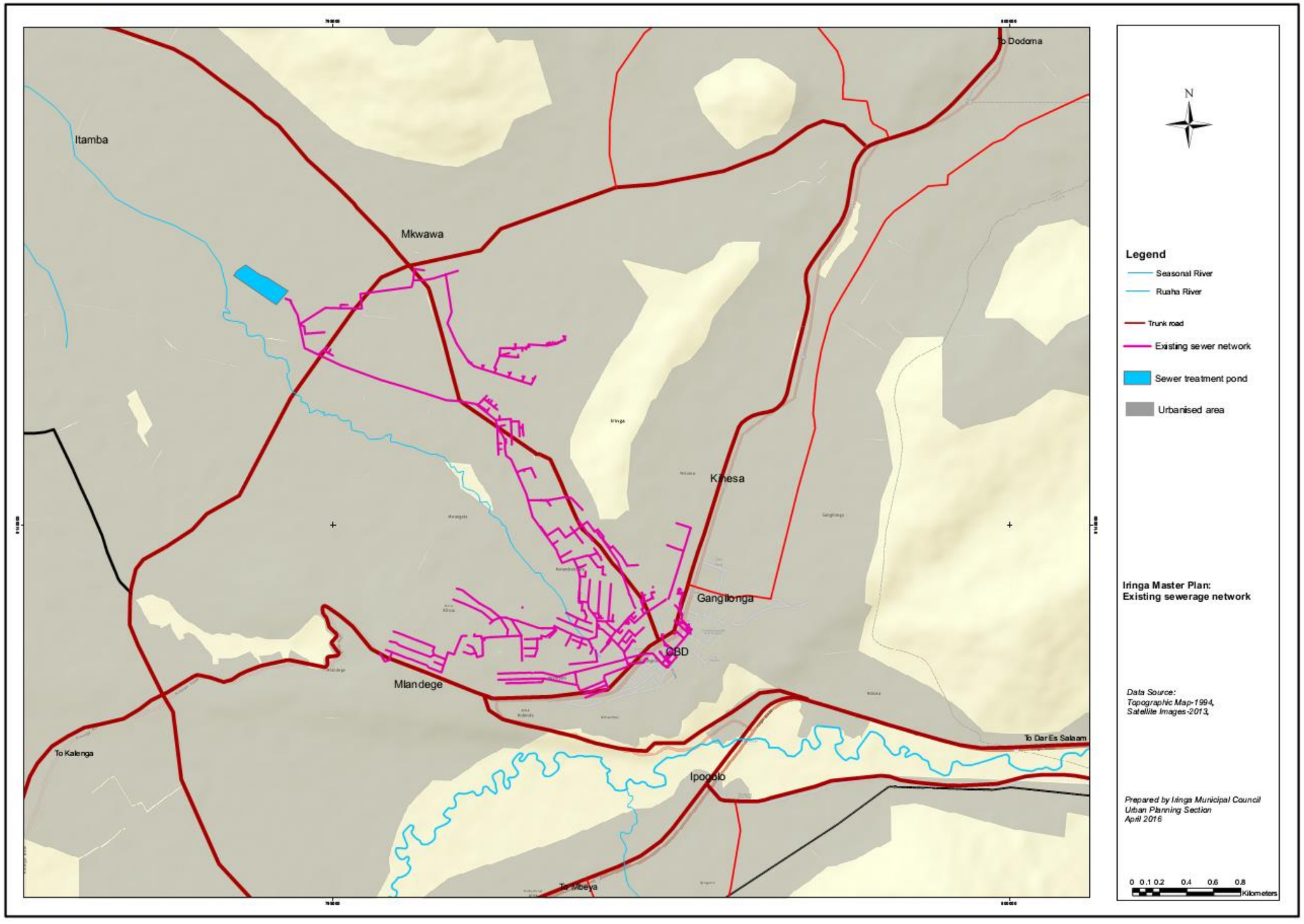
The waste water disposal is done in different ways. Waste water from the central sewer is directed to the waste stabilization ponds. In areas not served by the central sewer system, waste water was being drained out by liquid waste collection vehicles and transported to waste stabilization pond. The, treated water from stabilization pond is disposed off into the Hoho stream. The effluent from the stabilization pond was directed to meet the required quality standards in order to be disposed. Sludge from stabilizing ponds was deposited into constructed wetlands for final water stabilization/treatment before disposing it to the river.

7.4 STORM WATER DRAINAGE

Storm water drainage are structures constructed to accommodate water from rainfall and some waste water produced in domestic and car wash areas. These structures comprise open and covered channels. Most of the areas in the CBD area and road crossing had covered culverts. Many of these drains were constructed from stone masonry and a few of them from mass concrete. Storm water drain covered 218 kilometres for the whole area of the municipality.

Due to the topographical nature of Iringa which comprises hills and valleys; most part of the town drainage depends on gravity flows and on the soil observation capacity which is good. Severe flooding problems areas rare except in the low laying areas of Kihesa Kilolo, Nduli and Ulonge where unfavorable soil condition causes water logging during rain season. Generally the storm water drains along TANZAM highway was relatively in good condition. The remaining areas need rehabilitation. These include Kihesa – Mtwivila, Mwang'ingo, Ngome, Mkimbizi, Kihesa Sokoni and Tumaini.

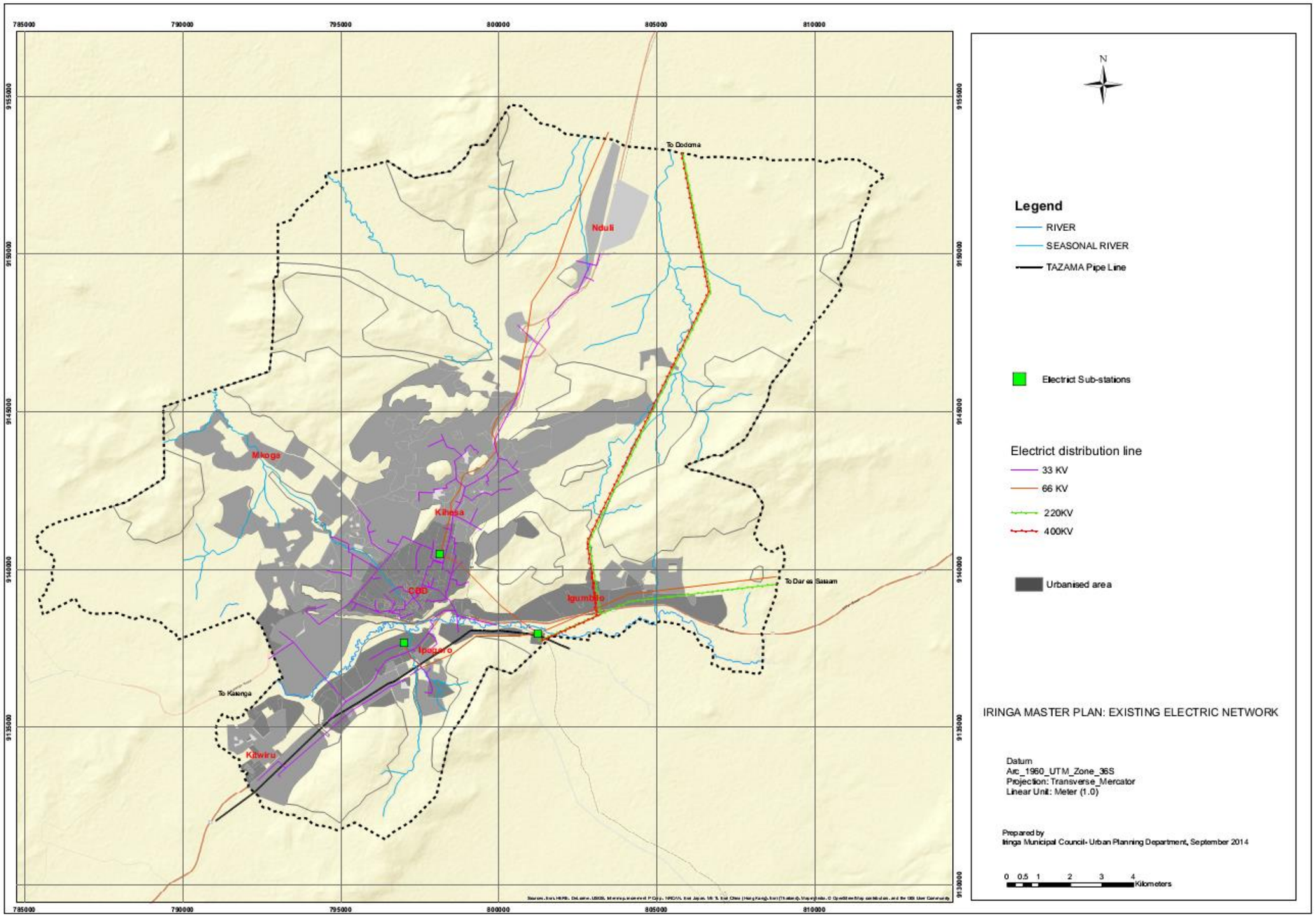
Map 7.2: Iringa Municipality: Existing sewarage system



7.5 ENERGY SUPPLY

The main sources of energy in Iringa are electricity, charcoal, fire wood, gas and kerosene. Iringa Municipality is connected to the national grid through Tagamenda substation. Iringa substation is connected with 220 kV lines from three hydropower generation stations of Kihansi, Kidatu and Mtera. The current demand for electricity was estimated at 8.5 MW while the total installed supply capacity from Tagamenda substation was 36 MW (45 MVA). This is supplied from two 220/33kV transformers each with the capacity of 18 MW (22.5 MVA). In terms of distribution the installed distribution system comprised of three level voltages that is the 33 kV distribution lines with a total length of about 32 kilometres; 11 kV lines with a total length of about 254 kilometres and low voltage line (0.4 kV) lines with an estimated length of about 220 kilometres. Up to September 2014, Iringa Municipality had an estimated number of a total of 18,900 electricity users with the total average monthly unit's consumption of 4,001.8 Mw/hr. Besides electricity, charcoal and fire wood was revealed as other major source of energy for cooking by many Iringa Municipality residents. Iringa as a main user of charcoal and fire wood received charcoal and fire wood from Mufindi, Kilolo and Iringa Rural district. With regard to energy consumption pattern by category, it was revealed that 57 percent of the households used charcoal, followed by firewood and kerosene or paraffin at 24.6 and 8.4 percent respectively. A small proportion of about 10 percent of the households used electricity and gas as the main source of energy for cooking.

Map 7.3: Existing electricity supply system



CHAPTER EIGHT

8.0 TRANSPORT, TRANSPORTATION AND COMMUNICATION

8.1 OVERVIEW

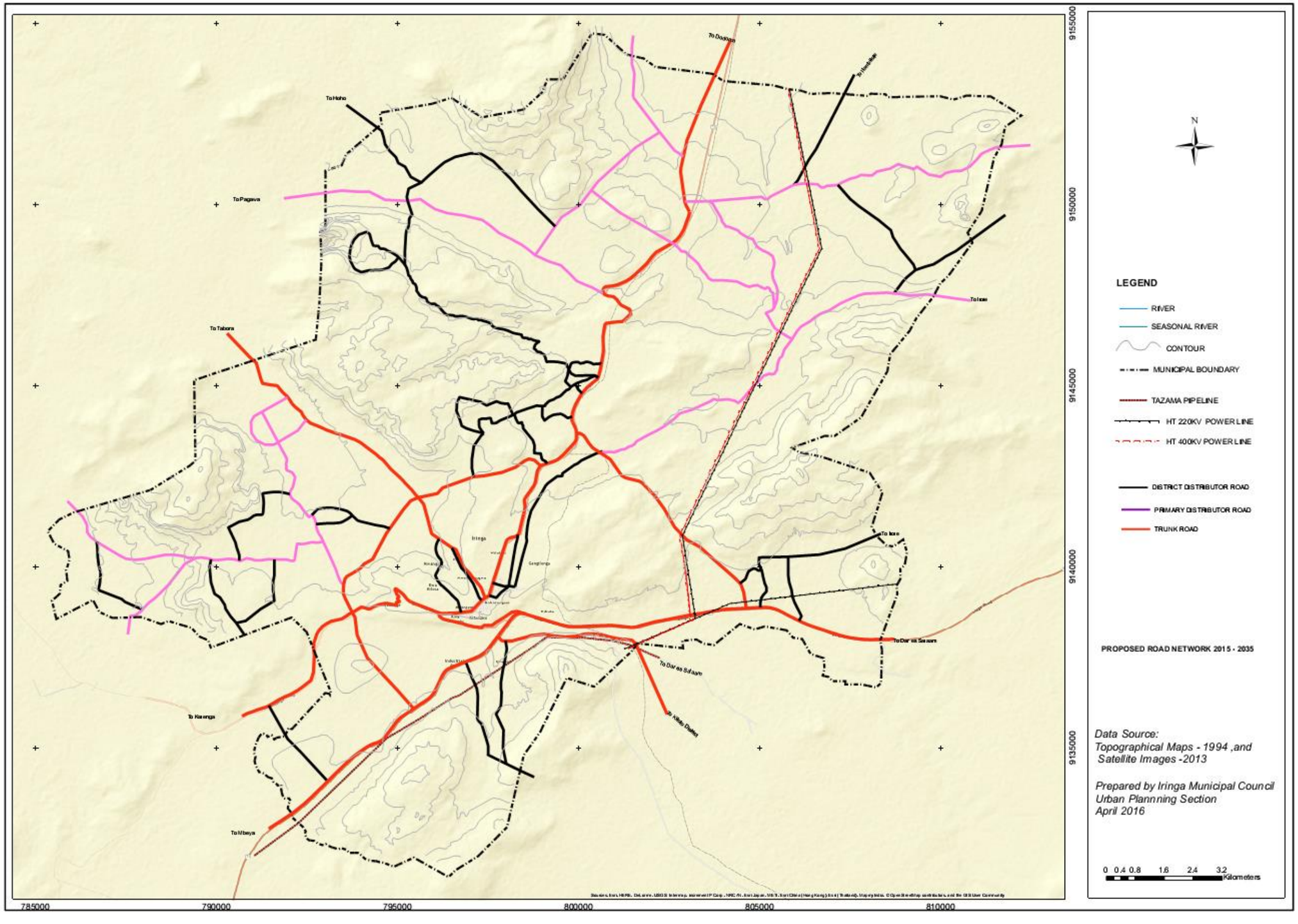
The transport sector plays a significant role in spread heading the social and economic development of Iringa Municipality. This sector has continued to grow due to both government efforts and private sector investments in the operation and maintenance of roads and airport that provide local and regional linkages with other parts of the country.

Iringa is well connected with the rest of the country by two international trunk roads. These are the TANZAM highway which connects the North and Southern neighbouring regions of Singida, Dodoma and Njombe; The Great North Road which has been recently upgraded to Asphalt surface. The latter connects Iringa with the National Capital, Dodoma. This road pattern forms an important link with the northern part of the country.

Iringa is also served by a small airstrip with a total area of 143 hectare. The airstrip has a running way of 1.6 kilometre length. It is located at Nduli some 15 kilometres northward along Iringa-Dodoma road. The airstrip has the capacity to handle small aircraft. On average the airstrip has been handling 56 flights per month. In recent days, it has been acting as a link to travellers going to Dar es Salaam, Mpanda and Sumbawanga where commercial flights are frequent. The TAZARA railway line from Dar es Salaam to Zambia by- passes Iringa at Makambako in Njombe region about 150 kilometres south. It is the only railway link to other regions and neighboring countries.

The communication sector has service providers who facilitate operation within and outside the municipality. This has contributed to improved communication especially mobile phones and electronic messages. Postal services, telecommunication, radio, television and newspapers services are easily available in Iringa. Private operators have ventured into the industry not only for profit gains but also for promoting efficient service provision. These operators provide cellular phones and internet services. The companies providing these services include; Vodacom, Tigo, Zantel, Halotel and airtel.

Map 8.1: Iringa Municipality: Existing road network



8.2 ROADS

Roads play an important role in transporting goods and passengers. Like many urban centres in Tanzania, roads are major means of transport for people and goods within and outside Iringa Municipality.

The management of roads fall under two categories; roads under TANROADS which include trunk and district roads and municipal roads mainly those roads within the limits of the municipality boundaries. Iringa Municipality has a total of 417.31 kilometres of road network connecting the town with other parts of the Region. Of these kilometres, 67.47 kilometres are tarmac, 112.61 kilometres are gravel and 237.23 kilometres are earth road.

Iringa Municipality has 50.9 kilometres of trunk road, 8.9 kilometres of Districts and access road (arterial and collector) connecting neighbourhoods, services and workplace. The entire road network in Iringa Municipal covers 357.51 kilometres. The road categories managed by Iringa Municipal Council are 16.57 kilometres tarmac, 103.71kilometres gravel and 237.23 earths and TANROADS is responsible in operation and maintenance of 50.9kilometres bituminized trunk roads and 8.9 kilometres gravel roads (Table 8.1 and map 8.1).

Table 8.1: Road type in Iringa Municipality

S/No	Road Type	Distance Covered (kilometres)
1	Trunk road/Regional Roads	50.9
2	District Road	8.9
3	Feeder road	215.21
4	Collector Road	142.3
	Total	**417.31**

Source: Iringa Municipal Engineer office-September, 2014

8.2.1 Road condition

Roads in Iringa Municipality are generally in a good condition. The situation has immensely improved in recent years following the government and donor support in construction and rehabilitation of municipal roads in Iringa. Generally all trunk roads are in a good condition and are passable throughout the year. Table 8.2 shows condition of roads in Iringa Municipality.

Table 8.2: Road network condition throughout the year in Kilometres

No.	Ward	Passable throughout the year	Passable most part of the year	Total road net- work (kilometres)	Percentage passable throughout the year
1	Mtwivila	50.4	9.69	60.09	83.8
2	Mkimbizi				
3	Nduli	37.17	7.08		
4	Isakalilo	19.152	7.448	26.60	72
5	Mlandege	3.06		3.06	100
6	Kihesa	21.25		21.25	100
7	Mwangata	34.405	0.034	34.44	99.9
8	Mkwawa	20.79	2.83	23.62	88
9	Gangilonga	37.37	0.073	37.44	99.8
10	Ilala	6.72		6.72	100
11	Makorongoni	9.82	0.01	9.83	99.9
12	Mivinjeni	5.82	0.01	5.83	99.9
13	Kwakilosa	10.194	1.145	11.34	89.9
14	Kitwiru	34.13		34.13	100
15	Ruaha	29.25	0.03	29.28	99.9
16	Igumbilo				
17	Mshindo	2.36		2.36	100
18	Kitanzini	5.98	0.01	5.99	99.9
	TOTAL	**327.871**	**28.36**	**356.23**	**88.56**

Source: Municipal engineer office-Iringa Municipal Council September, 2014

Table 8.3: Road by category and length

No.	Wards	Type of Surface (kilometres)			
		Tarmac	Gravel	Earth	Total
1	Mtwivila	2	14.97	43.12	60.09
2	Mkimbizi				
3	Nduli			44.25	44.25
4	Isakalilo		2.00	24.60	26.60
5	Mlandege	0.75	2.86	0.20	3.81
6	Kihesa	2.65	15.45	3.70	21.80
7	Mwangata		7.20	27.24	34.44
8	Mkwawa		5.60	18.02	23.62
9	Gangilonga	3.47	19.09	14.88	37.44
10	Ilala		6.32	0.40	6.72
11	Makorongoni	2.79	5.39	1.65	9.83
12	Mivinjeni	0.8	4.88	0.15	5.83
13	Kwakilosa		7.32	4.02	11.34
14	Kitwiru		1.35	32.78	34.13
15	Ruaha	0.50	6.55	22.23	29.28
16	Igumbilo				
17	Mshindo	0.15	2.21		2.36
18	Kitanzini	3.46	2.53		5.99
	TOTAL	**16.57**	**103.72**	**237.22**	**357.51**

Source: Iringa Municipal engineer office-September, 2014

The table 8.2 shows that an average only 88.56 percent of the Iringa road network is passable throughout the year. Unpassable roads constitute earth roads that are eroded during rainy season.

Plate 8.1: Road conditions in Iringa Municipality

TAMZAM highway, showing tarmack road

TAMZAM highway, showing tarmack road

Mkwawa area, showing earth road

Kitwiru area, showing earth road

8.2.2 Road maintenance

Finances for the construction and maintenance of Municipal road network come from Road Fund and the Councils own source. Maintenance of roads in the Municipality includes routine maintenance, periodic maintenance and spot improvement. Due to limited funds, it has not been possible to maintain all roads on regular basis. The Municipal Council receives about one billion Tshs only for road maintenance each year from the Road Fund. The World Bank project (2013-2018) of supporting rehabilitation of Municipal infrastructures (roads, stand and markets) through Urban Local Government Strengthening Programme (ULGSP) has contributed immensely in the improvement of infrastructure in Iringa municipality.

8.2.3 Car Parking

The dominant vehicle parking were observed to be on-street and off-street while off street parking was done on Government premises, institutional buildings and Hotels. On street parking was done on several roads and streets, such as Uhindini and Uhuru roads.

Parking problems were already evident in Iringa town especially in the CBD area. These areas include; bus stations, central market, main shopping corridors especially along the Iringa-Dodoma road and Mlandege light industrial areas along Kalenga road. A total number of 92 parking lots were observed in the Iringa CBD while the requirements was about

8.3 TRANSPORT AND COMMUNICATION

8.3.1 Transport

The major means of transport within the urbanized part of Iringa include; buses, mini-buses, taxi, motorcycles, bicycles, Lorries, tractors, heavy duty trucks and wheel barrows. Commuting in the town is done by using public and privately owned transport systems. Many Municipal residents use public transport popularly known as daladala and a few of them use taxis and motorbikes. A few residents use private means of transport such as private cars and bicycles. The majority of Municipal residents use the most popular non-motorized means of transport walking and cycling to get to workplaces and services.

Public transport is generally under private operators. The man public route starts from the CBD to the out-skirts of the town namely; Nduli, Kigonzile, Msisina, Isakalilo, Tumaini University, Mkwawa, Itamba, Kitwiru, Cagirielo, Igumbilo, Kihesa Kilolo, Mkimbizi and Mtwivila. There are a total of 1,300 mini buses with a capacity of 29,250 seats operating in the afore-mentioned destinations. There were also 1,204 buses operating daily between Iringa town and neighbouring regions towns of Dar es Salaam, Mbeya, Dodoma, Morogoro, Njombe and Songea.

Plate 8.2 Means of transport in Iringa Municipal

Thirty seater minibuses (coaster)

Thirty seater minibuses (coaster)

Fifteen seater minibuses (hiace)

Fifteen seater minibuses (hiace)

Table 8.4: Inventory on number of motor vehicles and motorcycles

Type of transport	Number
Bus/Coach (upcountry)	1204
Daladala	1300
Trucks	250
Motorcycles	1200
Bajaji	25
Bajaj cargos	56

Source: Iringa Municipal engineer office-September, 2014

8.3.2 Traffic volume

Iringa town (CBD) is a small area of about 212 hectare which experiences traffic congestion into and through the town. Following the upgrading of the Iringa – Dodoma road traffic volume has increased especially on the street between Kihesa and Mwangata. The present traffic density on this road is about 242 vehicle/day as compared to 70 vehicle/day 35years ago. Within the town, congestion occurs intermittently at some isolated spots namely; the bus station during peak hours, central markets and main shopping corridors along Iringa Dodoma road.

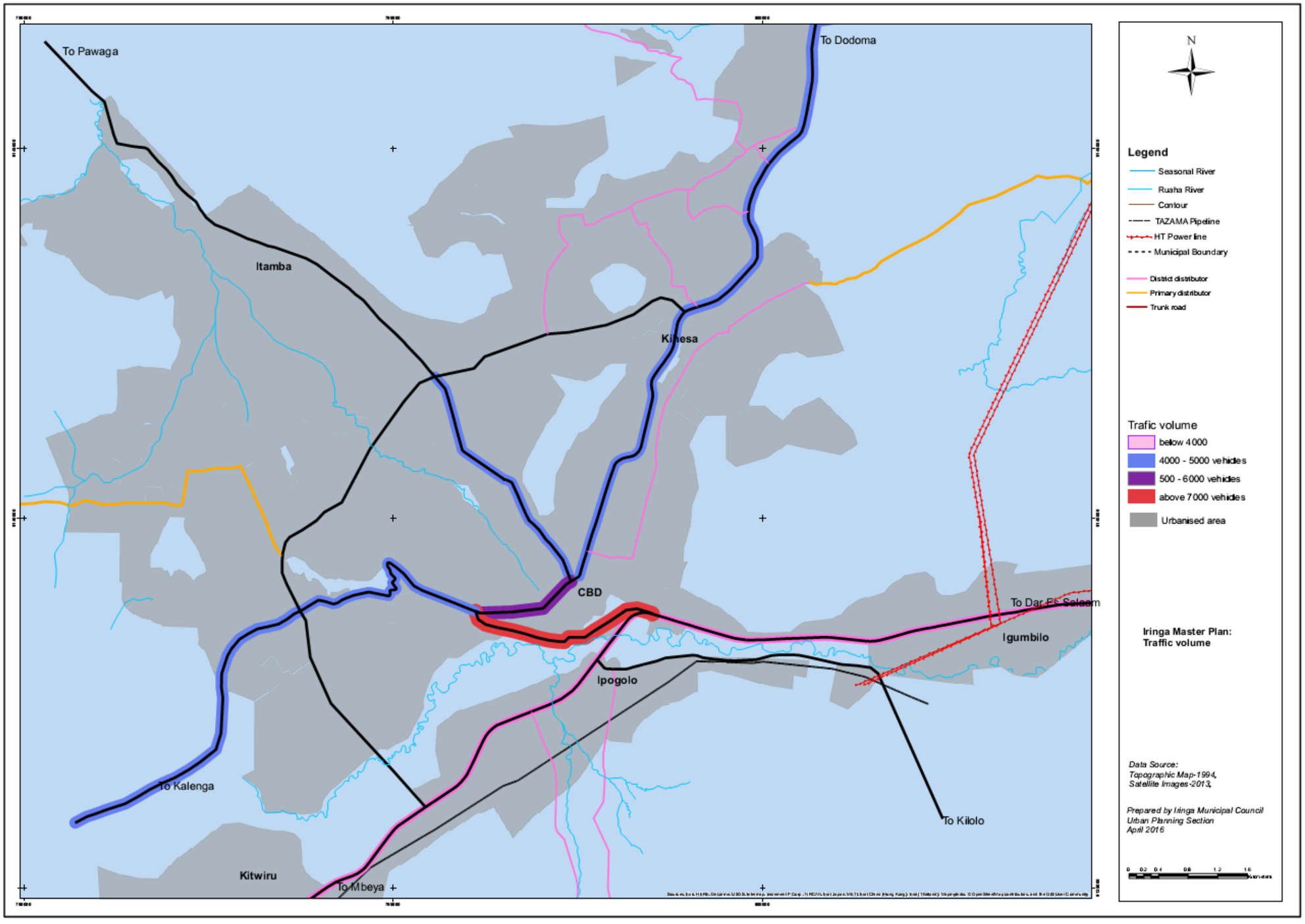
Statistics from traffic count revealed the dominance of motorized traffic types of buses, minibuses, taxes, bajaji, motorcycles, trucks, vans and pickups. Motorcycles were observed to be the popular means of transport followed by buses, taxes/saloon, vans and the other means. This is further described under table 8.5 and map 8.2**.**

Table 8.5: traffic volume

Transport hub	Average transport mode
Kitwiru	1825
Igumbilo	1238
Tagamenda	585
Nduli	728
Isakalilo	242
Hoho	123

Source: Iringa Municipal engineer office-September, 2014

Map 8.2: Iringa Municipality: Urbanized area of Iringa with traffic vulume

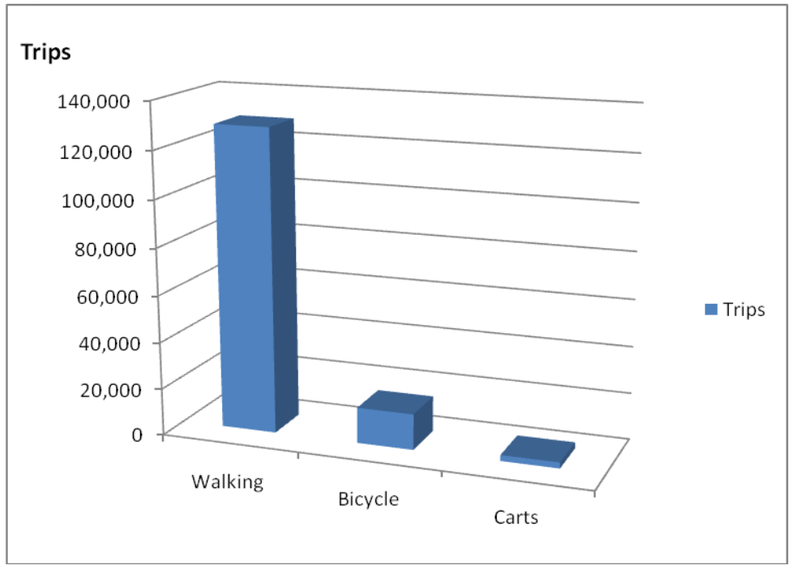


Traffic volume

According to traffic conducted in September 2014 revealed that, the junction of TANZAM Highway and Great North Road along Ipogoro-Samora counted high traffic volume followed by Iringa - Idete road. Also in the central business district (CBD) high traffic volume were counted at Sokoni road from CRDB bank to Central market had 1818 vehicles between 10:00 and 14:00 hours.

From traffic count surveys that were conducted in September 2014, the following modes of non-motorised traffic were observed: pedestrians, cyclists, ox carts and pull/push carts. Statistics show that, out of 49 nodes established for traffic count surveys; there are about 146,872 trips made through walking, bicycles and carts; of which 129,048 trips are through walking, while 15,286 trips are made through bicycle and 2,538 trips made by carts. From the observation, walking is still a predominant mode of transport within the town, hence, a need for provision of non- motorized ways within major roads.

Figure 8.1: Non-motorized traffic volume



8.2.3 Road safety

Road safety means a safe use of roads and transport modes without any inconvenience for both motorized and non-motorized traffic. Evidence on traffic accidents from Iringa Municipality showed substantial number of accidents that involved motorcycle versus private cars, pedestrian versus motor vehicles and truck/lorries versus roadside facilities like electricity poles and billboards. These accidents occur all the time day and night. All roads in the Municipality lacked railings that may separate pedestrians from motorized traffic. For example, the road from Mwangata to Kihesa Kilolo, Pawaga Road and Mbeya Road had no road marking and traffic including traffic lights and zebra crossings. Other causes of accident were reported to include influence of alcohol for drivers, high speeding, mechanical defects of vehicles and careless driving. The Table 8.5 shows a number of road accidents in the past 10 month period, January to November, 2014.

Table 8.6: Roads accidents in Iringa municipality from January to Novemba 2014

Type of vehicle	Number of accidents	Number of injuries	Number of deaths
Daladala	17	17	0
Private car	141	10	0
motorcycle	371	336	35
Bus	0	0	0
pedestrian	162	94	68
Total	691	457	103

Source: Iringa Regional Traffic Office- November, 2014

One of the conspicuous vehicles with higher frequency in terms of fatal accidents was the motorcycles. The rapid increase in number accompanied with reckless driving one of the major cases of injuries and fatal accidents from motorcycles. Motorcycles accounted for 54 percent of all accidents that contributed 73 percent of injuries and accounted for 34 percent of the fatal accidents (table 8.5). There is a need of taking strong measures ranging from awareness on safe driving to infrastructure improvements to reduce the number of accidents in Iringa municipality.

8.3.4 Environment impacts caused by road transport

Construction of roads normally degrades environment by leaving a lot of ball pits uncovered after finishing the work. This results into environmental degradation and breeding sites for mosquitoes. Moreover, the high proportion of unpaved roads and poorly maintained old vehicles increase the level of air pollution from dust. Carbon monoxide emissions from the vehicles are quite high compared with domestic and industrial emissions cause smoky atmosphere which can sometimes be detected in the morning and evening peak hours.

8.4 AIR TRANSPORT

The Iringa Municipality is served by a small airstrip, which basically handles small aircrafts. It lacks regular commercial flights as compared to other towns in the country. However, recently, the aircraft

service has been considered as a link point for travelers boarding to Dar es Salaam, Mpanda and Sumbawanga where commercial flights are slightly increasing. An average of 56 flights was recorded monthly. The airstrip is situated at Nduli, about 15 kilometres from Iringa CBD along Iringa-Dodoma road with a running way of 1.6 kilometre length. It was revealed that the airport was serving average of 1370 passengers per annum.

8.5 COMMUNICATION

Iringa Municipality is served by a number of communication facilities operating within and outside the Municipality ranging from postal office to mobile phones. The Tanzania Postal Services Company Limited was offering the following services; collection and distribution (delivery) of letters, money transfer by money Order, Postal Orders, Money Fax and delivery of parcels by Expedited mails (EMS). Following a big transformation in the telecommunication sector that took place from early 1990s to date, majority of the people have e-mails communication, mobile phones and mobile banking services. A key spatial feature that is worth considering in the Master Planning is provision of appropriate spaces for telecommunication towers for various service providers. These include Vodacom, Airtel, Tigo, Halotel, Zantel and the Tanzania Telecommunication Company (TTCL).

Table 8.7: Number of letter boxes in Iringa municipality (2010 – 2014)

Year	Number of Letter Boxes			
	Available	Applicants	In Use	Actual Requirement
2010	2449	101	2225	**2225**
2011	2449	97	2232	**2232**
2012	2449	112	2239	**2239**
2013	2449	87	2241	**2241**
2014	**2449**	**92**	**2243**	**2250**

Source: Iringa Regional Post Masters Office – September, 2014

TTCL is now providing cellular phone services and internet services to its customers and improving the communication between customers by using broadband system, which is faster and efficient. TTCL also provides FAX services, which are more in demand than Telex services. The sector has been growing due to the rapid economic growth at municipal and national levels.

Internet services are one of the fastest growing information technologies in Iringa. The municipality has 59 internet café located in the centre, these outlets were mostly owned by individuals. Internet services include; wireless internet, optical fiber cable and broadband landline provided by various mobile companies such as TTCL, Vodacom, Airtel and Tigo. This service is mostly used for mails and study purposes.

There were 8 radio stations operating in Iringa Municipality. These are Ebony FM, Country FM, Nuru FM, Overcomes FM, Furaha FM, Hope FM and Quebraten. All these radio stations were owned by Private and Religious institutions. Other radio stations include Radio Tanzania, Radio One, Radio Free Africa, East Africa Radio and Clouds FM. The Municipality had Television Station that was operating directly within the town by name of Iringa Municipal Television (IMTV). Other TV channels that were easily accessible include Independent Television (ITV), Capital Television, Chanel Ten, Tanzania Broadcasting Television (TBC), Channel Ten, Azam TV and East Africa Television (EATV) and Star TV.

Iringa was also reached by various newspapers and magazines published daily and weekly. Newspapers that reach Iringa from outside the town include, Mwananchi, Mtanzania, Nipashe, Tanzania Daima, Raia Mwema, Majira, Uhuru, Daily News, Majira, The Guardian, Mawio, Jamboleo and Habari Leo. There were locally published newspaper by the name of Kwanza Jamii and Furaha. These news papers helped to foster dissemination of information on various issues pertaining to political, social, economic, and environmental and other related matters.

CHAPTER NINE

9.0 SUMMARY OF PROBLEMS, GOALS AND OBJECTIVES

9.1 OVERVIEW

Iringa Municipality has been growing expanding from the Central Business District and along the major roads of Dodoma, Dar es Salaam, Mbeya, Kilolo and Kalenga. Spatially, the pattern of growths of Iringa Municipality could be linked to three concepts of radial, compact and satellites. These patterns are largely influenced by topography features (more specifically hills) that punctuate continued growth of the town, road network and development of informal settlements. Other non spatial drivers include demographic changes, resource and economic base, public utilities and community facilities. The following scenarios provide a summary of problems, goals and objectives as a basis for developing a spatial growth framework for Iringa municipality.

9.2 DEMOGRAPHY

Demographic sector in Iringa Municipality was faced with the following problems,

i) Unpredictable and varying population growth rate,
ii) Higher levels of prevalence of HIV/ AIDS victims to the level of 9.1 percent,
iii) Uneven distribution of population with the highest concentration in the CBD and lower in the peri-urban wards. Most of the peripheral wards lack social services and amenities for the rapid growing population.

Goals and objectives

The main goal is to improve the standard of life of people so as to harmonise interrelationship between population growth, resource utilisation and environmental conservation.

Specific objectives

i) To improve provision of social services like health, education and infrastructure to all wards within the planning period of 20 years
ii) To identify and ensure accessibility to decent and affordable housing all residents of Iringa municipality within the planning period of this Master Plan.
iii) To develop context specific strategies to reduce the HIV/ AIDS prevalence in Iringa municipality to that of below the National average within 20 years of the Plan.
iv) To promote establishment of industries and other employment sectors so as to reduce unemployment leave and improve people livelihoods within the planning period.

Strategies

i) To solicit support from private sector and NGOs in the provision of social and community facilities.
ii) To create awareness among the people on the importance of family planning and control against HIV/AIDS
iii) To identify potential industries areas and put in place infrastructure to facilitate the private sector invest in industries and other employment sectors.
iv) To plan all new areas and regularize informal settlements to achieve decent housing for all.

9.3 ECONOMIC BASE

The economic base of Iringa Municipality is largely dependent on trade and commerce, agriculture and livestock, manufacturing, tourism and mining. The problem that are embedded in these sectors are as follows;

i) Large scale number of unregistered informal businesses which can not grow to the level of firms to generate the meaningful and reliable employment.
ii) One of their informality, most of these informal businesses do not qualify for loans from formal financial institutions.
iii) Lack of capital to facilitate initiation and growth of firms.
iv) Limited entrepreneurial skills to facilitate expansion
v) Limited space for economic activities in the central and peripheral wards of the municipality.

Goals and objectives

To create an enabling environment for business to thrive and ensure job creation

Specific objectives

i) To identify economic activities and designate adequate and appropriate location and land for these activities with a view to generating employment to residents.
ii) Promote private partnership in establishing firms and economic units that will assist creating jobs to the people.
iii) To register all informal businesses in the municipality.

iv) To build capacity of informal entrepreneurs,

v) To designate adequate and appropriate more land for trade and commercial activities.

Strategies

i) Iringa municipality will collaborate with stakeholders to invest in informal sector improvement provision of soft loans, and entrepreneurial skills so as to improve entry, per fence and service provision to the people

ii) To plan and reguralise areas for informal business activities.

9.3.1 Tourism Sector

Pertinent problems in the tourism sector include;

Problems identified

i) Poor state of infrastructure to support tourism;

ii) Underutilization of existing tourist attractions;

iii) Insufficient budget to promote tourism sector;and,

iv) Shortage of tourism accommodation and related facilities.

Goals and objectives

To sustainable tourism that is culturally and socially acceptable to contribute effectively in the economy and livelihoods of the people.

Specific objectives

i) To create public awareness on the importance and role of tourism in economic development;

ii) To improve tourism infrastructure so as to attract more tourists,

iii) To provide adequate recreational facilities for local and international tourists;and,

iv) To collaborate with other stakeholders and the private sector in improving tourism as a potential source of income.

9.3.2 Agricultural sector

The problems identified be failing the agricultural sectors were;

i) Poor technology (uses of hand hoe) and methods of farming;

ii) Low market price for agricultural products;

iii) Inadequate agro-bases industries for processing agricultural products;

iv) Poor infrastructure to support large scale farming and product process

v) Climate change that was impacted on crop yields and unpredictable rainfall pattern to support farming.

Goals and objective

To create an enabling environment for improving agricultural productivity

Specific objectives

i) To designate adequate land for urban farming within the urbanized part of Iringa municipality to improve farming practice that will increase incomes and reduce poverty;

ii) To encourage household to cultivate food crops to increase food security;

iii) To improve extension services to urban farmers;

iv) To improve agricultural infrastructure such roads, water supply and members to support urban farmers;

v) To promote public private partnerships in agriculture sector.

9.3.3 Livestock keeping

Livestock keeping in Iringa municipality is rather unregulated to balance conservation initiatives and benefits accruing from livestock keeping. Animals are sometimes found in urban areas and deep grazing is notable in the peri-urban wards of the town. Pertinent issues include;

i) Poor/local methods of animals keeping

ii) Limited space for large scale grazing due to rapid urbanization;

iii) Shortage of industries to process livestock products.

Goals and objectives

To accelerate economic growth and improve quality of life of the Municipality residents through improved livestock production, productivity, food security and income generation

Specific objectives

i) To improve livestock infrastructure so as to access to raw materials and markets

ii) To improve quality of Hide and Skins;

iii) To train livestock keepers on good animal husbandry;

iv) To encourage zero grazing and ranch system while discouraging over grazing;

9.3.4 Manufacturing

Problems contributing to development of manufacturing industries include;

i) Lack of planned, surveyed and serviced land for investment in manufacturing industries.
ii) Price competition between local and imported products.

Goals and objectives

To promote manufacturing sector so as to increase employment opportunities for residents especially youths and women

Specific objectives

i) To designate adequate planned, surveyed and serviced for industrial establishment.
ii) To promote industrial development by creating an enabling environment to attract investors.

9.3.5 Fishing

Fishing sector is yet to be well established in Iringa. It is generally confronted by the following bottlenecks;

i) Limited areas for fish farming;
ii) Limited knowledge and practice for fish farming;
iii) Lack of capital for fish farmers to establish large scale farming;
iv) Shortage of fishing hatchery ponds

Goals and objectives

The overall goal under fisheries sub- sector is to develop sustainable, competitive and more efficient fisheries that will contribute to the improvement of the livelihood of community's economy in a friendly environment.

Specific objectives;

i) To provide extension services to fish farmers for fisheries development;
ii) To allocate adequate land for fisheries activities;
iii) To encourage community to invest in fish farming; and,
iv) To promote fisheries and aquaculture development.

9.3.6 Mining and quarrying

Mining and quarrying as income generating activities are still done at small scale levels. This sub-sector is confronted with the following problems;

i) Haphazard quarrying and mining resulting to environmental degradation and erosion.
ii) Loss of vegetation covers resulting from mining activities.
iii) Abandoned mine pits often accumulate rainwater and turn into breeding sites for mosquitoes.

Goal and objectives

The overall goal is to increase the mineral sector's contribution to the GDP and integrate the mining industry with the rest of the economy of the Municipality

Specific objectives

i) To support and promote development of small scale mining activities so as to increase its contribution to municipal economy; and,
ii) To promote safety security and maintain hygiene conditions and protect the environment from erosion degradation.

9.3.7 Employment

Following the closure of many small scale processing industries in the 1990s, the number of employment was drastically reduced. Even though there was resurgence in the form of service sector (namely; emergence of many higher learning institutions) the impact of closure of those industries can be felt to the present times. The key problematic areas for employment area;

i) High unemployment rate;
ii) Limited employability due to lack of necessary skills;
iii) Insufficiency of entrepreneurial skills especially among Youths;
iv) Lack of capital for self employment and establishment of firms;

Goals and objectives

The overall goal is to have society engaged in decent employments capable of generating adequate income to sustain living and reduce poverty

Specific objectives

i) To promote growth of private sector and transformation of the informal sectors;
ii) To promote equal access to employment opportunities and resource endowments for all especially women and youth;
iii) Provision of technical and entrepreneurial skills to municipal residents;
iv) Effective utilization of employment opportunities in collaboration with development partners;
v) Identification and degradation of informal business areas;

9.4 LAND USE

Problems that characterize land uses are;

i) Physical features that acts as barriers to continued spatial growth of the city planning problems/limitation. These includes little Ruaha, natural hills and mountains.
ii) Shortage of dumping sites and wastes collection points;
iii) Proliferation and consolidation of informal settlements such as Makanyagio/Don-Bosco, Isoka, Lukosi, Kihesa, Semtema, Mafifi, Ipogoro, Igumbiro and Ndiuka;
iv) Incompatible land uses including use of open spaces for car parking, car wash along the river reserve;
v) Poor skills, technology and shortage of man power for implementation of land use projects;
vi) Shortage of surveyed and serviced plots for different uses e.g. Residential, Commercial, and Industrial etc;
vii) Shortage of funds for plot surveying and compensation;
viii) Rapid urbanization that is manifested in proliferation of unplanned settlements.
ix) Land use conflicts caused by incompatible land uses, political interest, corruption and low awareness of community on different land use planning issues.

Goals and objective

The overall goal for land use planning is to provide conducive and enabling environment to ensure equitable distribution of and access to land by all people. To encourage the optimum use of land resources and facilitate broad –based social and economic development without upsetting or endangering the environment.

Specific objectives on land use: -

i) To enhance development areas in accordance with zoning and the inherent capability of the land to support a particular land use;
ii) To improve existing residential areas particularly unplanned settlement and discouraging formation on new ones through planning, surveying and servicing;
iii) To provide sufficient recreational space so that all residents can pursue leisure activities within a reasonable distance from their homes;
iv) To enhance secured land tenure for basic community facilities and infrastructure with a view to improving the well being of the residents in the rapidly consolidating unplanned areas;
v) To facilitate access to basic infrastructure and social services necessary to avert imminent public health threats;
vi) To provide a broad land use framework illustrating a coordinated policy of renewal and guiding both public and private redevelopment activities;
vii) To provide a road pattern and traffic networks designed to improve vehicular access and parking space and also facilitate segregation of vehicles and pedestrians;
viii) To promote development control to ensure compatibility in land uses, provide a basis for determining development applications on extensions of rights of occupancy or leases, extension of uses and change of uses.
ix) To ensure effective and optimum utilization of land in prime locations and increase the quality and quantity of housing stock in the existing inner areas of urban centres
x) To ensure decentralization of services to different town centres for community consumption and improve accessibility to the livelihood and employment opportunities.
xi) To ensure that affordable planned, surveyed and serviced land is available for housing development.
xii) To ensure land is put in its most productive use to promote rapid social and economic development;

9.4.1 Housing and residential development

Inadequate and acute shortage of planned and services lands is one of the key problems constraining initiatives of attaining ordered growth of Iringa town. In short pertinent problems under this sub-sector are;

i) Inadequate planned, surveyed and serviced plots for residential development;
ii) Difficulties in accessing housing loans from financial Institutions;

iii) Existing of poor housing condition in the central area and peri urban areas,
iv) Shortage of decent, affordable housing;
v) Proliferation of unplanned settlements.

Goal and objectives

The main goal for housing and residential development is to ensure ordered development of settlements with adequate infrastructure provision.

Specific objectives are:

i) To ensure affordable houses are available for all income groups for outright purchase or rental;
ii) Promote use of local building materials which are affordable in constructing modern houses;
iii) To protect human settlements environment and ecosystems from pollution, degradation and destruction for sustainable development.
iv) To make planned, surveyed and serviced land accessible to all groups for housing development.
v) To plan, survey and service more plots, in order to control the growth of unplanned settlements
vi) To provide services in unplanned areas and provision of security of land tenure (Certificate of Right of occupancy).
vii) To improve sanitary system through provision of all necessary housing utilities and connecting to sewerage system those houses with access to the system.
viii) To review Iringa Central Redevelopment Scheme

9.4.2 Community facilities

In all sub-sectors of community facilities, the present supply is far behind the demand. Schools, hospitals, health centre and dispensaries were all less compared to actual demand. In some facilities, quality output or service was falling short of supply. In specific terms, these shortfalls included;

i) Inadequate classrooms in pre-primary, primary and secondary schools;
ii) Shortage of teacher's houses
iii) Lack of vocational schools;
iv) Shortage of schools for children with special needs;
v) Poor condition of the existing school buildings.

Goals and objectives

To improve existing and expand new community facilities to a new areas so that they are accessible and affordable by the general public

Strategies

To provide adequate communities facilities from the lower to the higher levels (schools, health, administrative, sports and recreation)

9.4.3 Solid waste management

While the present generation rate of wastes stands at 132 tons per day, the capacity to collect was 120 tons a day. This implies that 12 percent of the waste generated was not collected. Other problems associated with solid waste management include;

i) Accumulation of wastes in planned collection points.
ii) Increase of unplanned collection points due to a rapidly growing population and urbanization.
iii) Pollution of water sources, air and land emanating from poor solid waste management.

Goals and objectives

The main objective under solid waste management is to enhance the capacity of the municipality to efficiently manage solid waste and protect the environment.

Strategies

i) To expand solid waste collection points and transfer stations so as to ensure that all wastes generated are collected.
ii) To enact bylaws to ensure that each house and other building bears a dust bin and enforcement such bylaws regarding haphazard disposal of wastes and littering
iii) To ensure that community or private companies are involved in solid waste management.
iv) To evolve or initiate programs to ensure reuse or recycling of wastes is part and percel of the culture of managing wastes from household to municipal level.

9.4.4 Clean and safe water

The water utility agency (Iringa Urban Water Supply Authority- IRUWASA) is facing a financial constrains in implementing its various investment especially in areas where water reticulation network is yet to be expanded. Similarly, the instability of climate (climate change) has let to fluctuation of other amount of water source of River Ruaha. Other challenges that were constraining IRUWASA to have a wider coverage of its water supply network included; hilly/ mountainous geographical setting that made supply by gravity to be limited (pumping), vandalism and expansion of municipal boundaries that over stretched the limits of water supply coverage.

Goals and objective

The overall goal under water supply sub-sector is to ensure provision of ample portable supply for public health, safety and economic needs to all residents for Master Planning period of 20 years. From social equity point of view, water has been deployed as a redistributive component to achieve sustainable development goals.

Strategies

i) To expand the water supply reticulation network to expand to new areas presently not covered by IRUWASA.
ii) To construct high capacity tanks at Kitwiru and a booster pump at Mtwivila.
iii) To reduce non-revenue water from the current 33 percent to 15 percent by 2025.
iv) To rehabilitate existing facilities like pumps, pipes and other machines to avoid long term breakdown.
v) To secure new water sources for the future use, the current water sources may not be adequate for future demand.
vi) To improve sanitary system in the Municipal area.
vii) To provide water right of way of 10 meters wide, 5 meters of either side of the pipe in a transmission line and right of way of 5 meters in a distribution lines, i.e., 2.5 meters on either side of the water line (pipe diameter of 110 milimetres -250 milimetres) and a right of way of 2.5 meters for other distributing with pipe diameter <110 milimetres.
viii) To ensure and safeguard water sources from pollution and degradation for sustainable water supply.

9.4.5 Storm water drainage

The problems associated with storm water drainage were;

i) Insufficient coverage of storm-water drainage system along the roads and in most areas within the city.
ii) As construction of buildings and infrastructure grow, the water runoff increases making many built up areas vulnerable to flooding during rain seasons.
iii) Poor maintenance of storm water drainage.

Goal

The main goal is to ensure efficient and effective storm water drainage system including natural and man-made drains.

Strategies

i) To ensure that storm water drainage system is provided and maintained to reduce vulnerability to the flooding.
ii) Natural drainage systems should be valued and maintained.
iii) To conduct regular maintenance of existing drainage systems to optimize their use.
iv) To construct new main storm water drainage system.
v) To provide new roads with appropriate drainage systems.

9.4.6 Energy (electricity, charcoal and fuel wood)

Pertinent issues emanating from this sub-sector are;

i) Customers continually upgrading or adding electrical appliances that overload the supply side.
ii) Depletion of surrounding natural vegetation cover for use as fuel wood or charcoal
iii) Invasion of way leaves (electricity) by informal housing and other undertakings.

Objective and goals

The aim of energy sector is to ensure availability of reliable and affordable energy supply for community development.

Strategies

Upgrade electricity supply systems in conformity with emerging uses;

i) To encourage use of energy supply for development activities.
ii) To expand access to electricity at affordable price.
iii) To allocate at least 10 meters way leave for the newly constructed road to allow construction of electricity distribution lines to supply power to new surveyed areas.
iv) To provide space between plots and plots to allow area for passage of low voltage lines.
v) To invest in tree planting campaign to regenerate the lost vegetation cover especially on mountain slopes, river valleys and open grounds.

9.5 TRANSPORT, TRANSPORTATION AND COMMUNICATIN

Key problematic areas for transport and communication sector were;

i) Lack of permanent roads for cyclists, pedestrians and motor vehicle along major roads.
ii) Poor (non- separation of traffic) and irregular maintenances of roads.
iii) Lack of defined parking spaces in the CBD.

iv) Low capacity of the existing airport to accommodate big planes.

v) Frequent change of technology in communication which does not match the existing Municipal plan e.g., changes of technology from tower to optic fibre.

Goal

The aim of transport sectors is to improve the sector to contribute more to the social, economic and better living standards for all people.

Objectives

i) Improved traffic system by putting in place a well segregated road network for smooth traffic movement free from traffic jams.

ii) Ensure roads network is passable throughout a year.

Strategies

i) To designate areas for car parking, bus stops and heavy truck parking.

ii) To design road with traffic separation for pedestrians, cyclists, motorcyclists and motor vehicles.

CHAPTER TEN

10.0 MASTERPLAN FRAMEWORK, CONCEPT AND LAND REQUIREMENT

10.1 PLAN FRAMEWORK

A framework of a plan entails an approach to the plan and provides a platform upon which bases for plan are clarified. The main components of the framework were synthesized and used as a springboard in developing the plan. These components included: vision and mission; findings from existing, SWOT analysis; planning parameters, basic assumption, national and international programmes, population projection and conceptual growth models.

10.2 VISION AND MISSION

Vision

The vision for Iringa Municipality is to become a centre of education excellence, tourism hub of the southern highlands circuit for better and sustainable living standards of its residents. In order to translate the vision into reality the following is the mission of Iringa Municipality.

Mission

Iringa Municipal Council in collaborating with stakeholders intends to facilitate efficient and effective provision of sustainable socio-economic services to its residents. The municipality views stakeholders' participation and good governance as a key vehicle for integrated planning, implementation and review of projects and programmes recommended in this Master Plan.

10.3 GOALS AND OBJECTIVES OF THE PLAN

The main goal of this plan is to achieve a comprehensive development of the Municipality which is well plans and self- sustaining in terms of livelihoods and daily necessities of life within the premises of sustainable development goals. This plan will guide, manage and control development of the Iringa Municipal council for the period of 20 years (2015 – 2035).

The Master plan aims to achieve the following planning objectives:-

i. To acts as a planning and management tool for guiding detailed planning and development of the Municipality.
ii. To ensure sustainable utilization of land and other natural resources. This means to allocate adequate land to meet the present and future land use needs for various activities such as; housing, infrastructure and services, industrial, commercial, recreational, urban farming, institutional and other investment initiatives without compromising similar needs for the future.
iii. To allocate and distribute development resources for the promotion of a socially, physically and economically conducive environment for the urban dwellers.
iv. To act as a tool for controlling city sprawl by promoting compact development concept.
v. To conserve and improve environmental areas for sustainable development for future generations.
vi. To eliminate land use incompatibilities through adoption of zoning development concepts.
vii. Reduce underutilization of valuable land in the Municipality by encouraging high density development.
viii. To control and combat informal settlements and preventing emerging of new informal settlements by having proactive planning especially in peri urban areas along mountain slopes and hills.
ix. To discourage the development of informal settlements by providing planned and serviced areas prior to housing development;
x. To improve the level of provision of infrastructure and social services through the creation of self-sustaining communities and neighborhoods;
xi. To promote Iringa as Centre of education Excellence by establishing new higher learning institutions;
xii. To provide adequate parking facilities within the urban areas especially to private cars, heavy trucks and public buses;
xiii. To provide for smooth integrated traffic movement for all modes of transport and transportation of people and goods;
xiv. To improve the existing roads and open up new areas by providing access roads so as to facilitate easy accessibility to new areas
xv. To promote urban agriculture in the town.

10.4 BASIC ASSUMPTIONS AND CONSIDERATIONS

The basic assumptions underlying the planning proposals contained in this Master Plan are;

i. That the Municipality population will grow at the rate of 1.6 percentages per year for the next 20 years of the plan span.
ii. That the Municipality will experience economic growth at the rate of 1.6 percentage or above annually for the next 20 years.

iii. The Municipality has a total area of 33140 hectares of land, of which 24474.37 are potential for various uses. The area which is available for future Municipality expansion in the next 20 years is estimated to be 16770 hectares.

iv. During stakeholder's consultative meeting which was held in March, 2014 the following issues were raised; (Table 10.1)

Table 10.1: Stakeholders consultative meeting comments

S/N	Issues	Strategies on how to address the issues
1	Limited participation of stakeholders	Awareness creation to community planning will be strengthened during plan implementations.
2	land use conflicts	Education and awareness campaigns on land laws (Urban Planning Acts Na. 8 of 2007, Land Act Na. 4 of 1999) will be created to the community to ensure compatible land uses and minimize or reduce land use conflicts.
3	Shortage of dumping and collection points/sites	Involvement of stakeholders on selection of appropriate sold waste management collection points and designation of new collection sites in relation with generation rates will be undertaken.
4	On shortage of parking spaces	To involve the private sector to construct new parking for heavy truck and small cars
5	Shortage of surveyed and serviced plots for vaious uses	To involve private Planning and Survey firms to survey more plots in order to avail more plans and services and control the growth of unplanned settlement
6	Formalization and densification of informal settlements	To regularize unplanned settlements and provision certificates of rights of occupancy. This should be accompanied with provision of services. Enact By-laws to protect hills and mountains from invasion by informal settlements.
7	Water bodies pollution	To enact by laws to protect water sources and ecosystem from pollution, degradation and destruction in order to attain sustainable development
8	Difficulties in accessing housing loans from financial institution	To provide many certificates of right of occupancy by planning, surveying and titling many plots. Many residents with quality one CROs

Source: Stakeholders meeting, March 2014

v. Other key considerations in the preparation of this Master Plan includes 7th Millennium Development Goals (MDG 7) which aims at to ensuring environmental sustainability; the National Vision 2025 that aims to achieve a target of middle income country by 2025. The Urban electrification programme (2013-2022), MKUKUTA I & II (2010), MKURABITA (2012), MMEM (2002-2006), MMES (2010), MEMKWA, HIV/AIDS, SAGCOT, Rural Water Supply and Sanitation Programme, Urban Local Government Strengthening Program (ULGSP), and on-going national motto: *Big Results Now* (BRN).

vi. A number of changes have been taking place with regard to National policies and sectoral development strategies on both social and economic aspects. The government that used to be the main provider is now playing an enabling role to facilitate other sectors public, private and popular institutions to contribute to the national social, economic and environmental agenda. This shift in micro-economic policies will have significant influence on how Projects and Programs will be implemented in Iringa municipality. Through these changes, urban planning approach will have to change from the old bureaucratic/ technocratic top-down to participatory planning approach which is based on the broad based stakeholder's participation and involvement from the public, private and popular sectors.

vii. There are many positive elements of previous plans which can be adopted in this new Master Plan (2015 – 2035). These include: the Iringa Master Plan (1980-2000), the Sustainable Iringa Programme (1997-2005); The Iringa Central Area Redevelopment Plan (2002-2017), The Strategic Urban Development Plan (2006 -2016), Environmental Profile of Iringa (2006), detailed planning schemes and others.

10.5 URBAN GROWTH POTENTIALS AND PROSPECTS

Iringa Municipality and its hinterland are endowed with natural resources potentials for its growth. These include;

i. A vast underdeveloped land which is potential for future expansion and development of industries, tourism areas, institutional, commercial, residential, urban farming, a forestation and other activities.

ii. If the existing Nduli airport will be expanded, it will contribute tremendously towards development of the Municipality in terms of tourism, industrial, agriculture and recreation.

iii. Rapid population increase that creates readily available market base for locally produced items and commodities.

iv. Improved accessibility through construction of highway and regional roads of Iringa-Dodoma, Iringa – Pawaga and Iringa- Ruaha national parks.

v. Adequate supply of water in the Municipality/ a reliable water supply following the completion of rehabilitation Iringa water supply and sanitation facilities project in 2012.

vi. Adequate and reliable electric power supply following connection of the municipality to two National grid transmission systems.
vii. The Municipality's geology favors establishment of construction industries in terms of ceramics stones, aggregates, lime and cement and others.
viii. Proximity and reliable road link with Dar es Salaam city which harbors the largest port and international airport. This location boosts the economic growth of the Iringa and propensities for investment.
ix. Close proximity and good transport network to Ruaha National park, Isimila Stone Age Site and Kalenga Historical Site which attract tourists and boost tourism activities within the Municipality.
x. The underdeveloped industrial areas provide a room for redevelopment in terms of manufacturing, processing and other industrial activities.
xi. Existence of reliable water source for human consumption and for various economic projects like irrigation along little Ruaha is a good resource to spearhead the development of Iringa.

10.6 PLANNING PERIOD

This plan is valid for 20 years from 2015 to 2035. The implementation of the planning proposals will be translated into four phases. Phase one will start from 2015-2020. The second phase will commerce 2020-2025; third phase 2025 – 2030 and phase four will be in 2030-2035 on the assumption that the plan will be fully implemented.

10.7 PLANNING POPULATION

10.7.1 Population Projection

The population size and its growth is the key parameter of the Master Plan of 2015– 2035 because the plan is geared to address the socio-economic issues touching the daily life of the people. An increase in population has a direct bearing on land requirements, spatial expansion of the town increase in community facilities, public utilities and other services within the planning period of the Master Plan. The population decline with rate for Iringa has been fluctuating with the general trends. The highest recorded rate was 9.18 percent (1967/1978) and dropped drastically to 2.55 percent (1978/1988). It dropped to 2.38 percent (1988/2002) and further to 1.5 percent (2002/2012). While the decrease has been attributed to the collapse of industrial establishments in the 1980s and 1990s, the resurgence is attributed to the establishment of many higher learning institutions which has attracted a considerable number of students population and teachers based on these trends, there are signs that the population growth rate for Iringa municipality will continue to increase even though not as exponential as that of 1960s. Based on these trends, a 4.6 percent has been considered as modest and realistic for the purpose of projecting future population of Iringa municipality. The 4.6 percent is also the average rate for urbanized centres in Tanzania.

The underlying assumptions justifying adoption of this rate are;

i. Expected growth in industrial investments, tourism investment and agricultural investment will create more employment opportunities and thus will attract more people;
ii. Completion of construction of great north road (Iringa – Dodoma high way) will promote transport and commuter transport between Iringa and Dar es Salaam;
iii. Construction of regional roads which are kalenga road (Iringa – Ruaha national park), Pawaga (Iringa – Pawaga) and Kilolo road (Iringa – Mufindi) will stimulate the physical growth of the Municipality;
iv. Establishment of new higher learning institutions as a Centre for education Excellence.
v. Construction of new bus terminal at Igumbilo will increase employment opportunities;
vi. Construction of gas plant at Ipogoro and Kitwiru industrial area will increase employment opportunities; and,
vii. Rehabilitation and expansion of Nduli airport will increase the number of flights to iringa and contribute towards increased investments opportunities.

It is therefore, possible to assume that the Population growth rate of 1.5 percent per annum and anything below 4.6 percent is realistic. Basing on that assumption the lowest projected will increase population to from 151,345 in 2012 to 209,550 in the year 2035. On the highest side (4.6 percent), the population will increase from 151,345 in 2012 to 349,895 in 2035 (table 10.2)

Table 10.2: Iringa Municipality projected growth based on the three stated Estimated population growth rates

Year	POPULATION	
	Estimated Iringa Municipal population growth, rates based on Population and Housing Census, 2012, 1.5percent	Estimated urban population growth for Tanzania Cities based on Population and Housing Census 2012, 4.6percent
2012	151,345	151,345
2015	158,155	172,230
2020	169,506	207,039
2025	182,218	254,657
2030	194,932	302,276
2035	209,550	349,895

Thus, in totality the projected population within the planning period at 4.6 percent growth rate will be 349,895 people. The figure has been used in all planning aspects including land requirements. The population projection for Iringa Municipality has been done using the following formula;

$Pn=Po\ (1 + r)^{t}$

Where

P_o = present population

r = annual growth rate

P_n = future populations

t = number of years

10.8 URBAN GROWTH PROBLEMS AND CONSTRAINTS

Although the population growth rate of the Municipality has been declining since 1980s, the actual population size in terms of numbers has been increasing. It is therefore clear that the assumed 4.6 percent growths rate represents the maximum rate upon which future projections have based.

The declining trend of population in the 1980s was accompanied with decline in economy in the same period. This was considered to be a result of the fall of maize production and trade from a nearby constituent of Isimani and closure of industrial establishments in the Municipality. The weak resource base and resulting weak economic base have culminated into a few industries. The dominant form of economic base is small-scale commercial enterprises and urban farming. This state contributes further to the limited employment opportunities and eventually, the overall weak economy of the Municipality.

Low economy and purchasing power for many residents is a motivating factor for some of them to migrate outside the Municipality in search for employment. Low standard of living is explained by the low income levels and the high cost of living which when combined together result into low capacity to consume manufactured goods and services. Inadequate market for agricultural products and lack of processing and storage facilities discourage farmers from engaging in agricultural productions. These sums up to a cycle of poverty which can only be addressed by unlocking the untapped potentials in the service, tourism and agricultural sectors.

10.9 SWOT ANALYSIS OF THE EXISTING SITUATION OF IRINGA MUNICIPALITY

The Strengths, Weaknesses, Opportunities and Challenges of the existing situation of the Iringa Municipality as follow;

Strengths

i. Commitments of Iringa Municipality Council towards realization of the planning goals and objectives.
ii. Proximity to Dar es Salaam (Port, Julius Nyerere International Airport), Mbeya, Morogoro and the capital city Dodoma which serves as market outlets for the products but also gateways for shipping goods outside the country.
iii. Topographical advantage of highlands attracts tourists from abroad.
iv. Construction of new bus stand at Igumbilo and expansion of Nduli airport will provide a boost to the transport sector and open doors for more investment.
v. Construction of a bypass road connecting TANZAM and Dodoma roads will reduce traffic congestion in the CBD.
vi. Completed of rehabilitation of Iringa water supply and sanitation facilities project in 2012 which improved supply water services to 95 percent. This is an incentive to medium and large scale industrial establishment.
vii. The on-going initiatives of regularizing unplanned within the urban core will improve the housing condition in Municipality.
viii. Availability of higher learning institutions provides employment and market for locally produced outputs.

Opportunities

i. The Municipality is accessible by different modes of transport within and outside through air and roads' transport.
ii. Its proximity to cultural heritage and historical sites renders Iringa a tourist town
iii. Community willingness to participate and contribute in the ongoing project of upgrading unplanned settlements within the Municipality.
iv. Capacity of the Iringa Urban Water Supply and Sewerage Authority (IRUWASA) to supply adequate, clean and safe water until the year 2035.
v. Connection of the municipal to three main source of national grid system electricity namely; Mtera, Kihansi and Kidatu hydropower stations.
vi. Availability of materials required for construction including stones, clay soil for burnt brick making and sand.
vii. Existence of large undeveloped land (land banking).

Weaknesses

i. Poor management of natural resources resulted into environmental degradation.
ii. Centralized location of all basic services and goods, limits residents from peripheral areas to access them.
iii. Inadequate areas planned for provision of social economical activities.
iv. Outdated Master plan for controlling rapid urban planning.
v. Mushrooming of unplanned settlement areas.
vi. Incompatible land use plan.

Challenges

i. High population in migration due to increase in higher learning institutions.
ii. Expansion of urban boundary has resulted into inclusion of rural wards which call for planning and service provision failure to guide land development
iii. Inadequate provision of some basic infrastructural services especially to peri-urban wards.
iv. The hilly topography setting has resulted into development of linear urban corridors with a character of sprawl. The realization of a compact city will be difficult because of these constraints.

10.10 THE URBAN CONCEPT

As emphasised in the vision and mission, Iringa Municipality Council, is committed to create a modern Municipality with many higher learning educations, industrial, and tourism tastes as well as conserved structures of historical value. Much emphasis is put in both present and future requirements. Lessons and experience gained from the implementation of the previous plans facilitated in developing a concept for a well planned and organized city.

With regard to the underlying bases of the Master Plan, it is important to define some principles to guide the development of Iringa. This is considered necessary so as to create harmonised development and ensure easy connectivity of functions by a well planned circulation system. There is also a need to minimise heavy trucks passing through the central area by introducing by-pass roads such as the bypass connecting Dodoma-Iringa road and TANZAM highway. The second by-pass is Iringa- Dodoma road through Mtwivila, Mkwawa, Mwangata, Isakalilo and Kitwiru. In developing spatial conceptual plans, the following factors have been taken into consideration:

(i) Harmonisation of the spatial development of the Municipality with the existing Central Area Redevelopment Plan (2001 – 2017) and the old Master Plan of 1980. The Central Area Redevelopment Plan is still a legal document that governs the growth of the central part of the Municipality to-date. The old Iringa Master Plan (1980-2000) is still in use as a guiding tool for physical growth until the new one is approved.
(ii) The need for the core functions of the Central Business District (CBD) be reviewed and its boundaries extended;
(iii) Upgrading of existing unplanned settlements;
(iv) Maintaining existing buffer zones along the little Ruaha river, valleys, hills and trunk roads that may enhance environmental conservation and landscape;
(v) Synchronization of private sector investment areas with Municipal functions in urban residential communities as recommended by the old Master Plan.
(vi) Designation of land use proposals that follow the Tanzanian Town Planning Space Standards in order to put land to its optimum use and accommodate current and future needs of various land uses.
(vii) Vertical development should be encouraged.

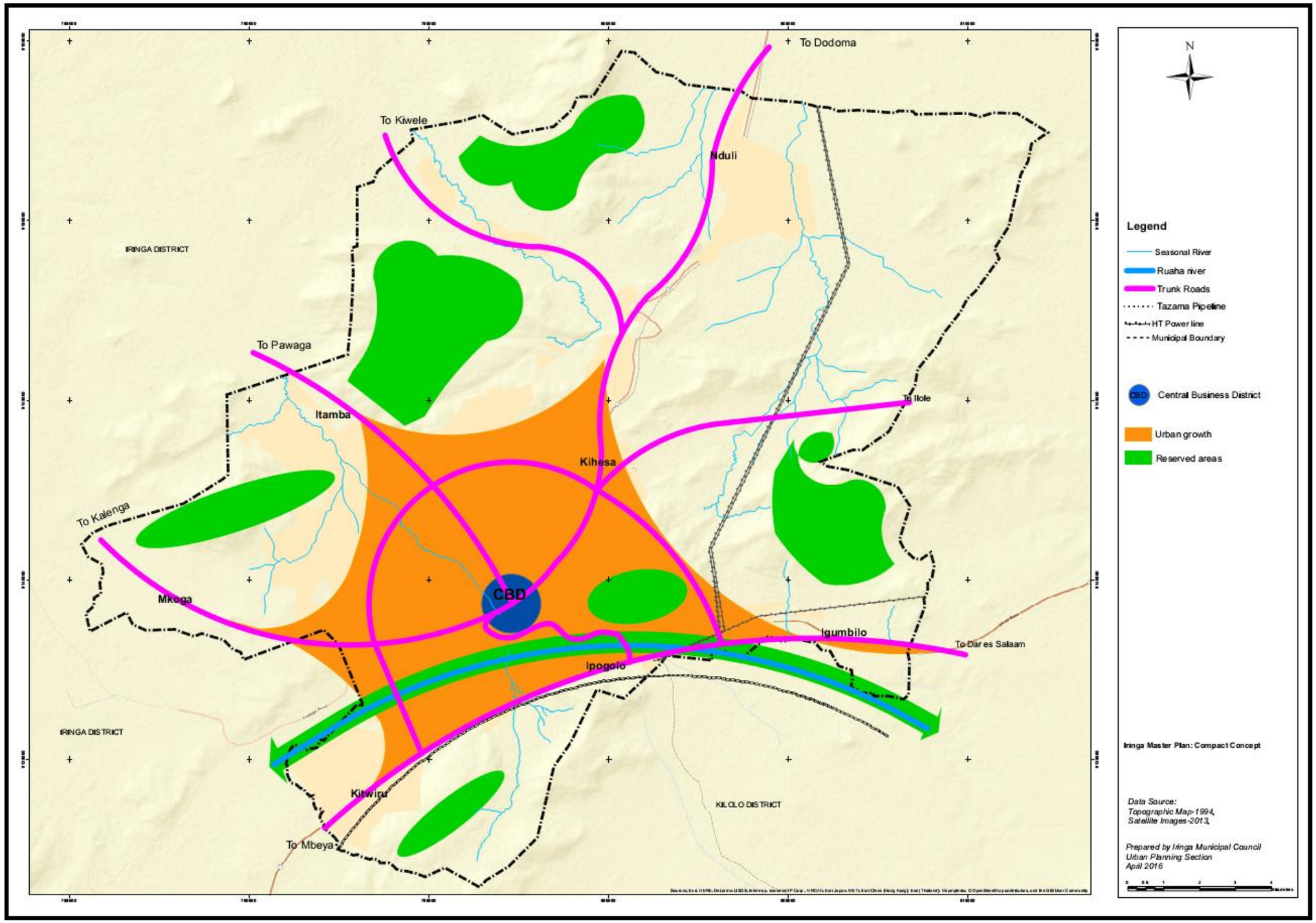
10. 10.1 Development of alternative concepts

Considering the physiographic setting of the Iringa Municipality and non-physical dynamics of urban growth three urban concepts have been considered namely; radial, compact and cluster or satellite.

The compact concept

"Compact concept" means the development of connected neighborhoods by sharing the existing basic infrastructure services to optimal use and remaining linked to the Central Area. Kihesa, Mkwawa, Ilala, part of Makorongoni, Mtwivila, Gangilonga, Kwakilosa, and Mlandege are clear examples of neighborhoods depending on Iringa urban core for all basic services. The development of Iringa town will continue expanding from the existing CBD because basic services such as health centre, education, financial institutions, bus stand and business centers are located in the town centre. Therefore, the pattern of the growths will continue to be monocentric where people from various locations will come to the town centre to access these services (map 10.1).

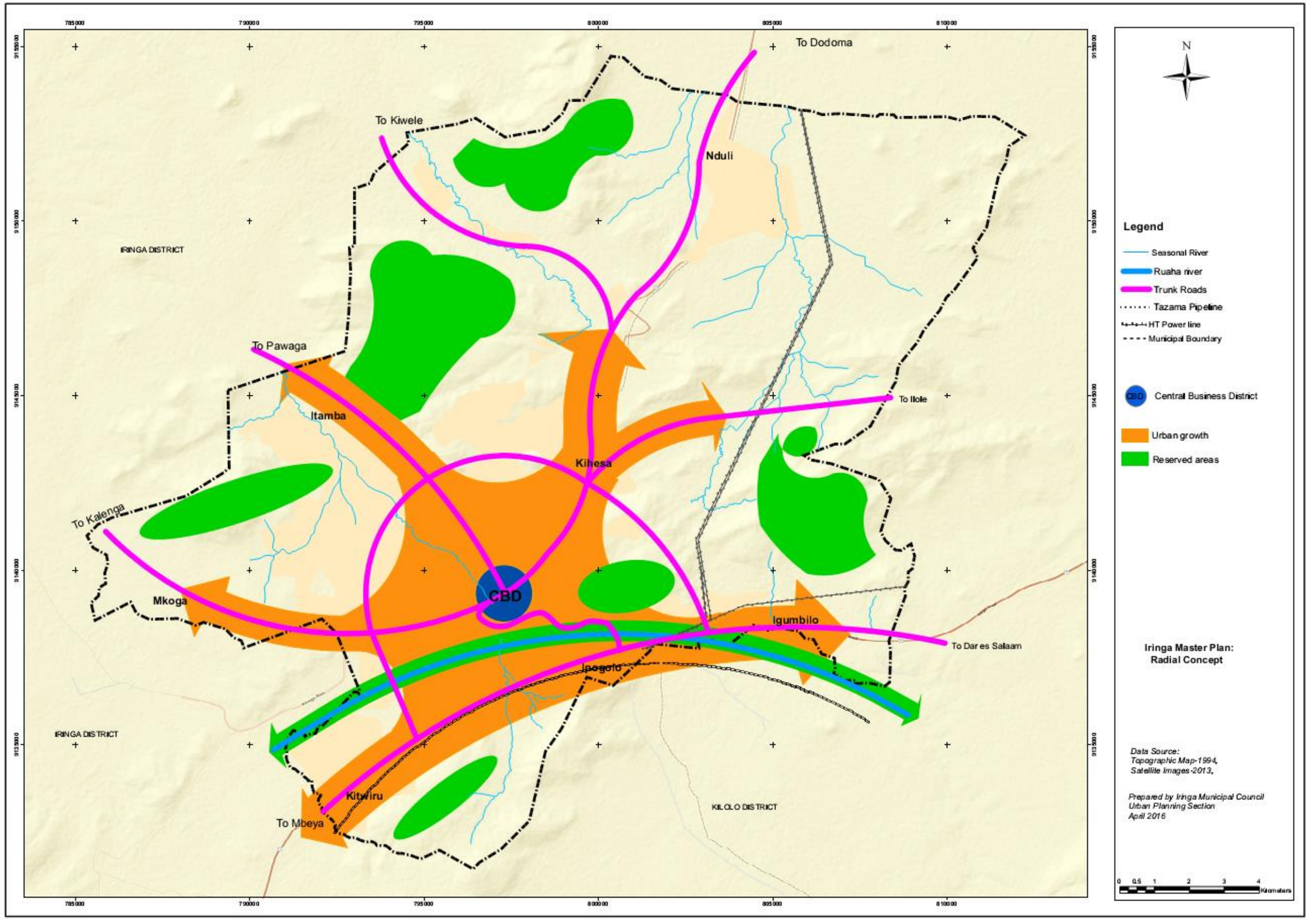
Map 10.1: Iringa Municipality: Compact Concept



Radial concept

With the exception of the urban core which is in compact form, most settlements within the Municipality are in radial form. The radial form of development is influenced by the existence of arterial roads (which radiates from the CBD). Most of the developments are concentrated along the five arterial roads of Iringa-Pawaga, Iringa -Dodoma, along TANZAM highway, Iringa- Kilolo and Iringa- Kalenga. This pattern of development will continue due to the physical limitations created by the mountains also the gentle sloping lands along the five major roads.

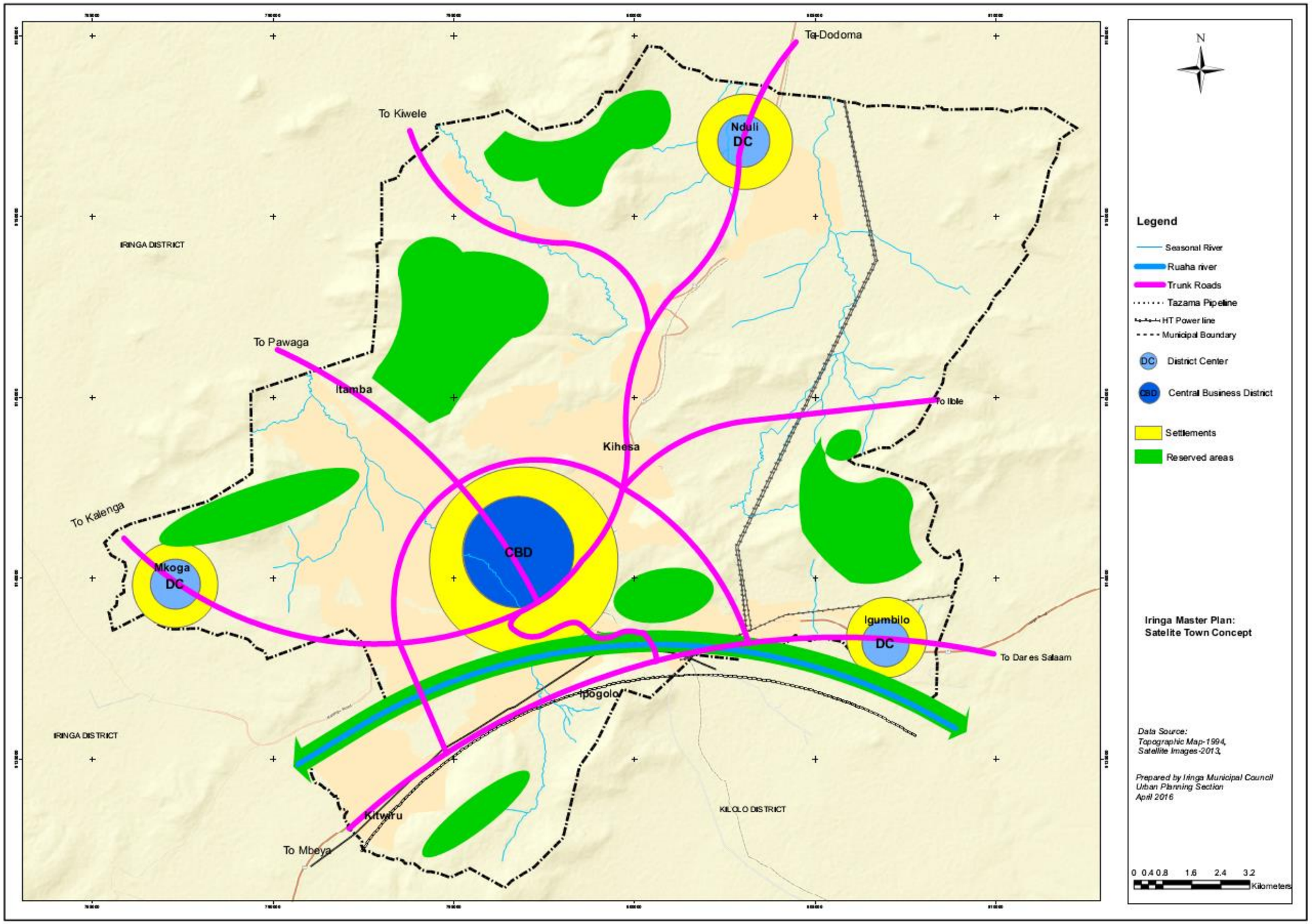
Map 10.2: Iringa Municipality: Radial concept



Satellite concept

A satellite town refers essentially to smaller metropolitan area which is located somewhat near to, but is mostly independent of, larger metropolitan areas. A town designed to house the overspill population of a major town, but located well beyond the limits of that town, and operating as a discrete, self-contained entity. Due to the radial development that is influenced by the existence of trunk roads and mountains. The development of satellite towns is likely to be established in Nduli, Igumbilo and Mkoga (Map 10.3).

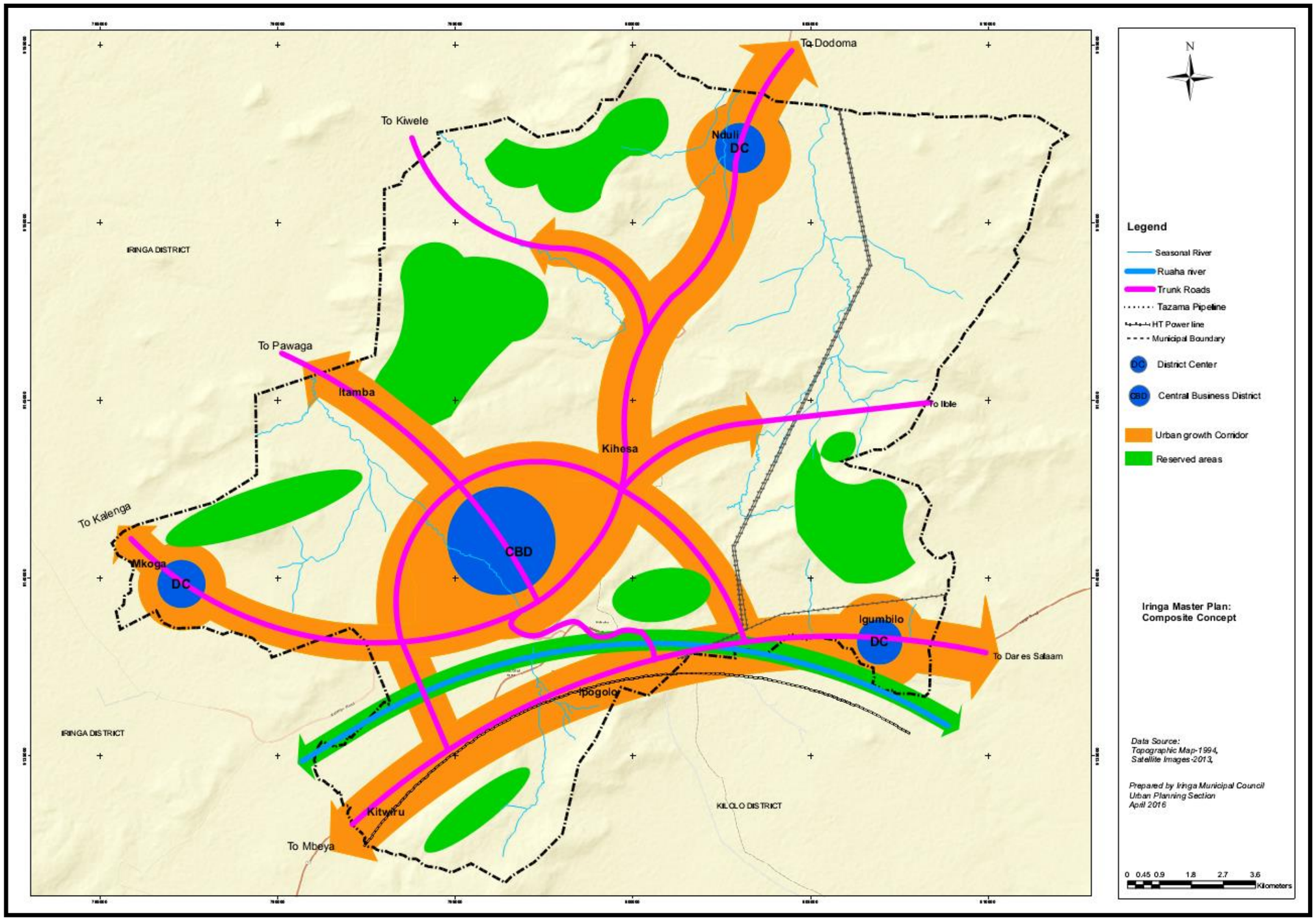
Map 10.3: Satellite Town Concept.



Composite concept

This concept contains features of compact, radial and satellite concepts. The overall goal is to combine good elements of each concept without compromising the planning goals. It aims at enhanced utilisation of inherent potentials found within Municipality and use it to its advantage to promote balanced development in all areas

Map 10.4: Combined Concept



10.10.2 Selection of a concept

In selecting suitable concept to be adopted in this plan, advantage and disadvantage of each concept were analyzed (Table 10.3).

Table 10.3: Advantages and disadvantages of different concepts

S/n	Concept	Advantages	Disadvantages`
1	**Compact**	Easy in assessing services due to the fact that all services are located in walking/ cycling distance	- It leads to unequal distributions of the services. - It causes unbalanced development of the region due to concentration of services in the CBD. - It is costful and may cause traffic congestion and cramming of functions if not well planned.
2	**Radial**	It is convenient interms of distributing traffic along radial roads. If well managed, it leads towards balanced development.	- It may lead to inconvenience traffic movement if ring roads are not provided at regular and required intervals. - It is favoured with monocentric.
3	**Satellite**	- It decentralizes services to the satellite increasing the functionality of the city. - It leads to even distribution of services and development within the region.	It is costfull for the services distributions and commuting.
4	**Composite**	- Ensure equal distribution of services within the region. - It has a well defined and functional hierarchy of town centers and sub-centers. - It is optimizing land resources while minimizing negative externalities such as long commuter distances, consumption of land and pollution.	It is difficult to achieve in terms of design.

Based on table 10.3, the analysis reveals that different weakness of the three concepts can be resolved by adopting a composite concept which borrows the positive features of the three concepts. Hence, the development of Iringa Municipality will adopt the “composite concept” adopting good qualities from each of the elaborated concept.

Observations showed that the Municipality was growing depicting various concepts which compactness, radiality and linearity. While the compact type was observed in urban core of Miyomboni/Kitanzini area, while the radial elements were observed along the major roads of TANZAM high way, Pawaga, Kalenga and Iringa to Dodoma. Most of the peri-urban settlements grow spontaneously although they tend to grow linearly along the main roads. The recommendation of adopting a composite concept makes it possible for establishing multi-functional service centres in peri-urban areas in order to ensure balanced provision of services. This Master Plan presents some measures to secure that population thresholds corresponds with level of services provided.

Feasibility of the concept

The feasibility of composite concept largely depends on its costs and benefits. The multiplier effects in transport investments connecting satellite towns, expansion of Nduli airport, tourism investments, high learning institutions, agro-processing industries, suppliers and urban agricultural services will be felt upon implementing the concept. Innovation and technological advancement will be encouraged to ensure competitiveness of Iringa with other Municipalities and cities. In implementing the concept, residential areas should take place based on the following hierarchical central design elements:-

i) Plots
ii) Housing Block
iii) Housing Cluster/ Housing estates
iv) Neighbourhood
v) Communities
vi) Planning District
vii) The Central Business District

Plot

Residential plot will accommodate only one housing unit. The minimum plot size will be 300 square metres (high density) with medium sized plots of 800 square metres (medium density) and a maximum size plot of 2400 square metres (Low density). These plots should be fully serviced in line with Space and Planning Standards of 2011.

However, the Unit Titles Act, 2008 emphasises that in order to ensure optimum utilisation of urban services, high-rise buildings and housing estates development are preferred. The same Act emphases massive production of housing units and security of tenure for individuals who will own apartments

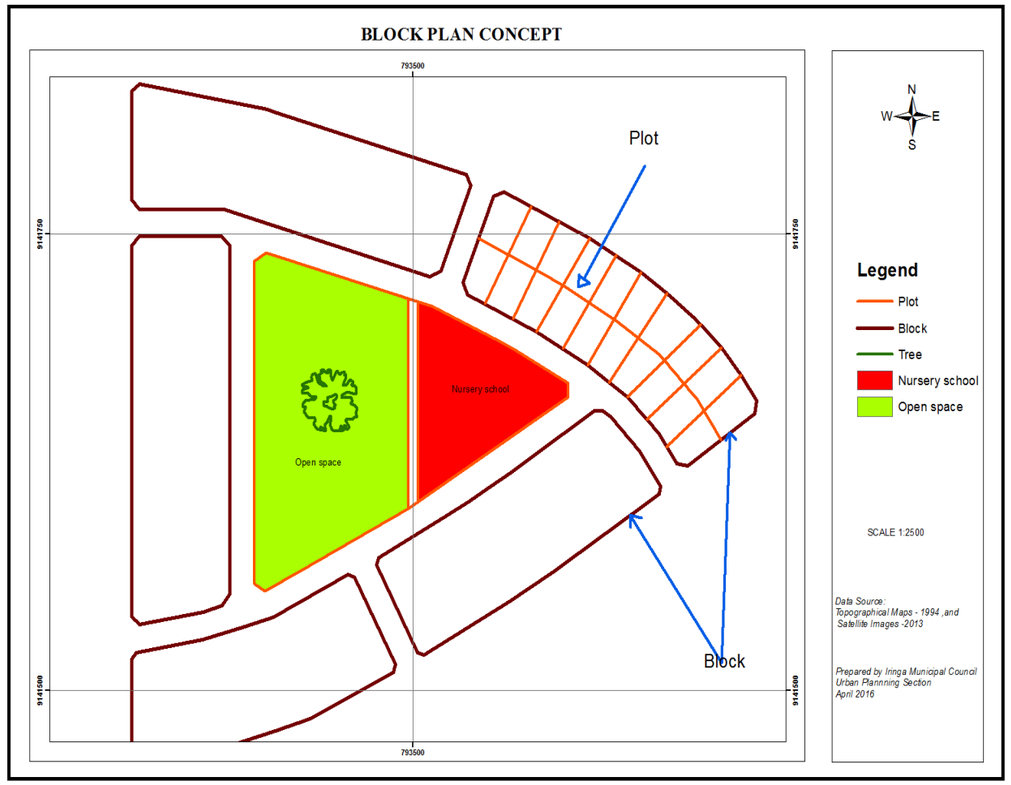
Figure 10.1: Proposed plot size

PROPOSED PLOTE SIZE			
S/No.	Density	Plot size (M)	Plot area in square metres
i	High	15x20	300
ii	Medium	20x40	800
iii	Low	30x50	1500
iv	Super low	40x60	2400
v	Regularization areas	9x10	90

Block

A maximum of 20 plots will form a block and plots size will depend on the nature of the plots whether they fall in the category of high, medium or low density. All of these blocks will be serviced by roads with basic requirements such as storm drainage.

Figure 10.2: A Block



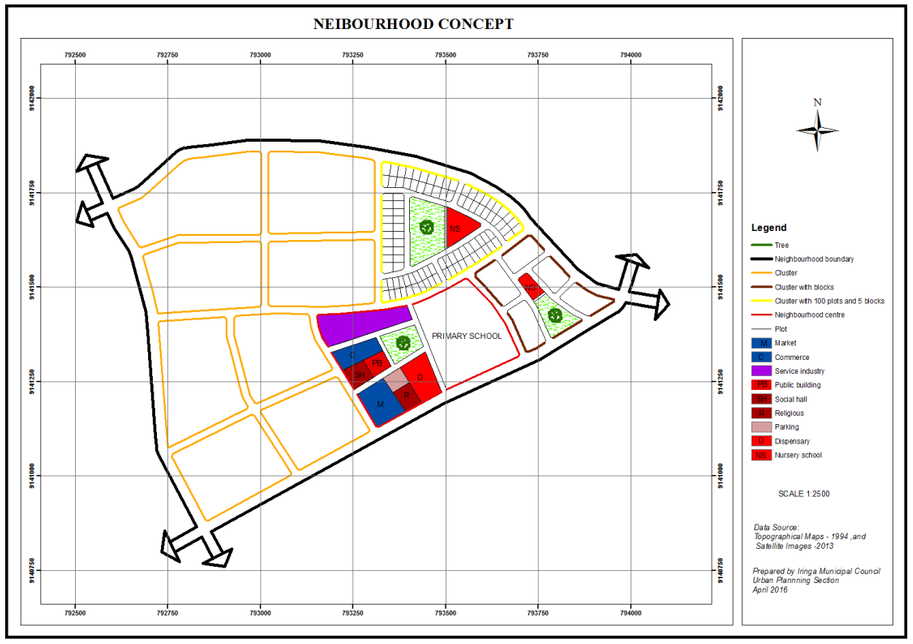
Housing cluster

A minimum of 5 grouping of blocks with the minimum of 100 plots will constitute a housing cluster. Housing clusters will be served by a nursery school/day care centre and one open space. Although housing clusters can be formed by a single plot (housing estate), high density full services will give the Municipality a unique urban pattern and rhythm.

Neighborhoods

Neighborhoods will have a population 3000-5000 residents, and will be serviced with; a Primary school, Dispensary, Retail shops, small market, playing ground, public building, police, and religious sites. A neighborhood should be deployed in preparation of detailed planning schemes. It should be possible to identify such units by locality and by name.

Figure 10.3: A Neighborhood



Community

A community is a settlement level that is made of 4 to 5 neighborhoods with population of 12,000-35,000. This settlement hierarchy will form a community centre, and the centre will be serviced with public facilities of higher order than that of the neighborhood centre. The facilities will include health centre, secondary school, community hall, cinema hall, service industries, cemetery, vocational training clusters with schools and colleges.

Planning District (Satellites Town)

Planning district will be made up of 4 – 6 communities with population of 48,000-150,000. This settlement hierarchy will have facilities of higher order than that of the community centre. Such services should include hospital, stadium, major markets and shopping centres, higher learning institutions, shopping malls, religious buildings, courts of law, municipal centres, town halls and city parks.

The Central Business District (CBD)

This will be the highest level with city level central facilities. The CBD will constitute facilities of the higher order in the whole Municipality. The satellite concept entails decentralising all key community facilities into the satellite sub-CBDs, where facilities like Government, Non-government offices, parastatal organizations, commercial and others will be accommodated.

10.10.3 Planning unit and prototype of land use distribution

An area will be considered a planning unit based on a population as provided by the National Human Settlement Policy of 2000, Urban Planning Act 2007 and The Urban Planning and Space Standards Regulations 2011. For the purpose of this Master plan, a neighborhood will be considered as a smallest planning unit. Table 10.4 shows the distribution of land use in a prototype neighborhood as planning unit of about 3000-5000 people with 65 hectares

Table 10.4: Distribution of Land Use in a Prototype Neighborhood of About 3000-5000 People

S/No.	Land use	Land area requirement	
		hectares	percent
1	Residential	39.0	**60.0**
2	Service industries	0.8	**1.2**
3	Open spaces	6.5	**10**
4	Neighborhood centre	3.2	**5.0**
5	Circulation system	9.8	**15.0**
6	Primary school	2.5	**3.8**
7	Neighborhood Park	5.2	**5.0**
	Total	**65**	**100.0**

In terms of hierarchical organization Figure 10.4 and Figure 10.5 illustrates the sequencing: model community.

Figure 10.4: Model community

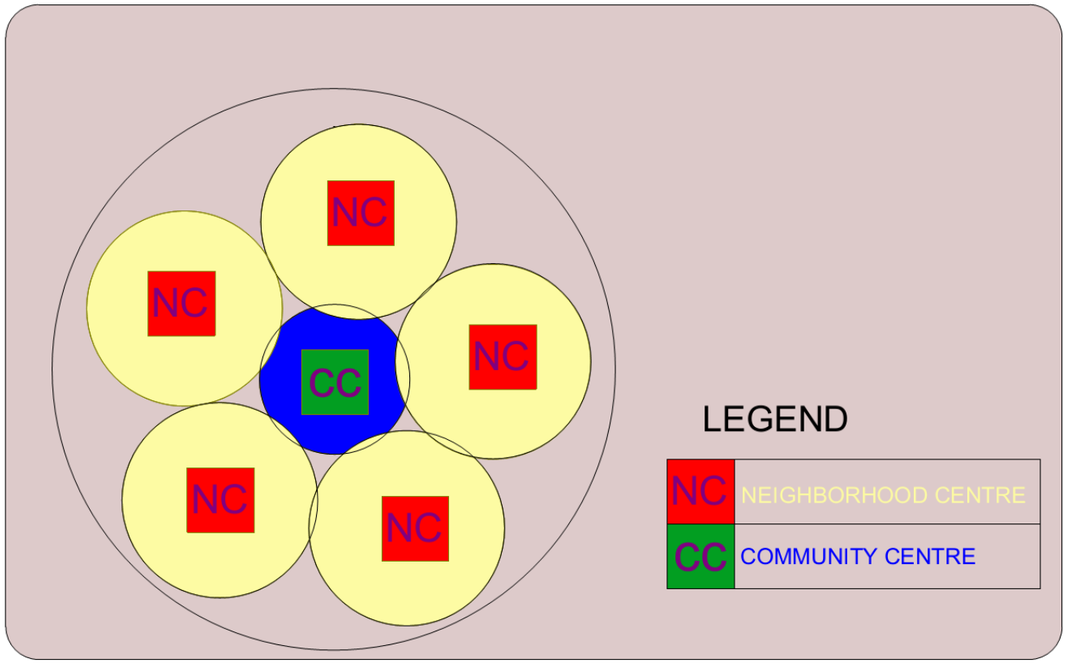


Figure 10.5: Planning District

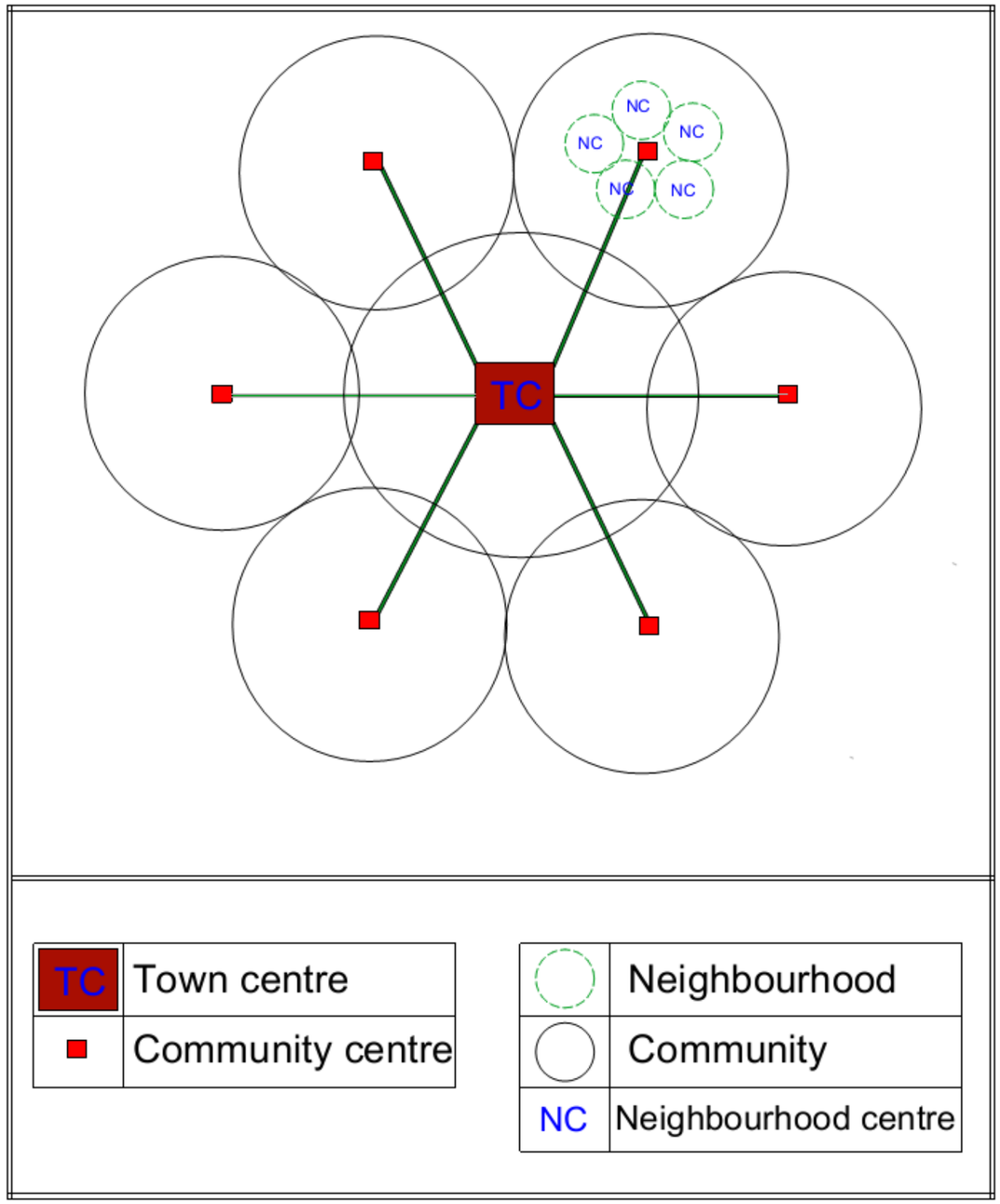


Table 10.5: Units Planning Population / settlement Hierarchy

Planning unit	House hold size	Population	Minimum land requirement (ha)
1Housing Cluster=100 plots	5	500	
1Neighbourhood= 6 -10 cluster	5	3000 -5000	**65**
1Community= 4 – 6 Neighbourhoods	5	10,000-20,000	**260-390**
1 District centre/satellite centre= 4-6 communities	**5**	**80,000-120,000**	**1,040-2340**

The future structure of Iringa Municipality

The future structure of Iringa Master will be composed of the five levels accompanied with requisite services at each level. The proposed spatial structure incorporates the satellite elements localized at Nduli, Igumbilo and Mkoga.

Transport

Major road project improvements are recommended and will include the upgrading of 92 kilometres of Municipal earth and gravel roads to make traffic congestion free to tarmac roads. Also 500 kilometres earth roads will be upgraded to gravel road which will make them be passable throughout the year. Future development of the urban road infrastructure also requires consideration of safety for other users like pedestrians, bicycles and motorcycles and commuter bus. Facilities such as bus stand and bus stops will be provided at Nduli, Mkoga, and Igumbilo and at central area of each satellite town. The intention of the proposed transport system in this Master plan is to provide safe, efficient and economical transport systems.

10.11 LAND USE REQUIREMENTS

Iringa Municipal has a total area of 33,140 hectares of which 34 percent planned for various land uses. The unplanned land covers unplanned settlements and land under agricultural use constraint land which include valleys and hills. The estimated population of the Municipality after twenty years has been projected to be 349,895. This figure has been used to establish various land requirements. The space for land requirements were used in estimating these requirements.

Residential use

The projection of land requirements for residential purpose for the next twenty years is based on projected population and planning units according to the settlement hierarchy. Based on these projections and additional assumptions of five persons per household, the future requirement for residential land use will be 9,360 hectares. The spatial distribution of this land use will be guided by;

i. Neighborhood units that consists of 65 hectares with a ratio of 5:3:2 land distribution for high, medium and low densities respectively
ii. Communities formed by 6 neighborhoods of 65 hectares. This gives a total size of 390 hectares of residential gross area.
iii. District plan will be a combination of 6 communities each with 390 hectares. This gives 2,340 hectares of residential gross area.

Therefore, the total land requirement for residential use is estimated to be 9,360 hectares. In total there will be three planning district, 18 communities and 90 neighbourhood units.

Industrial use

The existing Industrial area covers a total area of 73 hectares. The current industrial area is fully developed, so there is a need to have a new industrial area. Based on the central government policy to transform the country's economy into middle economy through industrialization by 2025, 10 percentage of the total land available for development will be allocated for industrial sector. A total land area allocated for Industrial use for the next 20 years is about 2525.815 hectares which will comprise light, service and heavy industries.

Commercial uses

The existing commercial area which consisting of both residential areas and Central Business District is 53 hectares. The projected requirement for new commercial development will certainly be in the neighborhood centre. Community centres and district centre where local markets, shopping mall and major markets will be located. The total area for commercial use will be 541.68 hectares (table 10.6).

Table 10.6: Land requirement for commercial services by hierarchy of settlement in 2035

SN	Type of commercial service	Area Per Unit (ha)	Required 2035	Land required 2035
A	**Neighborhood Level**			
1	Market	0.25	90	22.5
2	Shops	0.05	90	4.5
3	Hotel sites	0.12	90	10.8
4	Guest house	0.10	90	9
5	Bar/restaurant	0.12	90	10.8
6	Commercial zone/shopping mall	0.20	90	18
Sub - Total				**75.6**
B	**Community Level**			
1	Market	1.5	18	27
2	Shops	2.0	18	36
3	Hotel sites	0.8	18	14.4
4	Guest house	0.2	18	3.6
5	Bar/restaurant	0.25	18	4.5
6	Commercial zone/shopping mall	0.6	18	10.8
7	Motorcars showroom	0.3	18	5.4
8	Motorcycle showrooms	0.15	18	2.7
	Bicycles show rooms	0.06	18	1.08
Sub - Total				**105.48**
C	**District Level**			
1	Market	2.0	3	6
2	Shops	2.5	3	7.5
3	Hotel sites	-	-	0
4	Guest house	-	-	0
5	Bar/restaurant	-	-	0
6	Commercial zone/shopping mall	115.0	3	345
7	Motorcars showroom	0.4	3	1.2
8	Motorcycle showrooms	0.2	3	0.6
9	Bicycles show rooms	0.1	3	0.3
Sub - Total				**360.6**
Grand Total				**541.68**

Institutional uses

The expected uses to be covered in this land use category are universities, police barracks, prisons, regional hospital, religious site, library services, community halls and other large institutional areas. Facilities which provide different services to the community must be located and distributed equally in the planning district and communities in conjunction with population threshold of that area. A total land area of 823.7 hectares has been set aside for large institutions and community facilities.

Education facilities

These include nursery schools, primary schools, secondary schools, vocational training centres, polytechnic, technical colleges and higher learning institutions. These facilities will be distributed equally during the designing of detail scheme at different levels stating from the planning unit (Neighbourhood) to district centres. This plan assumes the land requirements for education facilities will be distributed in accordance with the space and planning standards for education facilities (Table 10.7).

Table 10.7: Minimum Land requirement for education facilities by population of 349,895 in year 2035

S/N	Facility	Area Per Unit (ha)	Catchment Population	Existing facility 2015	No. required facility 2035	Shortfall	Land requirement 2035
1	Nursery school	0.25	1,000	45	350	310	77.5
2	Primary school	4.0	5,000	50	70	20	80
3	O level Secondary school	5.0	10,000	27	35	8	40
4	A level Secondary school	2.0	20,000	5	18	13	26
5	Vocational Training/ polytechnic	5.0	80,000	3	4	*3	15
6	Education centre	3.0	200,000	-	2	2	6
7	College	3.0	200,000	5	2	2	6
8	Higher learn institution/university	40.0	200,000	5	2	*3	120
Total							**370.5**

*Each District centre should have at least one education facilities to meet our goals to became centre of education excellence with a notion that education facilities it serve population outside the planning boundaries

For the next 20 years with population of 349,895 about 370.5 hectares of land are reserved for education purpose.

Health facilities

Health facilities include: dispensaries, health centres, and hospital and referral hospitals. Presently, there is one referal hospital, two hospitals, three health centres and twenty dispensaries. By the year 2035, a total of 36 hectares for hospitals, 70 hectares for health centres and 7 hectares for dispensaries covering a total area of 158.0 hectares will be required (table 10.8).

Table 10.8: Minimum Land requirement for health facilities by population of 349,895 in year 2035

S/N	Type of services	Area Per Unit (ha)	Catchment Population	Exiting in 2015	Required 2035	Shortfall	Land required 2035
1	Dispensary	0.5	10,000	21	35	14	7
2	Health centre	7.0	25,000	4	14	10	70
3	Hospital	36.0	120,000	2	3	1	36
4	Referral hospital	45.0	150,000	1	2	1	45
	Total						158

Other public facilities

These facilities include public building, religious site, library service, community halls, cinema hall and cemeteries. These facilities must be provided for the community use within a planning area according to the standards provided for its distribution in order to serve the community intended. Therefore in this plan, the following assumptions for other public facilities have been made:

- Planning population for the 20 years is 349,895 people;
- Public facilities will be provided according to hierarchy of settlement;

Table 10.9: Minimum land requirements for public facilities by hierach of settlement in 2035

S/N	Type of facility	Standard (ha)	Area Per Unit (ha)	Exiting 2015	Required 2035	Land required 2035
A	**Neighborhood Level**					
1	Public areas/buildings	0.125 – 0.25	0.25	48	90	22.5
2	Religious sites	0.15 -0.2	0.20	32	90	18
3	Library	0.8 – 0.2	0.20	5	90	18
4	Community halls	0.1- 0.3	0.3	2	90	27
Sub - Total						**85.5**
B	**Community Level**					
1	Public areas/buildings	0.5 – 1.5ha	1.5	18	18	27
2	Religious sites	0.4- 0.8ha	0-8	13	18	14.4
3	Library	0.15- 0.8ha	0.8	2	18	14.4
4	Community halls	0.4 -1.0ha	1.0	2	18	18
5	Cemetery sites	2.0 -5.0ha	5.0	5	18	90
6	Cinema Halls	0.25 – 0.4	0.4	0	18	7.2
Sub - Total						**171.0**
C	**District Level**					
1	Public areas/buildings	2.5	2.5	2	3	7.5
2	Religious sites	1.5	1.5	4	3	4.5
3	Library	1.0	1.0	1	3	3
4	Community halls	1.5	1.5	0	3	4.5
5	Cemetery sites	6	6	3	3	18
6	Cinema Halls	0.4 – 0.6	0.4	0	3	1.2
Sub - Total						**38.0**
Grand Total						**295.2**

Therefore, land required for other public facilities for the next 20 years will be 295.2 hectares of the total area.

Airport

The existing airport area covers 143.273 hectares. The assumption is to extend this area to 500 hectares to allow for the expansion of the airport to accommodate large airplanes.

Land requirement for open spaces and recreation facilities

Open spaces are considered as lungs of the city. They play an important role to the community in maintaining and air quality and security of properties. These open spaces are categorised as major and minor open spaces. Major open spaces include; open spaces, neighbourhood walkways and play ground, neighbourhood parks, community parks, amusement parks, central parks and conserved slopes mountains

and hills. Minor open spaces include square clusters and open spaces. Open spaces provide areas for recreational and amenities. Open spaces can be passive or active depending on the level of planning and use. Active open space serves the community as playfields for children, picnicking, zoo, camping sites, sports fields and stadia. Therefore, land required for open space and recreational facilities will be 1,371 hectares (table 10.12).

Table 10.10: Land requirements for open spaces and recreation facilities by hierarchy of settlement in 2035

SN	Type of facility	Area Per Unit (ha)	No. Required 2035	Land required 2035
A	**Neighborhood Level**			
1	Open space (for housing Clusters)	0.2	360	72
2	Children play area	1.0	90	90
3	Play field	2.5	90	225
4	Neighborhood Park	2.5	90	225
Sub - Total				**612**
B	**Community Level**			
1	Children play area	4.0	18	72
2	Play field	10.0	18	180
3	Community Park	4.0	18	72
Sub - Total				**324**
C	**District Level**			
1	Children play area	5	3	15
2	Play field	10	3	30
3	Amusement Park	20	3	60
4	Stadia	50	2	100
5	Central Park	100	1	100
6	Golf course	65	2	130
	Sub - Total			**435**
	Grand Total			**1371**

Forest reserve and conservation areas

In order to regain and preserve the geographical nature of the Municipality, it is recommended to preserve and conserve the existing Kihesa-Kilolo forest reserve, little Ruaha Rivers and important hills to make them "land marks" of the Municipality. These hills must be declared as conserved land free from and invasion. A total area reserved for forest reserves and conservation cover an area of 8,022.94 hectares. Specific areas for conservation include the following; Kihesa Kilolo forest (233 hectares), Ruaha river basin including the flood plain, mountain slopes of Luhota, Ilala, Gangilonga, Mafifi, Kitwiru, Ipogoro, Igumbilo, Ndiuka, Tagamenda, Chautinde, Igeleke, Kigonzile and Mapanda.

Urban agriculture

The Urban agriculture includes; crop farming and livestock keeping. The fact that a considerable number of people are engaged in urban agriculture as a source of their livelihood and employment, this Master Plan provides for areas for urban agriculture. These includes the three surveyed farms that consist of 541.2 hectares and 350 hectares suitable for irrigation scheme in line with fishing activities to be carried out at Kisaula- Mtwivila, Mkoga and Kitwiru. This area will be expanded to include areas suitable for agriculture at Nduli, Mkoga, Ulonge, and Mosi. The total area proposed for urban agriculture is 891.2 hectares. These must be exercised in monitoring urban agriculture activities so as to minimize possibilities of encroachment of sources of water, silting and vandalism.

Land estimates for circulation purposes

The land estimates for circulation and the major roads purposes will cover a total area of 4,971 hectares which is usually set at15 percent of the total planning area.

Table 10.11: Summary of land requirement in Iringa Municipality from 2015-2035

SN	Land use	Land requirement (Ha)				Percentage
	Year	2020	2025	2030	2035	
1	Residential	5538.476	6812.299	8086.150	9360	28.244
2	Institution	487.398	599.497	711.598	823.7	2.486
3	Open Space and recreation	811.245	997.827	1184.414	1371	4.137
4	Commercial area	320.522	394.240	467.960	541.68	1.635
5	Industrial area	1960.952	2411.962	2862.981	3314	10.000
6	Circulation	2941.428	3617.942	4294.471	4971	15.000
7	Urban Agriculture	2506.326	3082.769	3659.225	4235.68	12.781
8	Conservation Area	8022.94	8022.94	8022.94	8022.94	24.209
9	airport	500.000	500.000	500.000	500	1.509
Total		**23089.286**	**26439.477**	**29789.738**	**33140**	**100.000**

CHAPTER ELEVEN

11.0 THE MASTER PLAN AND LAND USE PROPOSALS

Based on the analysis of the existing town growth, the development direction for the Iringa Master plan is to achieve development purposes and vision. Based on projection and established future requirements of land uses for each zone is presented under this section. Development policies and functional requirements for each land use. During zoning, various aspects were taken into consideration including; zoning compatibility of land uses, social, economic, environment factors. Other considerations included economic of scale and previous in national policies, programmes and previous plans.

11.1 PROPOSED URBAN GROWTH

Observation has shown that, Iringa was growing both radial and with some elements of satellite settlements in the periphery. This plan proposes the adoption of this pattern development by organising the functional areas and proposing services that are in congruence with the service levels. The overall goals is to facilitate realization of planned urban development within the context of a new town, the proposal further aims at promoting enhanced utilization of inherent potentials within the municipality and use it to its advantage to achieve balanced development for all areas. The concept entails keeping the existing built up area as a focal settlement to be surrounding satellites

11.2 ESTABLISHMENT OF SATELLITE TOWNS

The plan has proposed development/establishment of three (3) new satellite towns/centres at Nduli, Mkoga and Igumbilo. The satellite town concept will ease accessibility to social and community facilities to majority of residents. Each Satellite town is conceived as a self-sustaining settlement. It implies that each Satellite town has population threshold to support certain basic public facilities and utilities. The purpose is also to avoid unnecessary travel to other areas; promote workability within settlements; improve quality of life and in turn foster strong sense of community. In order to operationalize this concept each satellite town has been assigned a special economic base depending on its nature in terms of comparative advantage for growth and development. For example, the Nduli satellite town will have more land for industrial establishment because of availability of adequate land.

In implementing the satellite town concept, residential areas should be designed taking into account hierarchical organisation of elements which include plots, housing clusters, neighbourhoods and communities into a satellite town. In same way, social services should be distributed to provide services at appropriate level and minimise unnecessary trip to the CBD. Satellite town Centre, should comprised three components of commercial use, public facilities and District Park. Public facilities should include polyclinic (hospital), polytechnic, library, government offices, sports complex, police station, fire station, and petrol station. In addition, satellite centres should have cemetery site that will be used the whole populations of the satellite.

Nduli satellite town

This is one of the three centres that will be established to decentralise services of the existing CBD. Nduli centre is located along Iringa-Dodoma road, 15 Kilometre from the Municipal CBD. This centre will harbour the airport and industries as major activities as its economic base and will occupy a total area of 13,583.75 hectares.

Mkoga satellite town

This is the second centre to be established at Isakalilo ward to the south west of Municipality the site is located about 13 kilometres from the existing CBD. It will be developed to accommodate a teaching hospital and a health training institute as major facilities. The total area designate for this centre is 5,990.57 hectare.

Igumbilo satellite town

Igumbilo is located in the eastern part of the Municipality some 15 kilometres from the CBD. Igumbilo will be developed as a transport terminal including services such as bus terminal and light industrials. It will ultimately cover 8,433.96 hectares when fully developed.

11.2.1 Redevelopment of CBD area

This Master plan recommends new boundaries for the CBD with view of accommodating more services of higher order servicing the town. CBD will cover 729 hectares.

11.2.2 Proposal for existing unplanned settlements

Unplanned settlements cover a total area of 2,990.493 hectares. This is equivalent to 9.03 percent of the whole land of the municipality. It is also recommended that all unplanned settlements in the Municipality to be regularized by identifying property boundaries and providing public facilities and utilities including namely water, electricity, access roads and drainage systems. It is also suggested that deliberate initiatives be taken by Municipal Council to control and prevent the spread of unplanned settlements especially those emerging along mountainous slopes and river valleys. Unplanned settlements are divided

into two parts these are; consolidated and emerging settlements. Consolidated settlements include, Ipogoro, Ndiuka, Isoka, Makanyagio, Mtwivila, Lukosi, Kihesa and Semtema. Emerging settlements include Igumbiro, Nduli, Kigonzile and Mapogoro. Two strategies are recommended to deal with unplanned settlements; regularisation for consolidated settlement and combining regularization and designing strategy for newly emerging settlements.

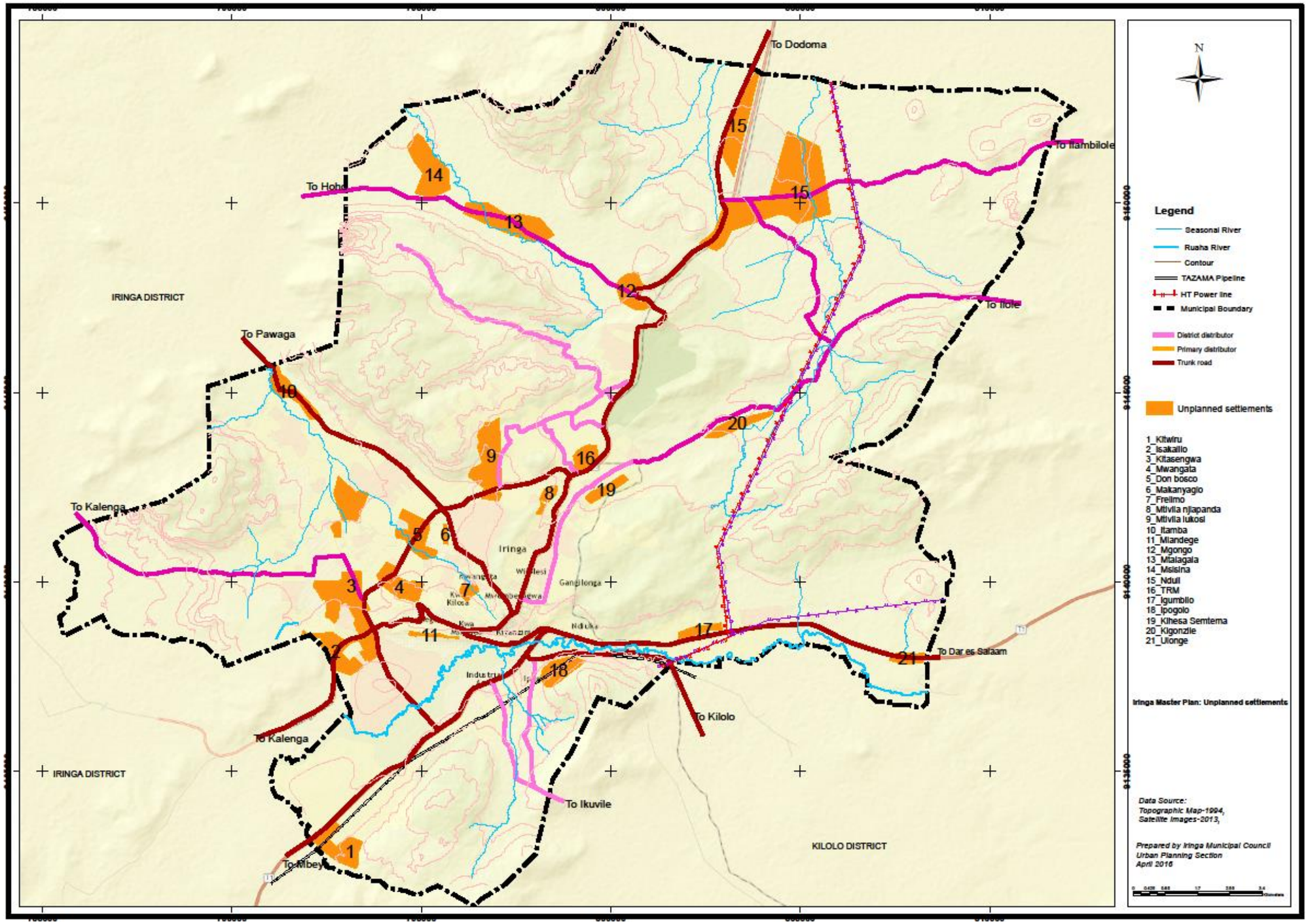
Consolidated unplanned settlements

Regularisation strategy for consolidated unplanned settlements is proposed because land owners are increasingly subdividing their land. House construction in these settlements is taking place without provision for basic services. The motive behind regularization approach is to negotiate with land owners to acquire pieces of land so as to access land required for the provision of public facilities and infrastructure services including roads, nursery school, open spaces and playgrounds. It will also be possible to provide technical services as including footpaths, storm water drainage, water supply, sanitation and solid waste collection points.

Emerging unplanned settlements

Settlements of Igumbiro and Mapogoro are emerging without planning intervention. Local leaders (Ward and Sub Ward *(Mtaa)* leaders) are playing active role in facilitating land transactions witnesses as well as authenticators of property rights. This is however being done with little regard to future requirements of a planned settlement. This trend of development was also notable in booming peri-urban areas where demand for housing land by middle and high income house builders was increasing. It is therefore, crucial to put in place a mechanism to regulate residential land subdivision before land is transferred, sold, developed and housing densities reach prohibitive or overcrowding levels. For newly emerging informal settlements, the best strategy is to combine regularisation and design strategies. This is due to the fact that, there are any vacant lands which can be designed to create order while accommodating plots developed informally.

Map 11.1: Iringa Master Plan: Existing unplanned settlements proposed for regularization



11.3. PROPOSED LAND USES

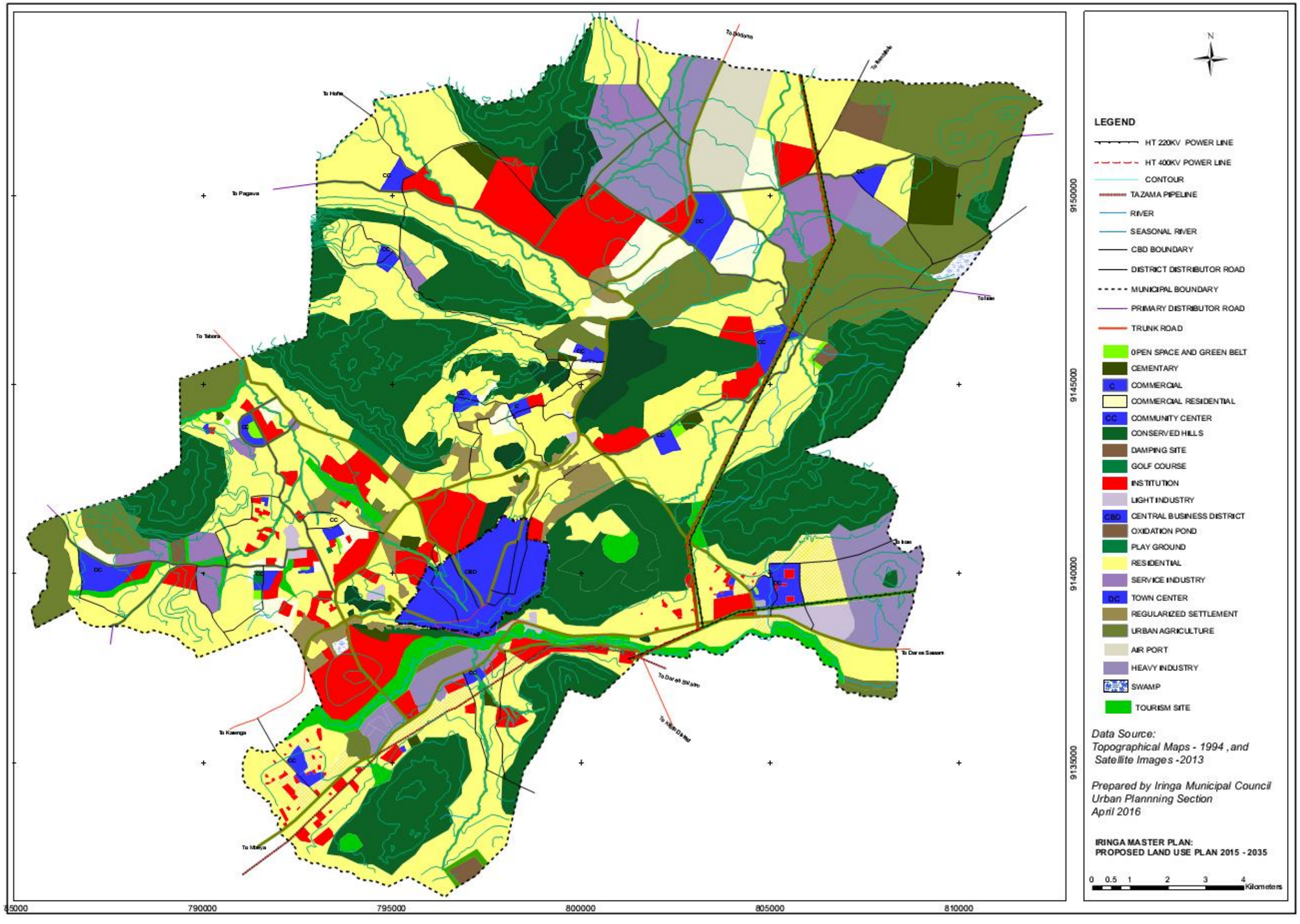
This Master plan is a document designed to guide the future actions of Iringa Municipality. It translates the vision, long term goals and objectives into a physical space. This includes guidance on how to make decisions on public and private land development, preservation or rehabilitation of older neighborhood areas, regularization and central or unplanned settlements and provision of infrastructure services. The plan can be reviewed on regular bases and accommodate emerging needs after every five years.

This Master Plan put recommendations on various land uses including: residential, commercial residential, commercial, industrial, open space and recreation grounds as (Table 11.1 and Map 11.2). Each land use represents a general development pattern of the existing or planned development in the area, these proposals associates compatible land uses to enable municipal council manage future growth of thee town consistent with the surrounding community character.

Table 11.1: Proposed land uses (2035)

S/N	LAND USE	AREA (Ha)	PERCENTAGE
1	Residential	6538.08	19.73
2	Area for Regularization	2990.49	9.02
3	Commercial Residential	1406.76	4.24
4	Commercial	844.3	2.55
5	Institution	2756.19	8.32
6	Heavy Industry	1629.396	4.92
7	Light Industry	286.802	0.87
8	Service Industry	609.617	1.84
9	Tourism Site	487.59	1.47
10	Urban Agriculture	2703.734	8.16
11	Open Space And Green Belt	946.41	2.86
12	Hills Conservation Area	7732.15	23.32
13	Swamp	33.44	0.10
14	Forestry Reserved	233	0.70
15	Cementary	302.16	0.91
16	Airport	371.5	1.12
17	Damp Site	57.48	0.17
18	Oxidation Pond	35.17	0.11
19	Lorry Parking	2.01	0.01
20	Bus Terminals	4.65	0.01
21	Central Area (CBD)	729.95	2.20
22	Road Network	2439.12	7.37
23	**Total**	**33,140.00**	**100.00**

Map 11.3: Iringa Master Plan: Proposed Land Use Plan 2015-2035



11.3.1Residential area

The organisation of residential areas will be based on neighbourhoods units with varying densities. The hierarchical organisation will be compounded to communities and satellite towns. The proposed area for residential purposes will cover a total area of 9528.57 hectares which is equivalent to 28.75 percent. The residential land will be distributed for high density, medium density and low density areas. Various types of buildings for residential use, such as apartment housings, resort houses, detached houses, row house and multistoried building will be developed. The images of the town will be promoted through the development of an eco-friendly residential complex in harmony with nature. In order to ensure the active use of land, a mixed use in planning and development will be permitted with condition to provide services to community. This will include: shops, offices and restaurants. Various types of suitable and affordable housing should be provided to meet diverse needs of the society in line with income levels. However, as much as possible, incompatible land uses should be separated.

Residential area and design concepts should reflect and promote neighborhood values. The designs should also provide: adequate open spaces to accommodate varied recreational opportunities and natural views. It should also include pedestrian/bicycle ways which will provide safe and convenient travel route connecting corridors within and between neighborhoods, schools and shopping areas.

Housing distribution

The total housing stock for Iringa was established to be 25,000 at September 2014. When this figure is related with the total number of households, it gives an average of 1.48 households per house. According to demographic projections for the purposes of this master plan the population for Iringa will reach 349,895 people by 2035. This population will need a total of 87,474 house units with the assumption that each household will have a housing unit.

The overall housing strategy is to meet the demand required for dwelling units for the population by 2035 including identified units that need to be replaced from the existing stock. The total housing supply is 62,474 units. Housing demand is based on a high-scenario population projection.

Presently, there are key challenges that may impede reaching the target of housing demand. The major ones includes the constrained access to housing finance, poverty, limited capacity to make surveyed and serviced land for housing available and limited public sector involvement in housing supply.

Affordability and affordable housing choices

One of the strategies to make surveyed and served land accessible/affordable is to increase density. Increased densities will provide opportunity to choose affordable residential typologies that matches the incomes of the people. Diverse housing choices within each density group will contribute towards realising more socially inclusive communities. The proposed housing and residential plan has considered a variety of typologies and their shares as illustrated in table 11.2

Table 11.2: Proposed residential densities categories

PROPOSED PLOTE SIZE			
S/No.	**Density**	**Plot size (M)**	**Plot area in SQUARE METRES**
i	High	15x20	300
ii	Medium	20x40	800
iii	Low	30x50	1500
iv	Regularization areas	9x10	90

Low density area: low density areas proposed to house 22 percent of the population and take up 20 percent of the residential land. The largest concentration of the low density house is outside the Central Business District Area. The housing types proposed for this density is detached which will be promoted in outer-ring of each town centre and undulating land forms.

Medium density area: in the context of Iringa, this category is proposed to house 28 percent of the population and takes up 30 percent of the land. The largest concentration of the medium density area is

part of Mkwawa, Mwangata, Mkimbizi, Nduli, Kitwiru and Ruaha. The proposed housing in this density group is attached to detached housing.

High density area: High density residential in the context of Iringa is proposed to house 50 percent of the population and takes 50 percent of the land. The largest concentrations of the high density are within Central Business District and along the development corridors. The housing type envisioned for this density category shall include walk up apartments for CBD and detached housing limits outside CBD. Most of the house in regularized settlements shall fall in this category.

In order to achieve the target of provision of adequate housing for all residents in 2035, there must be some initiative of creating and stable reliable institutions with the capacity to deliver. This may include facilitating and empowering the Municipal Council and individual developers to play a greater role in constructing housing units reducing administrative delays in the process of accessing finance for housing development and creating and strengthening cooperative housing societies to contribute in constructing new houses. These initiatives must be accompanies with provision of infrastructure and services. This means sufficient provision of roads, water, electricity, telecommunications and public transport.

11.3.2 Commercial land uses

Commercial areas include markets, whole sale and retail shops, super markets, banks, post and telephone, shopping malls and petty trading markets. The Master Plan proposes that these service lands located within neighbourhoods, communities and satellite centres while retail shops will be distributed all over the settlements within reasonable walking distances catering for daily basic needs, higher order commercial facilities will be provided at community and satellite town centres. The area set for commercial purposes will cover a total land of 2251.06 hectares. Each Satellite Centre will cater for a population of about 120,000 people. Each Town centre will have a unique character while Mkoga is proposed to be an education centre and tourist hub, Nduli will be a mixed-use centre with airport and industrial establishment being the key land uses. Igumbilo will largely serve as a terminal centre with commercial facilities aligned to this major function. This may include hotels and restaurants, shopping malls, supermarkets and office accommodations.

11.3.3 Industrial areas

Industrial areas will accommodate both light and heavy industries, these industries will cater for local and exports products. The existing industrial areas at Kibwabwa and Mlandege will continue serving the purposes as light industrial areas. Service industries will be located within neighbourhoods and community centres. New light and heavy industries are proposed to be located at Nduli and Igumbilo Satellite town; Mkoga Satellite town will accommodate only service and light industries. A total land area allocated for Industrial use for the next 20 years is about 2525.82 hectares which will comprise light, service and heavy industries. The establishment of these industries should be link to the types of raw materials produced in Iringa. Iringa region is famous for its agriculture production and timber products. Therefore, Iringa Municipality through this Master plan will strive to be the focal point for Agro-base industries, food and timber processing. Others include fruit and vegetable craning, ceramics and processing of stones. In this regard, a total area 2525.82 hectares equivalent to 10 percent of the total land will be allocated for industrial purposes.

High-tech industries for manufacturing high tech-goods are recommended in these zones. Research laboratories to support the medical centre, industrial complexes and university are also proposed in this zone. This includes:

i) Industrial cluster connected with local industry (food, manufacturing, timber) and high-tech industry;
ii) Industrial Park with a good environment;

11.3.4 Institutional areas

The existing institution area will be maintained. The new proposed institution areas will be used to accommodate private and public institutions of higher order such as higher learning institution, teaching hospitals, administrative buildings and tourism centres. The proposed area for institutional use will cover 2756.19 hectares. These provisions are in the line with the vision of making Iringa a hub of higher learning institution and tourism in the southern circuit of Tanzania.

11.3.5 Conservation areas and forestry

Some ecological important areas, such as the Valley of Ruaha River, valleys and hills surrounding and within the town will be prospected and conserved. This large share of land use is due to the nature of the terrain and the need to conserve important natural landscape qualities of Iringa. This landscape may also be used for tourism and recreational purposes. Conservation area and forestry cover a total area of 7732.15 hectares. Another area needed to be conserved is the existing Kihesa-Kilolo forest reserve which covers 233 hectares. Planting of trees should also be carried out by planting tree along the major roads, hill slopes and residential areas. Conserved will sloped may be accompanied with bee keeping so as to bring nature to the built environment.

11.3.6 Recreation and open spaces

Open space and parks

Open spaces and parks comprise both passive and active areas which include sports grounds, stadium, public open spaces and parks, gardens, zoo, picnic areas and camping sites. They should be conveniently designed neighborhood, community and satellite town levels to offer equal access to all users. It is strongly recommended that these areas should be surveyed and leased to the Municipal council in order to protect them against encroachments. These areas will cover a total area of 946.41hectares.

Green belts

This Master plan recommended for the design of systems of continuous green belt joining communities in all major open spaces like central parks, golf courses and major playing fields. Continuous green belt will break monotonous in land use development. Green belt should also be provided along major roads, buffer zone of rivers and valleys. It further suggested that; a programme of tree planting should be carried out strategically with an aim of developing and protecting green belts from encroachment.

11.3.7 Land use for tourism activities

Iringa is endowed with a number of tourism attractions which play a unique role as centre of tourism circuit in the southern highlands zone. Due to the increased demand of eco-tourism in Iringa town, the establishment of Wildlife sanctuary (Zoo) will increase tourists stay in the destination. Apart from that, it will conserve the nature and attract more local and international visitors. One wildlife sanctuaries is designated to be established at Nduli Satellite town. The Wildlife sanctuary at Kihesa-Kilolo area will continue to exist to support the conservation of natural forest. The Master plan allocates a total land of 13,960.97 hectares for green belt and recreation areas.

Another category of tourist attraction is heritage sites. These include historical and heritage buildings such as the German administrative building, old market, Gangilonga stone heritage site, Igeleke ancient art painting and the Kitanzini hanging site. The area of 1000 square metres has been designed to place icon for identification and effective management of the site.

11.3.8 Urban agriculture

Urban agriculture takes place in many areas of but more prominently in the outskirt of the Municipality. Crop and livestock production are practiced in available open lands like house grounds and low density residential areas. Given the importance of urban agriculture for a larger population of the people, this Master plan recommends urban agriculture as one of the land uses. Urban agriculture will be carried out in both urban and peri-urban areas .In urban areas, crops to be cultivated will not exceed the height of one metre, while in peri-urban area Broad Acre system will be planned in both neighborhood and community level. Irrigation development in line with fishing activities will be carried out at Kisaula-Mtwivila, Mkoga area and Kitwiru area. A total land of 350 hectares has been provided for urban agriculture. Apart from being used for urban agriculture, the same areas will be used as protection against high urbanisation and will constitute as land banks for future urban expansion. The areas suitable for livestock keeping will also be maintained; however, as the town grows, zero grazing and ranching system will be encouraged. These areas will include two main farms of ASAS and ROSS that consist of 541.2 hectares.

The following Strategies for Agriculture need to be taken into account during implementation of this Master plan.

i) The areas designated for agriculture should be protected from other uses especially those which contradicts with the provisions by this master plan.
ii) To facilitate farmers to exercise modern agriculture in town greenhouse construction and intensive farming system should be advocated.
iii) To allocate permanent areas for agriculture processing and animal products Industries which will maximize the price of various crops and animal products at Nduli and Mkoga
iv) To facilitate farmers to excise intensive systems of livestock keeping by encouraging zero grazing and ranchers system.
v) To construct a modern abattoir to increase meat quality.

The areas reserved for urban agriculture and irrigation will be surveyed and titled as a means of protecting against change of use. These areas include Kisaula-Mtwivila, Mkoga and Kitwiru. Other areas include; Nduli, Mkoga, Ulonge and Mosi. The total land reserved for urban agriculture (livestock keeping, farming, fishing and irrigation) amount to 2703.734 hectares.

11.4. COMMUNITY FACILITIES

11.4.1 Education

Investment in community facilities has been viewed not only as a tool to generate long term social and economic benefits but also as windows for redistribution benefits to the wider society. Improvements in education and health contribute to improved skills with multiplier effect of attracting investments and improving labour efficiency and productivity. Iringa is one among few urban centres with high potential to become a centre for education excellence given the current development of higher learning institutions

since late 1990s. A number of higher learning institutions increased rapidly from zero in early 1990s to four universities within ten years. Unfortunately, the establishment of these higher learning institutions did not match with the infrastructure the municipality had by that time. As a result, the Municipality had to face number of challenges including the high demand for timely serviced land for both settlement and students' accommodation. At the same time, school enrollment in childcare, pre-primary, primary and secondary schools increased significantly. Following that increase in demand, this master plan recommends the following interventions.

i) To allocate serviced land at affordable cost for higher learning institutions construction.
ii) To establish education centre within the municipality with; libraries, laboratories, study rooms, conference halls, playing grounds, child day care facilities, museums, herbariums, aquarium and hostels at Mkoga.
iii) To construct new English medium primary school at Itamba and building classrooms in the existing schools to cope with increased enrollment capacity.
iv) To construct teachers' houses in the peripheral schools like Mkoga, Ugele, Nduli, Kigonzile and Kilongayena.
v) To construct vocational schools at Kitwiru and Tagamenda.
vi) To construct schools for children with special needs.
vii) To construct school playgrounds.

Pre-primary, primary, secondary schools and other education facilities will be provided at appropriate level and according to prevailing space standard applicable in a particular period of time. In total, there will be a need of 77.5 hectares pre-primary schools, 80 hectares primary schools, 66 hectares secondary schools and 137 hectares colleges and universities.

11.4.2 Health facilities

There are needs of at least, six new dispensaries in existing wards which were lacking these facilities. It is also proposed to upgrade, at least, three dispensaries to health centres so as to reduce congestion in existing health Centres. As well as completing the ongoing construction of a hospital at Frelimo. Dispensaries that have been proposed for upgrading are Itamba, Nduli and Igumbilo. This master plan recommends a construction of teaching hospital at Mkoga satellite town. By the year 2035, a total of 36 hectares for hospitals, 70 hectares for health centres and 7 hectares for dispensaries covering a total area of 158.0 hectares will be allocated for health facilities.

11.4.3 Clean and safe water

The Master plan proposes to allocate an area for construction of water tanks. A total of 6 water tanks will be constructed in Kitwiru, Mtwivila Secondary, Mafifi, Isakalilo, Ndiuka, Mkoga and Lundamatwe. The 2015 Master plan assumes that the future sources of water which are Little Ruaha River and Kitwiru Spring will remain the same. However, as population and urban increases there is a need to start seeking alternative source of water including ground water. Similarly, the expansion of the water treatment system will be needed by constructing additional water treatment facilities.

11.4.4 Waste water

The Master plan proposes three stabilization pond sites each with an area of 25 hectares for waste water stabilization pond (oxidation ponds). These areas will be located at Kigonzile, Kitwiru and Pawaga road. Some areas not served with sewerage systems will be served by septic tanks and soak away pits.

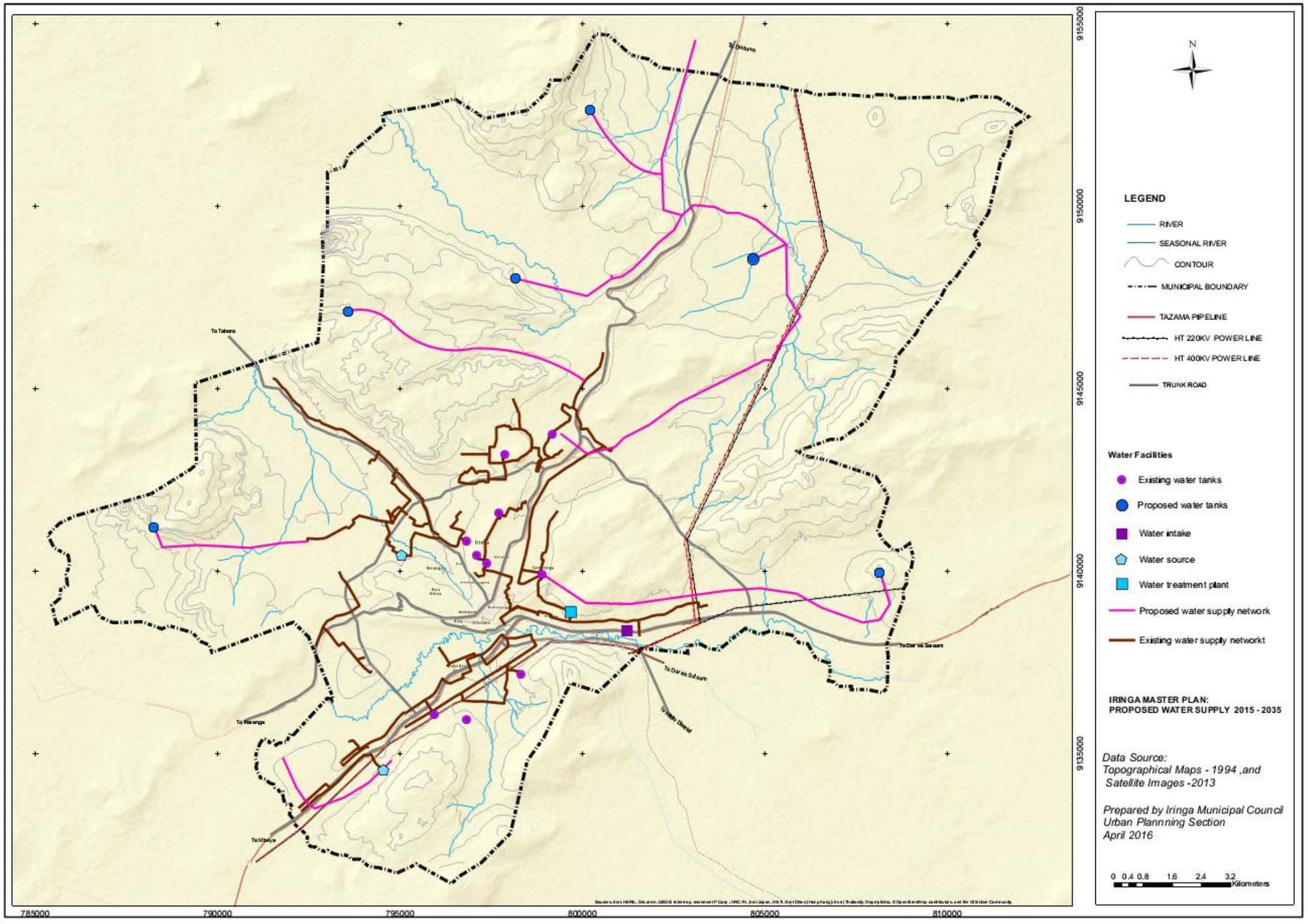
11.4.5 Solid waste

Solid wastes collection in Iringa Municipality is operated by Municipal Environment and Sanitation Department. Generally, all human activities create waste and the way these wastes are handled, stored, collected, transported and disposed-off still some pose risks to the environment, public health and eco-diversity. Iringa Municipality generates an average of 48,180 metric tons of solid wastes annually. This is equivalent to the generation rate of 132 metric tons daily with an approximate of 0.87 kg/person/day. Solid waste generation depends on population growth and economic development. In this waste generation projection, only population growth were considered. There is therefore a need to increase the fleet for solid waste management but also introduce systematic ways of disposing wastes to include waste recycling and sorting of wastes at source.

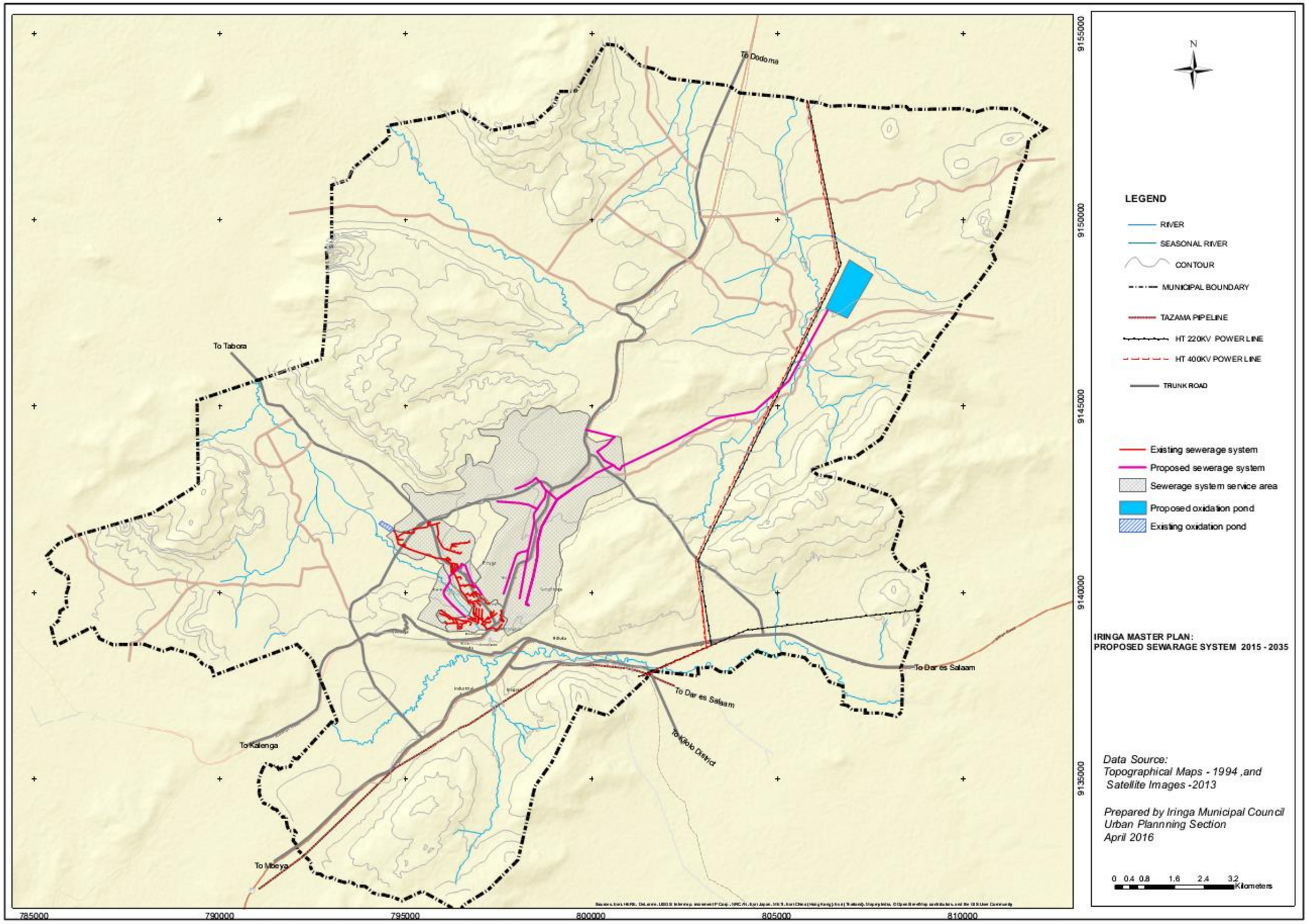
Table 11.3: Projected solid waste generation 2015-2035

Year	Projected population	Projected solid waste generation (Tons/day)	Number of skips required to be transported to landfill per day	Number of vehicles required (Skip master)
2015	158,155	137.5949	20	3
2020	169,506	147.4702	21	4
2025	180,858	157.3465	23	4
2030	192,208	167.221	24	4
2035	291185	253.331	36	6

Map 11.3: Proposed Water Supply Network



Map 11.4: Proposed Sewarage Netwaork



Waste management

Solid waste management involves several stages such as waste generation, separation, storage, transportation, intermediate treatment for some kind of wastes and disposal are required. It is also recommended that three levels of service should continue to be offered to residential, commercial and institutional areas by the municipal collection system such as collection from small bins, various bags collected from households to the collection points (skip buckets). Community based Organizations (CBOs) should collect wastes from household level and transfer to the collection points.

Table 11.4: Recommended level of service for solid waste collection

Source of waste	Frequency of collection per week	Pick- up location	Responsibility for collection	Remarks
Low density residential	1	Roadside/ household	CBO	Solid waste producer To pay for service.
Medium density residential	1	Road side/ household	CBO	Solid waste producer To pay for service.
High density residential	1	Skip bucket	Individual	Solid waste producer To pay for service.
Unplanned settlements	1	Skip bucket	CBO	Solid waste producer To pay for service.
Commercial	daily	Skip bucket	CBO	Solid waste producer To pay for service.
Markets	daily	Skip bucket	CBO	Solid waste producer To pay for service.
Institutional	1	Skip bucket	CBO	Solid waste producer To pay for service.
Industrial, construction, demolition and abbatoir	As requested	Skip bucket	Municipal	Solid waste producer To pay for service.

Two types of collection vehicles are proposed for solid waste transportation to the landfills; Compactor trucks should continue to collect solid waste CBD area and 6 skip masters to collect refuse from 192 skip buckets located in strategic solid waste catchment areas along road sides and streets. The trucks should transfer solid waste directly to landfill or transfer station.

Presently, the dump site is located at Kihesa Kilolo, about 7 kilometres from the CBD. The present dump site cover an area of 6 hectares. The dumping site is not satisfactorily in terms condition as solid wastes are usually not compacted. Consequently, they get scattered all around -on and off the site. This has led to unsanitary and unpleasant conditions caused by flies flying towards a nearby residential area. Thus, the site is no longer suitable and it needs to be closed immediately and the remaining refuse should be spread and compacted with adequate cover materials. Because of this condition, this Master plan proposes to expand and improve solid wastes disposal facilities into a sanitary landfill that will have compaction facilities to avoid further environmental pollution.

The proposed land for solid waste disposal for the planning period is 57.48 hectares. Three sites at Mkoga, Nduli, and Igumbilo each with at least 15 hectares are recommended in order to reduce operation cost in terms of transportation. Landfill site selection is the fundamental step in the development of a landfill. This step has far reaching economic, environmental and public acceptance implications. The landfill site selection process is only complete once the responsible Department has found a site that is feasible on the basis of the feasibility study.

The establishment and operation of waste disposal sites must, therefore, not violate the constitutional right of the communities living in the vicinity of the site. The pre-conditions for landfill site selection should as much as possible ensure that the site to be developed is environmentally acceptable and that it provides for simple, cost-effective design which in turn provides for good operation and ensure that, it is environmentally and socially acceptable.

Table 11.5: Proposed landfill sites 2020- 2035

S/N	Location		Distance to the city centre. (kilometres)	Coverage (ha)
	Street	**Ward**		
1	Mkoga	Isakalilo	9	15
2	Nduli (Usambusa hill)	Nduli	22	27.48
3	Mosi	Kitwiru	25	15
	Total			**57.48**

11.4.6 Energy and Power Supply

Iringa Municipality is connected to the National grid through the Tagamenda Substation with 220 kV lines from three generation stations namely Kihansi Hydropower Station, Kidatu Hydropower station and Mtera Hydropower Station. The average electricity demand for Iringa Municipality is 8.5 MW. A total

installed power supply from Tagamenda substation is 36 MW (45 MVA). That is supplied from two 220/33kV transformers each with the capacity of 18 MW (22.5 MVA). The projected power demand of Iringa by 2035 is summarized in Table 11.4

Table 11.6: projected electricity demand (2035)

Year	Extrapolated population increase	Development area / entity	Extrapolated MW capacity to be increased	Remarks
2015 to 2020	23,423	Residential area	0.5MW	New installation
		whole sale and retails shops, supermarket banks, post and telephones, shopping malls and petty trading markets	1MW	New installation
		The existing Kibwabwa and Mlandenge service and light industry	1MW	Upgrading
		New light and heavy industries proposed to be located at Nduli	10MW	Extension of 33kV Isimani feeder straight from Tagamenda Grid Substation and construction new primary substation at Nduli (33kV/11kV), An area of 4,000square metres for proposed Nduli primary substation
		New light and heavy industries proposed to be located Ulonge	0.5MW	New installation
		New service and light industries at Mkonga satellite town	1MW	New installation
		Institution for higher learning, administrative building hospital and etc proposed to cover 3090Ha	1.5MW	New installation
2020 to 2025	25,359	Residential area	0.5MW	New installation
2025 to 2030	27,450	Residential area	0.5MW	New installation
2030 to 2035	29,725	Residential area	0.5MW	New installation
Total			18MW	

Electricity supply ought to be transmitted to planning areas through 220kV transmission lines and 132kV distribution line. The proposed overhead power line is mainly laid along the main roads and primary arterial road. The housing connections need to be placed along the access roads, while in CBD area the power line can be transmitted through underground cables. Right of Ways (ROW) shall be reserved for laying of overhead and underground power line for various power voltage levels.

Table 11.7: Right of way (ROW) for various power line voltage level

SN	Voltage level (Kv)	Right of Way (Meters)	Distance from Center line
1	11	5	2.5
2	33	10	5
3	66	20	10
4	132	40	20
5	220	60	30
6	400	60	30

Source: Space and Planning Standards Regulations G.N 395 of 2011

The size of land proposed for substations is recommended as stated in the Space and Planning Standards regulation of 2011 G.N 395, to cater for the future expansion. 400/220kV substation shall be connected to 220/132kV secondary electrical substations. The electricity will further be distributed to 132/33kV distribution substations. Each distribution substation can serve up to 150 MW power demand. Table 11.5 summarizes the plot sizes required for different types of substations.

The substation's location will determined based on the following considerations:

i) The substation should be located at the optimal location to provide connections to the town's load centers;

ii) The immediate surrounding land use should be compatible with the substation;

iii) The substation location should not be in flood prone area.

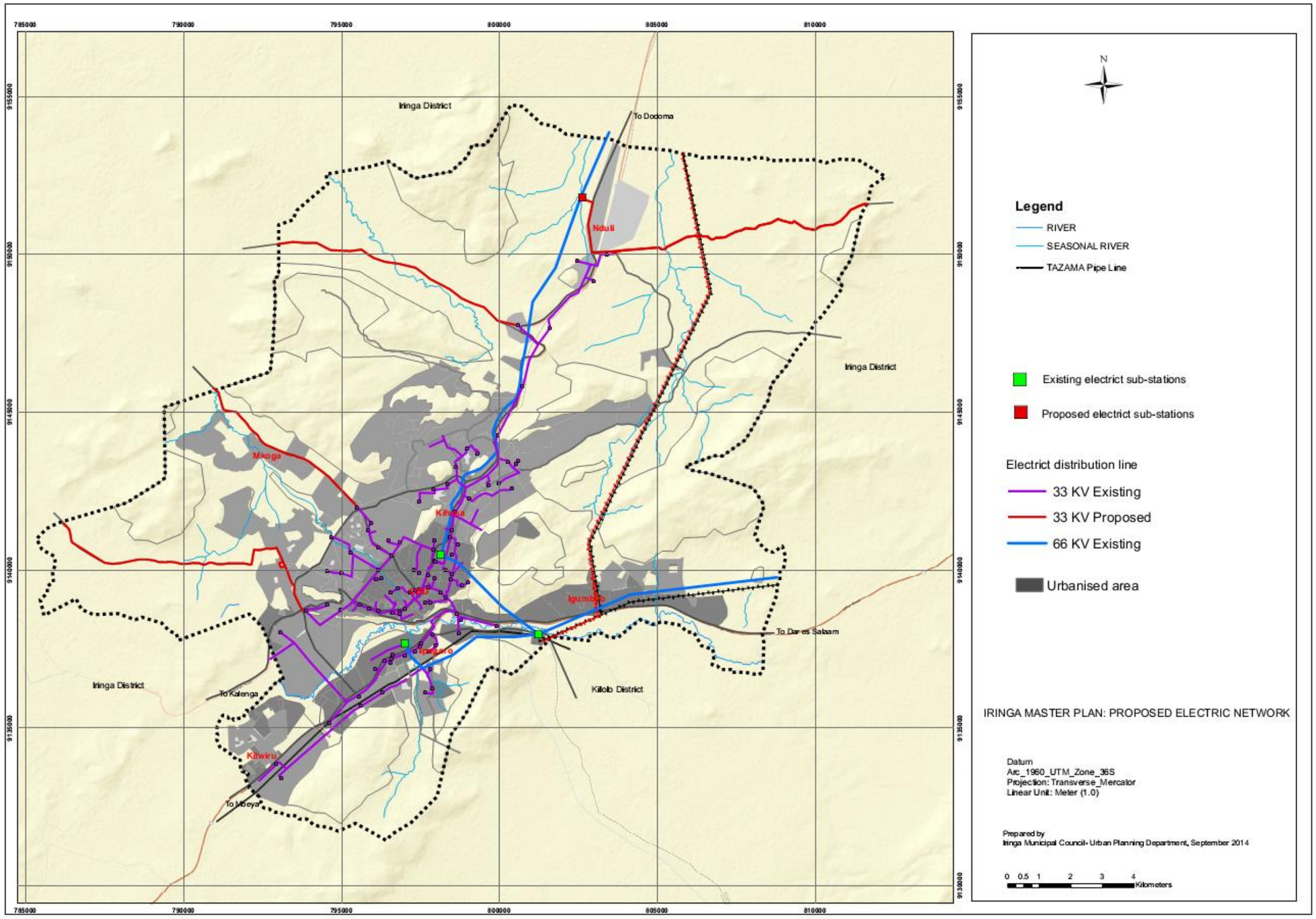
Table 11.8: Plot size for various type of substations

SN	Voltage level (Kv)	Plot size (metres)	Recommended
1	33/11	30x40	30x40
2	132/33	40x80	40x80
3	220/132	50x100	50x100
4	400/220	-	200x200

Source: Space and Planning Standards Regulations G.N 395 of 2011

Apart from electricity, charcoal and firewood are other sources of energy used for cooking by many residents in Iringa. Iringa receives charcoal and fire wood from nearby districts of Mufindi, Kilolo and Iringa Rural districts. The future goal should be to reduce dependency on firewood and charcoal as main sources of energy, instead, the community should shift to alternative sources including biogas, gas, coal and solar energy.

Map 11.5: Iringa Master Plan: Electricity supply network



11.5 TRANSPORT AND COMMUNICATION

11.5.1 Road network

The existing roads in Iringa have been developed in a radial pattern constituting of major and regional roads conveying at the central area. These radial roads include: The Iringa-Dodoma road, Iringa-Morogoro road, Iringa-Mbeya road and district roads of Iringa-Msembe (road toward *Ruaha National Park*), Iringa-Pawaga and Iringa-Kilolo roads.

The existing hierarchy of road system consists of access, district, arterial and collector roads. Iringa Municipality has a total of 50.9 kilometres of trunk road, 8.9 kilometres of Districts and access roads (arterial and collector) connecting neighbourhoods, services and workplace. The entire road network coves a total of 357.51 kilometres.

The new road network should include lanes for vehicular movement, bus lanes, bicycle lanes and pedestrian paths. The bus way system should be connected to all satellite centres and should be link to national and regional roads.

The following road standards are recommended to be used for both transport and transportation in Iringa Municipality (Map No 10.6). The road network plan for Iringa Master will be developed based on the following hierarchy:

i) A 60 metre road, for inter-regional roads connecting the Municipality and other parts of the country. These include; 7 kilometres road linking Dodoma road and Dar es Salaam road and 11 kilometres road linking Dodoma road and TANZAM highway.

ii) The 45 metre roads connecting the proposed district/Satellite centres; and 30 and 45 metre roads connecting planning communities and neighborhoods.

iii) 20-30 metre roads which will act as neighborhood boundaries.

iv) 15-20 metre collector roads providing access to housing clusters

Table 11.9: Road Hierarchy and size

SN	Road Hierarchy	Width (ROW)	Number of lane
1	Primary Distributor	60	4
2	Secondary Distributor	45	4
3	District Distributor	30	2
4	Minor Distributor	20	2
5	Local distributor	15	2
6	Access road/ Cul-de-Sac	10	2
7	Pedestrian way/ Bicycle	5	-

Public transport within the Municipality include: buses, mini buses, taxis, motorcycle and bicycles. Commuting is done by using private public transport buses popularly known as daladala and a few use taxis and motorbikes. The three terminals for public buses are Mlandege, Ipogolo and the Main Bus Terminal in the town centre.

Bus ridership is expected to increase consecutively as the daily passenger trips increase. To accommodate this increased demand, it is anticipated that the major improvements in the public transit service will be required. The existing radial route structure will have to be reviewed and perhaps restructured to service town growth objectives satisfactorily. General improvement on the quality of operations will be necessary.

The concept of combined regional bus terminal to be located at Igumbilo will require major improvements in connection to improvement of existing radial route structure which will involve construction of by-pass and ring roads out of the town centre (Kihesa Kilolo-Igumbilo roads which links between the Dodoma and TANZAM roads and the Kitwiru-Isakalilo roads which also links with Dodoma and TANZAM highway roads via Mwangata, Mkwawa, Mtwivila and Mkimbizi).

New areas for bus terminal and lorry parks have been proposed at Igumbilo. These cover a total land of 4 hectares and 1 hectare respectively. Another bus terminal and lorry park is proposed at Nduli area which will cover a total area of 20 hectares. This will serve buses to and from Dodoma.

To encourage pedestrian movement within the urban area, exclusive routes for bicycles and pedestrians will be provided both along road networks, open spaces and green belts. These routes will be designed to enable pedestrians and cyclists to move freely and safely to avoid conflicts with motorized modes of transport. The issue of confortability and convenience in terms of shades and beauty has been considered by providing proper landscape elements including pavement, planting, street feature and street fixtures. Surface construction should consist of natural ground, paving blocks, crushed stone or concrete depending upon the location of the facility.

Figure 11.1: Truck road (60m wide)

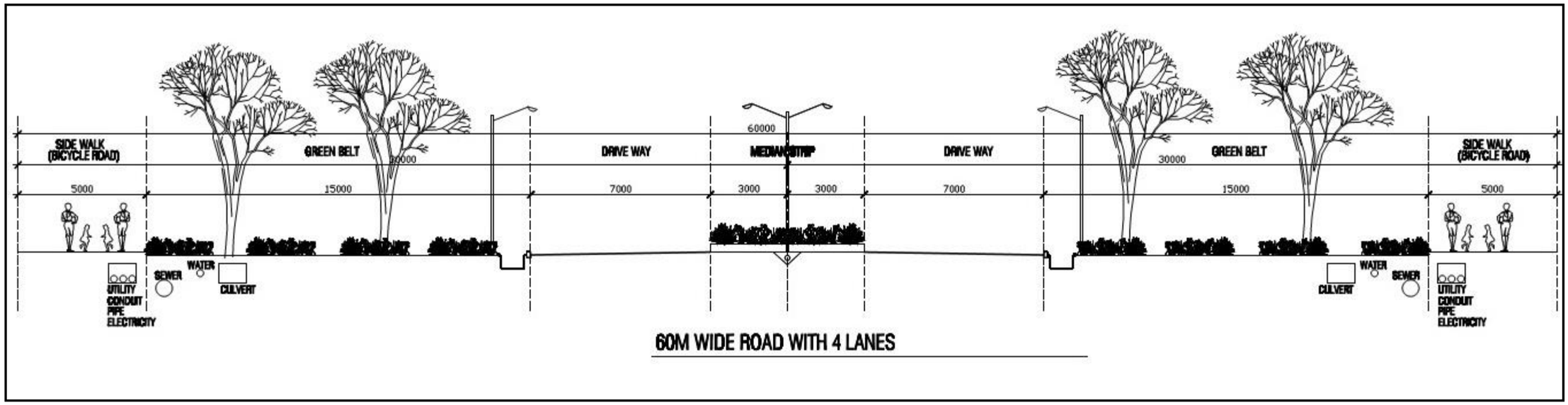


Figure 11.2: Primary distributor road (45m wide)

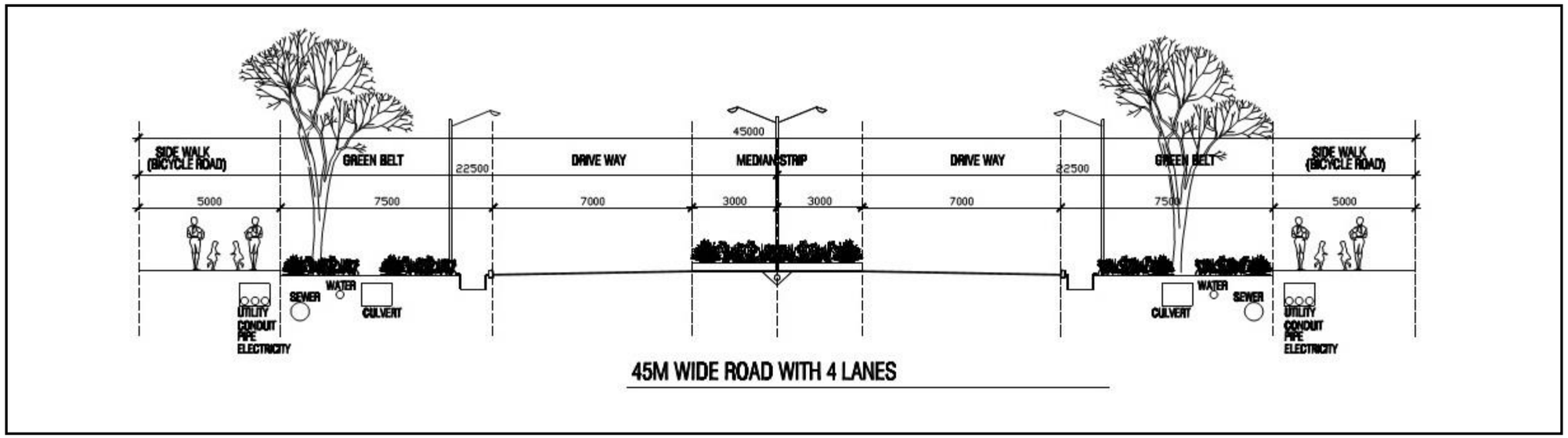
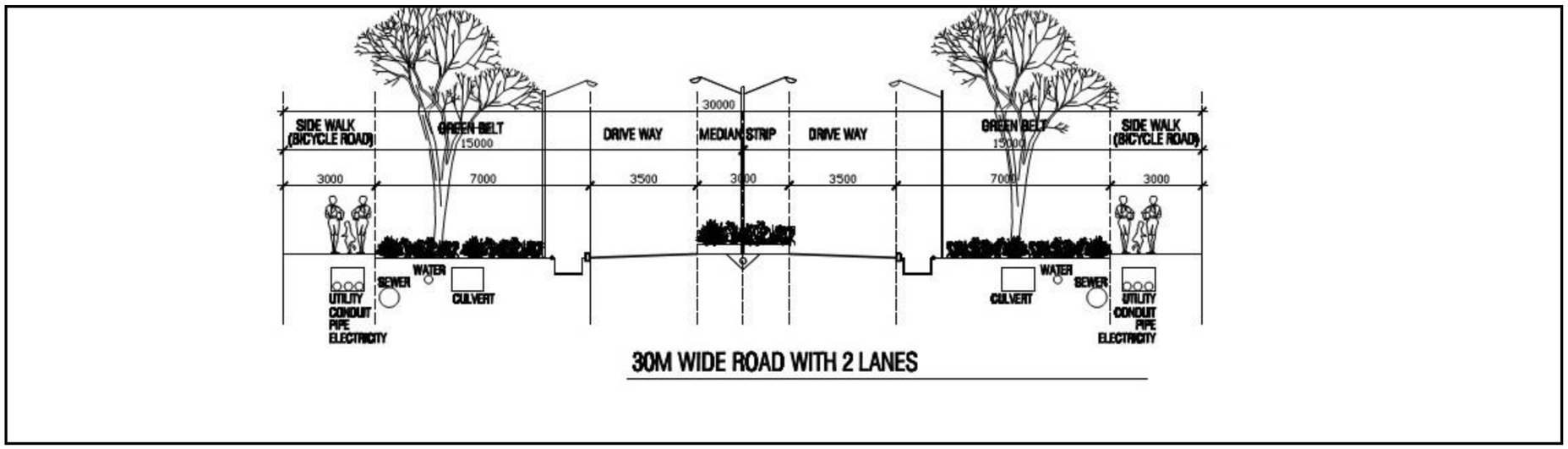
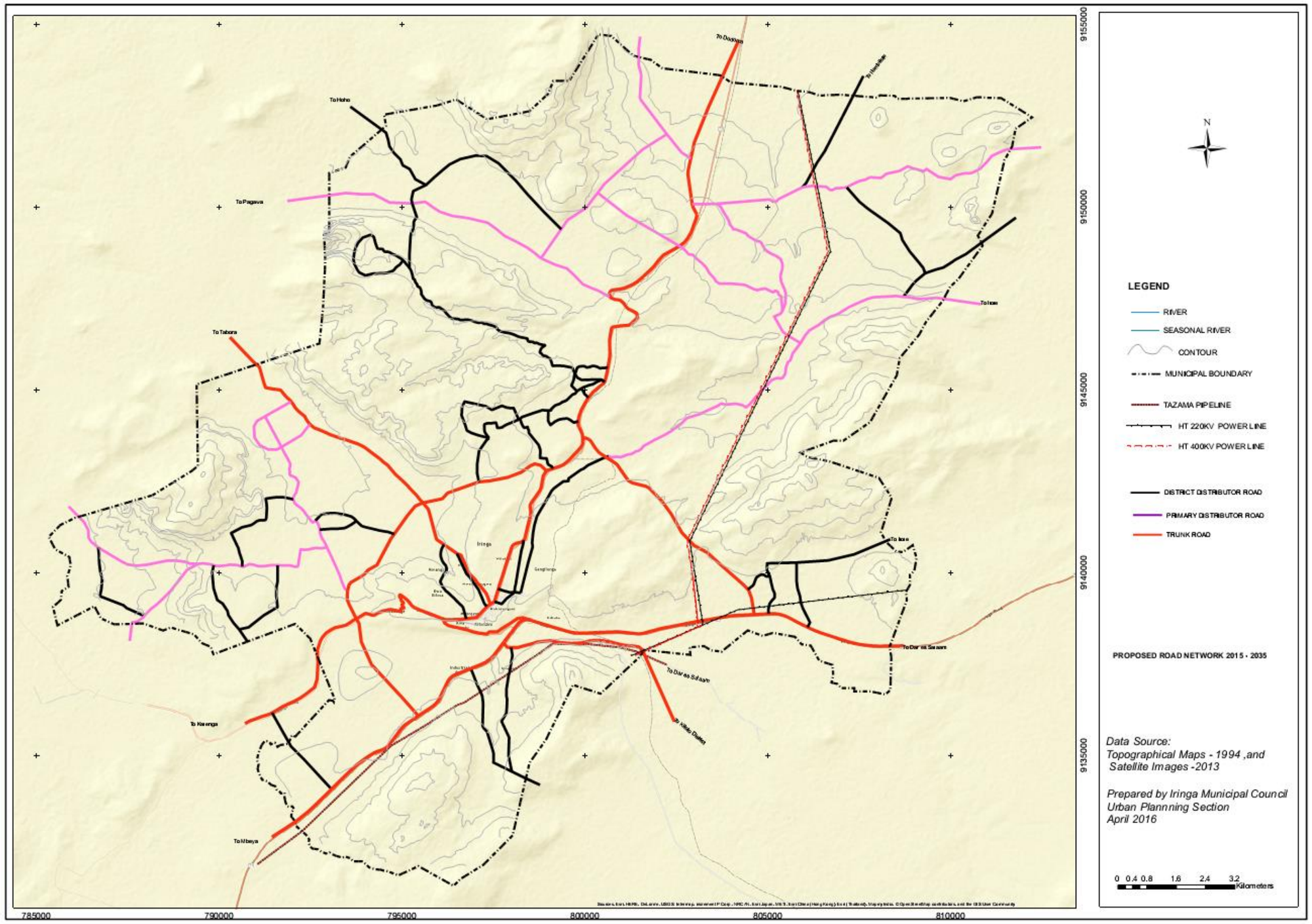


Figure 11.3: Distributor roads (30m)



Map 11.6: Iringa Master: Proposed Road Network



11.5.2 Airport

The Municipality of Iringa is served with a small airstrip which has an area of 143.273 hectares with running way of 1.6 kilometres. This airstrip handles small aircrafts. It lacks regular commercial flights as compared to other towns in the country. The airstrip is situated at Nduli about 15 kilometres north of Iringa CBD. This airstrip is proposed to be expanded to 500 hectares to meet the future demand for large flights and air cargo operations.

11.5.3 Railways Line

The nearby railway line is the TAZARA which passes about 150 kilometres at Makambako. It is the only railway link to other regions and neighborring countries. In order to promote cargo and passenger railway transport in this region there is a need to plan in future for a rail link between TAZARA at Makambako through Iringa to connect with Central Railway in Dodoma. This will improve railway link between northern and southern regions of Tanzania.

11.6 STORM WATER DRAINAGE SYSTEM

These storm water channels in Iringa comprises of open and covered channels in the CBD area and along major roads. These drains have been constructed from stone masonry and a few constructed from mass concrete. In total, the storm water drains cover about 218 kilometres. In this Master plan, storm water drainage works should include constructions of channel along major water courses and upgrading secondary water course. Planned storm water drains should be constructed along roads in urbanized areas as well as peri-urban areas where effluent water will channelized to natural water courses. It is further proposed that existing levels of service for existing and future developed areas be re-examined with a view to modifying the approaches in storm water provision and management.

11.7 CENTRAL AREA REDEVELOPMENT PLAN

The central area of Iringa town is a planned high-density development area with majority of its buildings indicating considerable deterioration. About 81 percent of all buildings in this area are in poor physical condition. The dominant land use in this part of the central areas is residential consisting of 795 buildings.

Table 11.10: Proposed land use

Land use	Area in ha.	Percent
Special residential	24.492	3.355
Residential/Commercial I	136.383	18.684
Residential/Commercial II	368.441	50.475
Institutional	62.178	8.518
Commercial	43.215	5.920
Open Spaces and cemetery	5.430	0.744
Transport and circulation	72.995	9.999
Industrial	10.932	1.498
Cemetery	5.888	0.807
TOTAL	**729.954**	**100**

The existing central business district has a redevelopment plan which will expire in the year 2017. This master plan proposes extension of boundaries for the CBD to include surrounding neighborhoods which compliment CBD functions. The area proposed for CBD expansion is the whole Gangilonga ward; part of Ilala Ward, Makorongoni ward and part of Mlandege Ward which cover total area of 729.2 hectares.

The proposed land uses for the Central area includes special residences (residence for government officials), commercial/residential, institutional, commercial, open space, roads and industrial uses are shown in map 11.7 and discussed as follows: First is special residential area is proposed for senior government official like state house, Regional Commissioner's, District Commissioner's and Judges residence. These areas are found in Gangilonga Ward and cover about 25 hectares of land.

The second is the commercial/residential area located in the periphery of the Central area. Larger concentration of commercial/residential use is located in parts of Kitanzini, Gangilonga Mivinjeni, Makorongoni, Ilala, Mlandege and Mshindo wards. These areas are earmarked for detached type of houses, of up to three storeys.

The third is the commercial-residential zone that has been allocated for high-rise buildings. Residential accommodation will be available in the upper floors. Residential use in the core of central area has been proposed in order to achieve the necessary mix and make the centre more active. Concentration of this

area will be parts of Kitanzini, Gangilonga Mivinjeni, Makorongoni, Ilala, Mlandege and Mshindo wards. The fourth category is the area zoned for institutional functions. While there is no proposal for further spatial expansions, intensification is highly recommended in these areas.

The fifth category is land for commercial activities, these land use was the largest concentration around, the bus stand, Mkwawa II Street, Jamat Street and Uhuru Avenue. Retail services in this area, is proposed to be accommodated in Commercial/Residential buildings. In order to protect pedestrians from intense sunlight and rain, it is recommended that arcades are provided on ground floors. All buildings in this zone should have the minimum of five storeys.

Sixth category is industrial uses, concentration of industrial establishments has been proposed along Uhuru Avenue and Kwakilosa wards along Kalenga road. These comprise the National Milling Corporation and a number of service industries and warehouses. The seventh land use category constitutes open spaces. All existing open spaces and recreational facilities have been retained. These open spaces are found in adjusted to Gangilonga wards, Wilolesi Primary School, Mkwawa University College of Education, Ilala Mosque, Primary health Institute and the CCM Regional Headquarter.

The eighth category is land use designated for circulation. The proposed area for this use includes the central bus terminal, the central car park and roads. The existing Central bus terminal will be used for town buses after constructing the new bus terminal at Igumbilo. Car parking is proposed to be located in commercial buildings. Institutions will to have their own parking spaces. Pedestrian walkways should be established along Dodoma road which will be free from vehicular traffic. The remaining area will be covered by all categories of roads including primary distributors, secondary distributors, local and access roads and pedestrian ways.

Height zoning

The Central area has been zoned into different areas each with a specific building form or mixed forms. Five distinct zones of building height are recommended in the Plan.

Zone I: Low rise residential (ZI)

Zone I (Low rise Residential) is a zone establish in the CBD to provide high-quality, high density living with easy access to city level facilities with commercial at ground level. Provision of adequate Public facilities and optimum well landscaped open spaces shall be encouraged to enhance the quality of living in this high density zone. Any new residential development or renovation within CBD shall comply with this condition.

Zone IIA: Medium rise residential (Z2A)

Low Rise Residential zone (Z2) is a zone establish in the CBD to provide high-quality, high density living with easy access to city level facilities with commercial at ground level. This zone is for area located at Gangilonga and Wilolesi. Provision of adequate Public facilities and optimum well landscaped open spaces shall be encouraged to enhance the quality of living in this high density zone.

Zone IIB: Medium rise residential (Z2B)

Low rise residential zone (Z2B) is a zone establish in the CBD to provide high-quality, high density living with easy access to city level facilities with commercial at ground level. Provision of adequate Public facilities and optimum well landscaped open spaces shall be encouraged to enhance the quality of living in this high density zone.

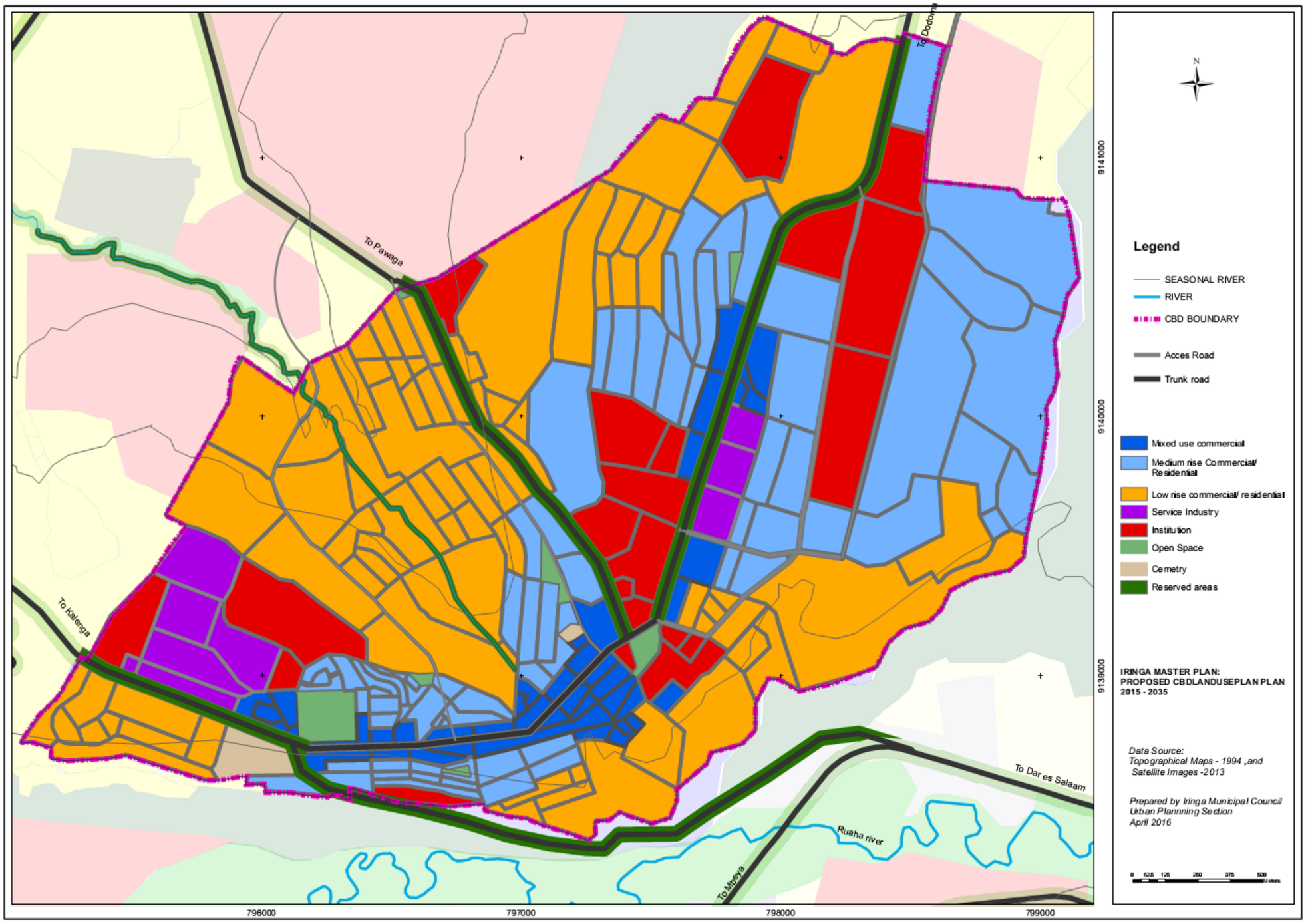
Zone III: High rise Mixed Use commercial Zone (Z3)

High rise mixed use commercial (Z3) intended to establish CBD core, prime offices area and regional financial hub.

Zone IV: service industrial zone

These are small scale industries scattered in the central area. These shall not generate large quantities of trade effluent or solid waste. They shall also not generate excessive impulsive or continuous noise. They shall also not use large quantities of hazardous substances such as solvents, acids and other chemicals or toxic elements.

Map11.7: Iringa Master Plan: Proposed CBD Land Use



CHAPTER TWELVE

12.0 PLAN IMPLEMETATION, MONITORING AND ZONING

12.1 PLAN IMPLEMENTATION

The effective implementation of this Master plan shall require full participation of various stakeholders to work in close collaboration with Iringa Municipality. It is expected that successful implementation of this plan will contribute towards sustainable development of the Municipality. The implementation of this Master plan will entail different projects of different nature, character and scale. Therefore, the implementation of this plan will be executed in four phases. In this regard, infrastructural improvement shall take a central role in opening up undeveloped areas for various land uses. The phasing programme will base on the projected population and the anticipated public facilities to be provided. To implement this Master plan, various strategies will be applied structured into four phases as discussed hereunder;-

Phase one (Year 2015 -2020)

This phase covers the first five years of the plan implementation commencing 2015 through 2020. During this period, the population Iringa Municipality will have reached 207,039 people. This population will require a land estimated of 23089.286 hectares of various uses as shown in Table 12.1.

Table 12.1: Land use estimate for Phase I (2015-2020)

Land Use	Land us estimate from 2015-2020 (207,039 population) per Ha	Percentage Taken (percent)
Residential	5538.476	23.99
Institution	487.398	2.11
Open space and recreation	811.245	3.51
Commercial area	320.522	1.39
Industrial area	1960.952	8.49
Circulation	2941.428	12.74
Urban agriculture	2506.326	10.85
Conservations areas	8022.94	34.75
Airport	500.000	2.17
TOTAL	**23089.286**	**100.00**

In phase one planned projects will be as follows:

i. Awareness creation to the community about the Iringa Municipality Master Plan;
ii. Construction of Municipal head office;
iii. Detailed designed and Implementation of central area redevelopment plan (Iringa CBD);
iv. Tree planting along major roads, residential area, hills, and other proposed green belt areas.
v. To upgrade roads to tarmac level and drainage channels;
vi. Establishment of proposed Nduli and Ulonge satellite town; land acquisition, land surveying and preparation of satellite town master plans;
vii. Establishment of wildlife sanctuary (Zoo) at Nduli;
viii. Land acquisition, planning and survey of a new development plots at Ugele, Igumbiro, Itamba and Ulonge;
ix. Construction of a proposed bus stand at Igumbilo ward;
x. Extension of sewerage system by 33 kilometres within the central business district;
xi. Construction of proposed lorry park terminal at Igumbilo;
xii. Upgrading of unplanned settlements at Mtwivila, Lukosi and Igumbilo;
xiii. To construct the proposed by pass trunk road from Dodoma road to TANZAM road through Iringa University;
xiv. Land acquisition and survey for area to be used as a dumping site at Usambusa, Nduli;
xv. To extend water supply system to 50 kilometres in Iringa Municipality, these services will covers areas of Kitwiru, Mawelewele, Igumbilo, ulonge, Mafifi and Ugele;
xvi. Rehabilitation and expansion of Nduli airport;
xvii. Establishment of central sewerage system treatment plant at Kigonzile area;
xviii. To improve irrigation canal at Kisaula- Mtwivila and Kitwiru schemes;
xix. Upgrading of Itamba dispensary to a health centre;
xx. Completion of Flerimo Council's hospital construction;
xxi. Completion of Ngelewala Abattoir Construction;
xxii. To construct a new primary school at Mgongo and building classrooms in the existing schools to increase enrollment capacity;
xxiii. To construct a new English medium primary school at Itamba and building classrooms in the existing schools to increase enrollment capacity;
xxiv. Establishment of climbing infrastructure at Mkimbizi, Mapanda and Kitwiru hills. (Stair, viewpoints);

xxv. Establishment of 3 mobile campsites at recreation area;
xxvi. Establishment of 1 cultural tourism centre at Nduli area and;
xxvii. Construction of tented camp at Igumbilo checkpoint;

Phase two (2020 – 2025)

Phase two will commence in 2020 and is expected to end in 2025. During this period, Iringa Municipality population is projected to be at 248,445 people. This population will need an estimated land of 26439.477 hectares for various uses as shown in Table 12.2.

Table 12.2: Land use estimate Phase II (2020-2025)

Land Use	Land us estimate From 2015-2020 (207,039 population) per Ha	Percentage Taken (percent)
Residential	6812.299	25.77
Institution	599.497	2.27
Open space and recreation	997.827	3.77
Commercial area	394.240	1.49
Industrial area	2411.962	9.12
Circulation	3617.942	13.68
Urban agriculture	3082.769	11.66
Conservations areas	8022.94	30.34
Airport	500.000	1.89
TOTAL	**26439.477**	**100.00**

During this phase the Municipality will implement the following projects:

i. Development of the proposed Nduli satellite town and extension of the public utility services in the proposed satellite town,, transport and others;
ii. To upgrade unplanned settlements areas at Semtema;
iii. Land acquisition, planning and survey at Kigonzile, Kitasengwa, Itamba and Ulonge;
iv. To construct the proposed by pass trunk road from TANZAM road through Mtwivila, Mkwawa, and Mwangata Isakalilo to Kitwiru;
v. Establishment of proposed Mkoga satellite town; by carrying out land acquisition and land surveying.
vi. Construction of teaching hospital at Mkoga area;
vii. To promote bee-keeping in hills surrounding the town;
viii. Establishment of wildlife sanctuary at Mgongo;
ix. Construction of two vacation training colleges at Nduli and Itamba;
x. Land acquisition and fencing of the Kitanzini historical site;
xi. Construction of three Standard Hotels (three to five stars);
xii. Establishment of 1 Cultural Tourism Centers at CBD;
xiii. Construction of 2 tourism hostels at Mkoga and Igumbilo
xiv. Establishment of multipurpose stadium at Kibwabwa; and,
xv. Establishment of international standard golf course.

Phase three (2025 – 2030)

This phase will commence in 2025 and end in 2030, during this period, the Municipality will have a population of 268,968 people. This population will need 29789.738 hectares for vaarious land uses as shown in table 12.3.

Table 12.3: Land use estimate Phase III (2025-2030)

Land Use	Land us estimate From 2015-2020 (207,039 population) per Ha	Percentage Taken (percent)
Residential	8086.150	27.14
Institution	711.598	2.39
Open space and recreation	1184.414	3.98
Commercial area	467.960	1.57
Industrial area	2862.981	9.61
Circulation	4294.471	14.42
Urban agriculture	3659.225	12.28
Conservations areas	8022.94	26.93
Airport	500.000	1.68
TOTAL	**29789.738**	100.00

The Plan implementation activities in phase three will be as follows:

i. Development of the proposed Mkoga satellite town and extension of public utility services to the proposed satellite town;
ii. Implementation of the proposed Nduli satellite town;
iii. Construction of sewerage system from sabasaba to Kigonzile and Sewerage treatment plant.
iv. Construction of Isakalilo dump site;
v. Land acquisition, planning and survey of a new development plots;
vi. Upgrading of unplanned settlements at Igumbiro/Ndiuka, Mafifi and other part of Kihesa.
vii. Implementation of reviewed CBD;
viii. Construction of village center for special needs children at Ulonge;
ix. Establishment of an education village within the municipality with; libraries, laboratories, study rooms, conference halls, playing grounds, child day care facilities, museums, herbariums, aquarium and hostels at Mkoga;
x. Establishment of wildlife sanctuary (Zoo) at Mkoga;
xi. To demarcate one tourism attraction sites (Kigonzile Natural pillar);
xii. Establishment of 1 cultural tourism centre at Mkoga area;
xiii. Establishment of 3 recreation area at Igumbilo, Nduli and Mkoga;
xiv. Establishment of 1 tourism trade festival ground at Kihesa ward;
xv. Establishment of 2 cultural tourism Centres at Mkoga and Nduli;
xvi. Construction of International conference at Mkoga; and,
xvii. Construction of two Standards Hotels (three to five stars)
vi. Construction of international conference at Nduli satellite city; and,
vii. Construction of two tourism vocational training colleges at Mkoga and Igumbilo

Table 12.4: Land use estimate Phase IV (2030-2035)

Land Use	Land us estimate From 2015-2020 (207,039 population) per Ha	Percentage Taken (percent)
Residential	9360	28.244
Institution	823.7	2.486
Open space and recreation	1371	4.137
Commercial area	541.68	1.635
Industrial area	3314	10.000
Circulation	4971	15.000
Urban agriculture	4235.68	12.781
Conservations areas	8022.94	24.209
Airport	500	1.509
TOTAL	**33140**	**100.000**

Phase four (2030 – 2035)

During this phase, the development is expected to focus on the following activities:

i. Implementation of proposed Mkoga and Kitwiru satellite towns;
ii. Monitoring and evaluation of Nduli and Mkoga satellite town;
iii. Construction of Road Network and Storm Water Drainage to newly residential developed area
iv. Assessment of Master Plan implementation;
v. Construction of tented camp at Igeleke hills;

Table 12.5: Master plan project budgeting and financing Phase I (2015 – 2020)

S/N	PROJECT NAME		COST (TZS. 000,000)	SOURCE OF FUNDS	ACTORS	REMARK
1	Awareness creation to the people about the Iringa Municipality master plan.	Iringa Municipality	35.5	• Own Source • Development partners • ULGSP	The Residents Municipal Director TANROAD IRUWASA TTCL TANESCO	
2	Trees planting along major roads, residential areas, hills, and other proposed green belts.	Iringa Municipality	60	• Own source • Development partners • Other stake holders • Communities	Municipal Director TANROAD TFS NGO & CBO Community group Indivualds	Miombo ecosystem will be conserved and new trees planted.
3	To upgrade 12.2 kilometres roads to tarmac level and drainage work (bridge, culvert and storm water drainage)	• Veta to Frelimo hospital • Mkwawa to Zizi through Mawelewele • Sambala to mama siovele pub • From Gangilonga to Kihesa • Tagamenda bridge	22,000	• Own Source • ULGSP	Municipal Director TANROADS	
4	Rehabilitation of markets infrastructure	• Mlandege market • Kihesa market	4,000	• ULGSP • Own Source	Municipal Director TANROAD Contractors Consultants TANESCO IRUWASA Community Leaders	
5	Establishment of proposed satellite towns at Nduli and Ulonge • Land acquisition • Land survey	Nduli and Ulonge	3,440	• Iringa Municipal Council • Development partners • Individual land developers • Estate developers.	Municipal Director, Estate developers, TANESCO, IRUWASA.	
6	Extension of water supply system to 50 kilometres in Iringa Municipality	• Igumbilo • Kitwiru • Ugele • Ulonge • Mawelewele	1,200	• IRUWASA • Iringa Municipal Council (RWSSP) • Development Partners	Municipal Director, Contractors, TANESCO, IRUWASA, Private Sector.	
7	Extension of sewerage system by 33kilometres within central business district	CBD area	55	• IRUWASA • Development Partners	Municipal Director IRUWASA Contractors Consultants Individuals TANESCO	
8	Construction of sanitary landfill	Mkoga sanitary landfill	600	• Iringa Municipal Council • Development partners	Municipal Director, Contractors, Consultants, Private Sector.	
9	To acquire 400 hectares of land for planning and surveying 5,000 new development plots (5 neighborhood units).	• Ugele • Itamba • Ulonge • Igumbilo	3,300	• Development partners • Iringa Municipal Council	Municipal Director Contractors IRUWASA Consultants	

10	Construction of a proposed bus stand at Igumbilo ward.	Igumbilo	4,000	• Iringa Municipal Council • ULGSP • Development Partners.	Municipal Director Individuals IRUWASA TANESCO
11	Establishment of 2 Cultural Tourism Centers at Satellite towns	Mkoga Nduli	20	• Development partners • Iringa Municipal Council	Municipal Director Contractors Consultants TANESCO IRUWASA Individuals
12	Construction of proposed truck/lorry park terminal at Igumbilo	Igumbilo	750	• Development partner • Iringa Municipal Council	Municipal Director Contractors Consultants TANESCO IRUWASA Individuals
13	Upgrading of unplanned settlements at Mtwivila Lukosi and Igumbilo.	Don bosco and Makanyagio, Mtwivila Lukosi	300	• Iringa Municipal Council • Development partners	Municipal Director Contractors Consultants TANESCO IRUWASA Individuals
14	To construct the proposed 10 kilometres by pass trunk road from Dodoma road to TANZAM road through Iringa University.	Tumaini to Igumbilo	7,000	• TANROAD • Iringa Municipal • Development partner	Municipal Director Contractors Consultants TANESCO IRUWASA Individuals
15	To acquire 10 ha of Land for landfill construction at Usambusa.	Nduli	600	• Iringa Municipal Council • Development partners	Municipal Director Contractors Consultants TANROADS TANESCO
16	Rehabilitation of 10 primary schools and construction of one primary school at Mgongo.	Ilala, Wilolesi, Nyumbatatu, Ndiuka, Mlangali, Igumbilo, Azimio, Mtwivila, Kihesa, Mgongo and Mkoga	1,800	• Iringa Municipal Council • Development partners	Municipal Director Contractors Consultants TANESCO IRUWASA Individuals
17	Upgrading of Itamba dispensary to be health center	Itamba	250	• Iringa Municipal Council • Development partners	Municipal Director Contractors TANESCO Individuals
18	Completion of Frelimo Council's hospital construction	Frelimo	10,000	• Iringa Municipal Council • Development partners	Municipal Director Contractor
19	To improve irrigation canal at Kisaula- Mtwivila and Kitwiru schemes.	Mkoga Kitwiru	1,800	• Iringa Municipal Council • Development partners	Municipal Director Contractors Consultants
20	Construction of Ngelewala Abattoir		1,700	• Iringa Municipal Council • Development partners	Municipal Director Contractors Consultants
21	To demarcate two Tourism attraction sites	Gangilonga heritage, Igeleke painting	70	• Iringa Municipal Council • Development partners	Municipal Director Consultants

					Contractors
22	Establishment of Tourism Information Center	IMC Central garden	13	• Iringa Municipal Council • Development partners	Municipal Director Contractors Consultants
23	Construction of Municipal head office	Municipality HQ	800	• Iringa Municipal Council	Iringa Municipal Director Contractors Consultants
24	Upgrading of Nduli airport • Land acquisition • Compensation • Improvement of airport infrastructures • Extension of runway • Extension of terminal building	Nduli airport	7,000	• Iringa Municipal Council • Development partners	Iringa Municipal Director Contractors Consultants
25	Reviewing and extension of CBD boundary	• Kitanzini • Mshindo • Makorongoni • Kwakilosa • Mivinjeni • Gangilonga • Ilala • Mlandege	25	• Development partner • Iringa Municipal Council	Iringa Municipal Director Contractors Consultants
26	To construct a new primary school at Mgongo	• Mgongo	800	• Development partners • Iringa Municipal Council	Iringa Municipal Director Contractors Consultants
27	To construct a new English medium primary school at Itamba and building classrooms in the existing schools to increase enrollment capacity.	• Itamba	1,200	• Development partners • Iringa Municipal Council • Private developers	Municipal Director Contractors Consultants Private developers
28	Establishment of 3 mobile campsites at recreation area.	• Wilolesi • Gangilonga • Mwembetogwa	45	• Development partners • Iringa Municipal Council	Municipal Director Contractors Consultants
29	Establishment of climbing infrastructure at Mkimbizi, Mapanda and Kitwiru hills.(Stair, view points).	• Mkimbizi • Nduli • Kitwiru	50	• Development partners • Iringa Municipal Council	Municipal Director Contractors Consultants
30	Establishment of 1 cultural tourism centre at Nduli area.	• Nduli	300	• Development partners • Iringa Municipal Council	Municipal Director Contractors Consultants
31	Constructions of tented camp at Igumbilo check point.	• Igumbilo	750	• Development partners • Iringa Municipal Council	Municipal Director Contractors Consultants
	SUB TOTAL		73,963.5		

Table 12.6: Master plan implementation strategies Phase I (2015 – 2020)

S/N	PROJECT NAME	STRATEGIES	KEY STAKE HOLDER	ROLES AND RESPONSIBILITIES	COSTING (TZS 000,000)
1	Awareness creation to Iringa Municipality master plan.	Media involvement Public awareness meetings Use of Brochures and leaflets	• Municipal Director • Local Media • NGO'S and CBO'S • ULGSP/PO-RALG	• Preparation of brochures and leaflets • Funding • Awareness campaign	35.5
2	Trees planting along major roads, residential area, hills, and other proposed green belt areas.	Promote Public Private Partnership Miombo ecosystem will be conserved.	• Municipal Director • CBO'S and NGO'S • Government Organization/Institutions	• Trees planting	60
3	To upgrade 12.2 kilometres roads to tarmac level and drainage work (bridge, culvert and storm water drainage)	• To provide education to the public on road use and maintenance • To provide traffic and street lights • To improve road networks in all its direction so as to allow accessibility	• Consultant and Contractors • ULGSP/ PO-RALG • Road Fund NEMC • VIPO	• Supervision • Implementation • Funder • Environment management	22,000
4	Rehabilitation of markets infrastructure	• Collaboration of stakeholders in construction of markets	• ULGSP • Development Partners • NEMC • VPO	• Supervision • Implementation • Funder • Environment management	4000
5	Establishment of proposed satellite towns at Nduli and Ulonge • Land acquisition • Land survey	Involvement of Public Private Partnership (PPP)	• Land survey registered Companies, • Municipal Director • MLHSD • Land Owners	• Land acquisition • Preparation of town planning drawings • Land surveying	340
6	Extension of water supply system to 50 kilometres in Iringa Municipality	• Creating of the room for the private partnership in delivering the improved service • Reducing of non revenue water from the current 33percent to 15percent by 2025	• IRUWASA • Iringa Municipal • Council (RWSSP) • Development partner	• Implementation • Funder	1,200
7	Extension of sewerage system by 33kilometres within central business district	• Ensure of reliable and adequate water sanitation facilities • Improve sanitary system in the municipal area	• IRUWASA • Development partner	• Implementation • Funder	55
8	Construction of sanitary landfill	• Involvement of stakeholders in sold water management and implementation of reuse, reduce, recycling (3R) to minimize wastes and increase income per capital and longevity of landfills.	• Iringa Municipal Council • Consultants and Contractors • Development Partners • NEMC and VPO	• Supervision • Implementation • Funder • Environment management	600
9	To acquire 400 hectares of land for planning and survey 5,000 new development plots (5 neighborhood units).	Involvement of Public Private Partnership	• Land survey registered Companies, • Municipal Director • MLHSD • Land Owners	• Land acquisition • Preparation of town planning drawings • Land surveying • Issuing of certificate of occupancy	3,300

10	Construction of a proposed bus stand at Igumbilo ward.	Involvement of Public Private Partnership	• ULGSP • Development Partners • NEMC • VPO	• Supervision • Implementation of the project • Funder • Environment management	4,000
11	Establishment of 2 Cultural Tourism Centers at Satellite towns	• Creating public awareness on the importance and role of tourism • Collaboration with stakeholders and private sector in improving tourism sector	• Development partners • Local community • Iringa Municipal Council	• Funder • Tour guiding • Implementation of the project	20
12	Construction of proposed lorry park terminal at Igumbilo	• Collaboration of stakeholders in construction of park terminal • Allocation of areas for car parking bus stops and heavy trucks parking's	• Development partner • Iringa Municipal Council • Consultants and Contractor • NEMC and VPO	• Supervision • Implementation of the project • Funder • Environment management	750
13	Upgrading of unplanned settlements at Mtwivila Lukosi and Igumbilo.	• Regularization and regularization and design • Guided land development strategy • Stake holders participatory	• MKURABITA • PO-RALG • MLHHSD • Iringa Municipality • Public and Private Real Estate • Utility Agency • TANESCO • IRUWASA	• Resource mobilization internal and external • Technical support and capacity building through training and backstopping • Put in place policies, regularization and institutional framework • Issues Certificate of Right of Occupancy • Provide infrastructure and services	300
14	To construct the proposed 10 kilometres by pass trunk road from Dodoma road to TANZAM road through Iringa University.	Construction of new proposed trunk road by to link town with other peri-urban centres	• TANROAD • Iringa Municipal • Development partner • NEMC and VPO	• Supervision • Resource mobilization internal and external • Funder • Environment management	7,000
15	To acquire 10 hectares ha of Land for landfill construction at Usambusa.	Involvement of stakeholders in water management and implementation of reuse, reduce, recycling (3R) to minimize wastes and increase income per capital and longevity of landfills.	• Land survey and town planning registerd Companies, • Financial Institutions • Municipal Director • MLHSD • Land Owners	• Land acquisition • Preparation of town planning drawings • Land surveying	600
16	Rehabilitation of 10 primary schools and construction of one primary school at Mgongo.	Improving of school infrastructure and surrounding	• Iringa Municipal Council • Development partners • Local community	• Mobilization of resources • Funder • Provision of man power	1,800
17	Upgrading of Itamba dispensary to be health center	Strengthening and improve infrastructure of peripheral health facilities in order to reduce congestion at regional Referral Hospital	• Iringa Municipal Council • Development partners • Local community	• Mobilization of resources • Funder Provision of man power	250
18	Completion of Flerimo Council's hospital construction	Strengthening and improve infrastructure of peripheral health facilities in order to reduce congestion at regional Referral Hospital	• Iringa Municipal Council • Development partners • Local community	• Mobilization of resources • Funder • Provision of man power	10,000
19	To improve irrigation canal at Kisaula- Mtwivila and Kitwiru schemes.	Improving agricultural infrastructure and promote public private partnership	• Iringa Municipal Council • Development partners • Local community	• Mobilization of resources • Funder Provision of man power	1,800
20	Completion of Ngelewala Abattoir Construction.	Promote public private partnership	• Meat traders • UNIDO • Iringa	• Purchasing and sale meat to consumers • Supplier slaughter equipment • Supervision	1,700

			• Municipal Council • TFDA • NEMC/VPO	• Quality assurance • Environment management	
21	To demarcate two Tourism attraction sites	Involvement of Public Private Partnership	• Land survey registered Companies, • Municipal Director • MLHHSD • Land Owners	• Land acquisition • Preparation of town planning drawings • Land surveying	70
22	Establishment of Tourism Information Center	Improvement of tourism sector infrastructure and creating public awareness on the importance and role of tourism in community development	• Iringa Municipal Council • Development partners	• Supervision • Implementation of the project • Funder	13
23	Construction of Municipal head office		• PO-RALG • Iringa Municipal Council	• Provision of policy and regulation • supervision	800
24	Upgrading of Nduli airport • Land acquisition • Compensation • Improvement of airport infrastructures	Collaboration with private sector in investing on air transport	• Land survey registered Companies, • Municipal Director • MLHHSD • TAA	• Land acquisition • Preparation of town planning drawings • Land surveying • Supervision • Implementation of the project	7,000
25	Reviewing and extension of CBD boundary	Promote public private partnership	• Iringa Municipal Council • Land owners • Land developers • TANESCO • IRUWASA • TANROAD	• Technical support and capacity building through training • Put in place policies, regularization and institutional framework • Implementation of the plan • Provision of the infrastructure	25
26	To construct a new primary school at Mgongo and building classrooms in the existing schools to increase enrollment capacity.	Improving of school infrastructure and surrounding	• Iringa Municipal Council • Development partners • Local community	• Mobilization of resources • Funder • Provision of man power	800
27	To construct a new English medium primary school at Itamba	Improving of school infrastructure and surrounding	• Iringa Municipal Council • Development partners • Local community	• Mobilization of resources • Funder Provision of man power	1,200
28	Establishment of 3 mobile campsites at recreation area.	Providing recreational opportunity for local and foreign tourists	• Iringa Municipal Council • Private sector	• Technical assistance • Running of the campsite	45
29	Establishment of climbing infrastructure at Mkimbizi, Mapanda and Kitwiru hills.(Stair, view points).	Providing recreational opportunity for local and foreign tourists	• Iringa Municipal Council • Private sector	• Technical assistance • Establishing of the climbing infrastructure	50
30	Establishment of 1 cultural tourism centre at Nduli area.	Collaborate with stakeholders and private sector in improving tourism sector	• Iringa Municipal Council • Private sector	• Technical assistance • Supervision • Establishing of centre	300
31	Constructions of tented camp at Igumbilo check point.	Collaborate with stakeholders and private sector in improving tourism	• Iringa Municipal Council • Private sector	• Technical assistance • Supervision • Construction of the camp	750
	SUB TOTAL				**70,808.5**

Table 12.7: Master plan project budgeting and financing Phase II (2020 – 2025)

S/N	PROJECT NAME	LOCATION	COST (TZS 000,000)	SOURCE OF FUNDS	ACTORS	REMARK
1	Development of proposed Nduli and Ulonge satellite towns.	Nduli	30,000	• Development partners • Iringa Municipal Council • IRUWASA • TANESCO	Municipal Director Development partners IRUWASA TANESCO	
2	To acquire 400 hectares of land for planning and survey 5,000 new development plots.	• Kigonzile • Kitasengwa • Itamba • Ulonge	3,300	• Development partner • Iringa Municipal Council	Municipal Director Development partners IRUWASA TANESCO	
3	Construction of 10 kilometres by pass trunk road from TANZAM road through Mtwivila, Mkwawa, Mwangata, Isakalilo to Kitwiru	• Mtwivila • Mkwawa • Mwangata • Isakalilo • Kitwiru	5,000	• TANROAD • Iringa Municipal • Development partners	TANROADS Municipal Director Development partners IRUWASA TANESCO	
4	To promote beekeeping in hills surrounding the town	• Nduli • Mkoga • Chautinde • Itamba	20	• Iringa Municipal Council • Tanzania Forest Fund (TAFF)	Iringa Municipal Director Development partners IRUWASA TANESCO	
5	Construction of Usambusa damp site	Nduli	600	• Development partner • Iringa Municipal Council •	Municipal Director Development partners IRUWASA TANESCO	
6	Establishment of proposed Mkoga and Kitwiru satellite town	• Mkoga • Kitwiru	34,400	• Iringa Municipal Council • other development partners	Municipal Director Development partners IRUWASA TANESCO	
7	Upgrading of unplanned settlements at Ipogoro, Kihesa and Isoka B	• Ipogoro • Kihesa • Isoka	300	• Iringa Municipal Council • Development partners	Municipal Director Ministry of Lands IRUWASA Local leaders	
8	Construction of education facilities	• Nduli, • Mkoga, • Mawelewele • Ugele	10,000	• Iringa Municipal Council • Development partners	Municipal Director Ministry of education Partners	
9	Establishment of wildlife sanctuary at Mkimbizi	• Mkimbizi	4,000	• Development partners	Municipal Director Ministry of Natural Resources and Tourism	
10	Construction of two vocation training colleges at Nduli and Itamba	• Nduli • Itamba	3000	• Iringa Municipal Council • Development partner	Municipal Director Ministry of education Partner	
11	Land acquisition and fence the Kitanzini historical site.	• Kitanzini	160	• Municipal Director • Development partners	Municipal Director	
12	Construction of three East African standard Hotel (three to five stars) .	• Gangilonga	300,000	• Private sector	Municipal Director	
13	Establishment of multipurpose stadium	Kibwabwa	100,000	• Municipal Director • Development partners	Municipal Director	
14	Establishment of 1 Cultural Tourism Centers at CBD.	• Mshindo	150	• Municipal Director • Development partners	Municipal Director	
15	Construction of 2 tourism hostels at Mkoga and Igumbilo.	• Mkoga • Igumbilo	400	• Municipal Director • Private sector	Municipal Director	
16	Establishment of international standard golf course	• Mkoga	2,000	• Municipal Director • Development partners	Municipal Director	
	SUB-TOTAL		**493,330**			

Table 12.8: Master plan implementationn strategies Phase II (2020 – 2025)

S/N	PROJECT NAME	STRATEGIES	KEY STAKE HOLDER	ROLES AND RESPONSIBILITIES	COSTING (TZS 000,000)	REMARK
1	Development of proposed Nduli and Ulonge satellite town.	Collaborate with public private partnership to establish satellite town	• Iringa Municipal Council • TAA • NHC • Social Security Fund • Local community • TANESCO • IRUWASA • TANROADS • Finance Institution/Bank	• Technical assistance • Supervision • Rehabilitation of Nduli airport • Construction of affordable housing • Construction of commercial and industrial building • Construction of infrastructures • Financing project	30,000	
2	To acquire 400 hectares of land for planning and survey 5,000 new development plots (5 neighborhood units).	Involvement of Public Private Partnership	• Land survey and town planning registered Companies, • Financial Institutions • Municipal Director • MLHHSD • Land Owners	• Land acquisition • Preparation of town planning drawings • Land surveying • Issuing of certificate of occupancy	3,300	
3	Construction of 10 kilometres by pass trunk road from TANZAM road through Mtwivila, Mkwawa, Mwangata, Isakalilo to Kitwiru	Construction of new proposed trunk road by to link town with other peri-urban centres	• TANROAD • Iringa Municipal Council • Development partners • NEMC and VPO	• Supervision • Resource mobilization internal and external • Funder • Environment management	5,000	
4	To promote beekeeping in hills surrounding the town	involve of Public Private Partnership	• Iringa Municipal Council • Tanzania Forest Fund • CBO'S • NGO'S • Local community	• Supervision • Technical assistance • Funder • Implementation of the projects	20	
5	Construction of Usambusa dump site	involvement of stakeholders in solid waste management and implementation of reuse, reduce, recycling (3R) to minimize wastes and increase income per capital and longevity of landfills	• Iringa Municipal Council • Consultants and Contractors • Development Partners • NEMC and VPO	• Supervision • Implementation • Funder • Environment management	600	
6	Establishment of proposed Mkoga and Kitwiru satellite town	Promote public private partnership	• Iringa Municipal Council • Land developers • Financial Institution • Social Security Funds • Development Partners • Land owners TANESCO • IRUWASA • TANROAD	• Technical support and capacity building through training • Formulation of policies, regulation and institutional framework • Implementation of the plan • Provision of the infrastructure	34,400	
7	Upgrading of unplanned settlements at Ipogoro, Kihesa and Isoka B	• Regularization of the area • Participation of stakeholder	• MKURABITA • PO-RALG • MLHHSD • Iringa Municipal Council • Public and Private Real Estate • Utility Agency	• Resource mobilization internal and external • Technical support and capacity building through training and backstopping • Put in place policies, regulation and institutional framework • Issues Certificate of Right of Occupancy	300	

			• TANESCO • IRUWASA	• Provide infrastructure and services	
8	Construction of education facilities	• Strengthening education facilities at all education levels • Strengthening alternative sources of funds (IMETF) for education system	• Iringa Municipal Council • Development partner • Ministry of education and Vocational and Training • Local Community	• Implementation of the project • Technical Support • Supervision • Funder • Formulation of policies, regulation and institutional framework	10,000
9	Establishment of wildlife sanctuary at Mkimbizi	Providing of recreational opportunity for local and international tourists	• Iringa Municipal Director • Ministry of Natural Resources and Tourisms • Development partner • Local Community	• Technical assistance • Formulation of policies, regulation and institutional framework • Financial Support • Implementation of the project	4,000
10	Construction of two vocation training colleges at Nduli and Itamba	• Strengthening education facilities at all education levels • Strengthening alternative sources of funds (IMETF) for education system	• Iringa Municipal Council • Development partners • Ministry of education and Vocational and Training • Local Community	• Implementation of the project • Technical Support • Supervision • Funder • Formulation of policies, regulation and institutional framework	3000
11	Land acquisition and fence the Kitanzini historical site.	• Involvement of local community	• Municipal Director • Local Community	• Implementation of the project • Provision of historical information	160
12	Construction of three East African standard Hotel (three to five stars) .	• Public Private Partnership	• Municipal Director • Private sectors • Ministry of Natural Resources and Tourisms • Tanzania Investment Center. • Development partners	• Implementation of projects • Formulation of policies, regulation and institutional framework • Investments attraction	300,000
13	Establishment of multipurpose stadium	• Promote Public Private Partnership	• Municipal Director • Private sector • Ministry of Information, Culture, Arts, and Sports	• Municipal Director • Implementation of the project • Formulation of policies, regulation and institutional framework	100,000
14	Establishment of 1 Cultural Tourism Centers at CBD.	• Promote Public Private Partnership	• Municipal Director • Private sectors • Ministry of Natural Resources and Tourisms	• Implementation of projects • Formulation of policies, regulation and institutional framework • Investments attraction	150
15	Construction of 2 tourism hostels at Mkoga and Igumbilo.	• Promote Public Private Partnership	• Municipal Director • Private sectors • Ministry of Natural Resources and Tourisms • Tanzania Investment Center Development partners	• Implementation of projects • Formulation of policies, regulation and institutional framework • Investments attraction	400
16	Establishment of international standard golf course	• Promote Public Private Partnership	• Iringa Municipal Director • Private sectors • Ministry of Information, Culture, Arts, and Sports • Tanzania Investment Center Development partners	• Implementation of projects • Formulation of policies, regulation and institutional framework • Investment attraction	2,000
	SUB-TOTAL				**493,330**

Table 12.9: Project budgeting and financing for Phase III (2025 – 2030)

S/N	PROJECT NAME	LOCATION	COST (TZS 000,000)	SOURCE OF FUNDS	ACTORS
1	Construction of public roads and public utility for the proposed Mkoga and Kitwiru satellite towns.	Mkoga	20	• Development partners • Iringa Municipal council • IRUWASA • TANESCO	Municipal Director IRUWASA TANESCO
2	Implementation of proposed Nduli and Ulonge satellite towns	Nduli	75,000	• Development partner • Iringa Municipal council	Municipal Director IRUWASA TANESCO
3	Construction of sewerage system from Sabasaba to Kigonzile and Sewarage treatment plant	Kigonzile	25,000	• IRUWASA • Municipal Director • Other Development Partners	Managing Director –IRUWASA Iringa Municipal Director
4	Construction of Kitwiru dump site	Kitwiru	600	• Development partner • Iringa Municipal council	Municipal Director IRUWASA TANESCO
5	To acqure 400 hectares of land for planning and survey 5,000 new development plots (5 neighborhood units).	Kigonzile Part of Mgongo	3,300	• Development partner • Iringa Municipal council	Municipal Director IRUWASA TANESCO Partner
6	To dermacate one Tourism attraction site(Ibamila natural pillars)	Nduli	20	• Development partner • Iringa Municipal council	Municipal Director IRUWASA TANESCO
7	Upgrading of unplanned settlements at Igumbiro/Ndiuka, Mafifi and other parts of Kihesa	Ndiuka Kihesa Igumbiro	300	• Iringa Municipal council Development partners • MLHHSD	Municipal Director IRUWASA TANESCO
8	Implementation of reviewed CBD	Iringa CBD	50,000	• Development partners • Iringa Municipal council	Municipal Director IRUWASA TANESCO
9	To establish education village within the Municipality with; libraries, laboratories, study rooms, conference halls, playing grounds, child day care facilities, museums, herbariums, aquarium and hostels at Mkoga.	Mkoga	30,000	• Development partners • Iringa Municipal council	Municipal Director IRUWASA TANESCO
10	Construction of village center for special needs children at Ulonge.	Ulonge	2000	• Development partners • Iringa Municipal council	IRUWASA TANESCO
11	Establishment of wildlife sanctuary (Zoo) at Mkoga	Mkoga	2000	• Development partners	Municipal Director IRUWASA TANESCO
12	Establishment of 3 recreation sites at Igumbilo, Nduli and Mkoga.	Igumbilo Nduli Mkoga	30	• Development partners • Iringa Municipal council	Municipal Director IRUWASA TANESCO
13	Establishment of 1 cultural tourism centre at Mkoga area.	Mkoga	150	• Development partners • Iringa Municipal council	Municipal Director IRUWASA TANESCO
14	Establishment of 1 tourism trade festival ground at Kihesa ward/Mkoga	Kihesa/Mkoga	5000	• Development partners • Iringa Municipal council	Municipal Director
15	Construction of International conference at Mkoga	Mkoga	120,000	• Development partners • Iringa Municipal council	Municipal Director
16	Construction of two standard Hotels (three to five stars)	Mkoga Nduli	200,000	• Development partners	Municipal Director
	SUB TOTAL		**513,420**		

Table 12.10: Master plan implementation strategies Phase III (2025 – 2030)

S/N	PROJECT NAME	STRATEGIES	KEY STAKE HOLDER	ROLES AND RESPONSIBILITIES	COSTING (TZS 000,000)
1	Construction of public roads and public utility for the proposed Mkoga and Kitwiru satellite towns.	• To provide education to the public on road use and maintenance • To provide traffic and street lights • To improve road networks in all its direction so as to allow accessibility • Involving Public Private Partnership	• Municipal Council • Consultant • Contractors • PO-RALG • Road Fund • VIPO and NEMC	• Provision of Consultants service • Supervision • Implementation • Funder • Environment management	20
2	Implementation of proposed Nduli and Ulonge satellite town	Involvement of Public Private Partnership (PPP)	• Municipal Director • Public and Private Institutions • VIPO and NEMC	• Supervision • Implementation • Funder • Environment management	75,000
3	Construction of sewerage system from sabasaba to Kigonzile and Sewerage treatment Plan	• To provide education to the public on sewer use and maintenance • To improve sewer networks within identified areas • Involving Public Private Partnership	• Municipal Director • IRUWASA • Contractors • Public and Private Institutions • VIPO and NEMC	• Supervision • Implementation • Funder • Environment management	25,000
4	Construction of Kitwiru damp site	• To provide education to the public on damp site use and management • To improve damp site • Involving Public Private Partnership	• Municipal Director • Contractors • VIPO and NEMC		600
5	To acquire 400 hectares of land for planning and survey 5,000 new development plots (5 neighborhood units).	• To provide education to the public prior to land acquiring. • Involvement of Public Private Partnership	• Municipal Director • Land survey registered Companies, • MLHSD • Land Owners	• Land acquisition • Preparation of town planning drawings • Land surveying • Issuing of certificate of occupancy	3,300
6	To demarcate one Tourism attraction site (Ibamila natural pillars)	• To provide education to the public prior to land demarcation. • To improve tourism infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Public and Private Institutions • Land Owners • Tourists	• Implementation • Land acquiring • Land demarcation and preparation of drawings. • Funding	20
7	Upgrading of unplanned settlements at Igumbiro/Ndiuka, Mafifi and other part of Kihesa	• To provide education to the public prior to land demarcation. • To improve settlements • Involvement of Public Private Partnership	• Municipal Director • Partners • Land Owners • MKURABITA • MLHSD	• Implementation • Funding • Land acquisition • Preparation of town planning drawings • Land surveying	300
8	Implementation of reviewed CBD	• To provide education to the public on reviewed CBD areas. • Involvement of Public Private Partnership	• Municipal Director • Land Owners • Public and Private Institutions • MLHSD	• Implementation • Funding	50,000
9	To establish education village within the Municipality with; libraries, laboratories, study rooms, conference halls, playing grounds, child day care facilities, museums, herbariums, aquarium and hostels at Mkoga.	• To provide education to the public on reviewed CBD areas. • To improve educational infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Land Owners • Public and Private Institutions • MOEVT • MLHSD	• Implementation • Funding • Land acquisition • Preparation of town planning drawings • Land surveying	30,000
10	Construction of village center for special needs children at Ulonge.	• To provide education to the public. • To improve educational infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Land Owners • Public and Private Institutions • MOEVT • MLHSD	• Implementation • Funding • Land acquisition • Preparation of town planning drawings • Land surveying	2000

11	Establishment of wildlife sanctuary (Zoo) within Municipality.	• To provide education to the public. • To improve Tourist infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Land Owners • Public and Private Institutions	• Implementation • Funding	2000
12	Establishment of 3 recreation area at Igumbilo, Nduli and Mkoga.	• To provide education to the public. • To improve recreational infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Land Owners • Public and Private Institutions	• Implementation • Funding • Land acquisition • Preparation of town planning and Land surveying drawings	30
13	Establishment of one cultural tourism centre at Mkoga area.	• To provide education to the public prior to land demarcations. • To improve cultural tourism infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Public and Private Institutions • Land Owners • Tourists	• Implementation • Land acquiring • Land demarcations and preparation of drawings. • Funding	150
14	Establishment of 1 tourism trade festival ground at Kihesa ward/Mkoga	• To provide education to the public prior to land demarcations. • To improve tourism infrastructure facilities • Involvement of Public Private Partnership	• Municipal Director • Public and Private Institutions • Land Owners • Tourists	• Implementation • Land acquiring • Land demarcations and preparation of drawings. • Funding	5000
15	Construction of International conference centre at Mkoga	• To provide education to the public. • To improve International gathering infrastructure facilities • Involvement of Public Private Partnership • Collaboration with stakeholders in construction.	• Development • Public and Private Institutions • Contractors • NEMC • VPO	• Supervision • Implementation • Funder • Environment management	120,000
16	Construction of two Standard Hotels (three to five stars)	• To provide education to the public. • To improve International gathering infrastructure facilities • Involvement of Public Private Partnership.	• Development • Public and Private Institutions • VPO and NEMC	• Supervision • Implementation • Funder • Environment management	200,000
	SUB TOTAL				**513,420**

Table 12.11: Project budgeting and financing for Phase IV (2030 – 2035)

S/N	PROJECT NAME	LOCATION	COST (TZS 000,000)	SOURCE OF FUNDS	ACTORS	REMARK
1	Implementation of proposed Mkoga satellite town.	Mkoga	50,000	• Development partners • Iringa Municipal Council • IRUWASA • TANESCO	Municipal Director Managing Director-IRUWASA TANSECO	
2	Monitoring and evaluation of Nduli and Mkoga satellite town	Nduli and Mkoga	500	• Iringa Municipal Council • Development partners	Municipal Director	
3	To demarcate one Tourism site (Kitulase Caves)	Igumbilo	20	• Iringa Municipal Council • Development partners	Managing Director-IRUWASA	
4	Construction of Road Network and Storm Water Drainage to newly residential developed area	• Kigonzile • Part of Mgongo	300	• Development partners • Iringa Municipal Council	TANSECO	
5	Assessment of Master implementation.	Iringa Municipality	10	• Iringa Municipal Council • Development partners	Municipal Director	
6	Construction of tented camp at Igeleke hills.	Kihesa Kilolo	750	• Development partners	Managing Director-IRUWASA	
	SUB TOTAL		**51,580**			
	GRAND TOTAL		**1,134,793.5**			

Table 12.12: Master plan implementation strategies Phase IV (2030 – 2035)

S/N	PROJECT NAME	STRATEGIES	KEY STAKEHOLDERS	ROLES AND RESPONSIBILTIES	COST (TZS 000,000)
1	Implementation of proposed Mkoga satellite town.	Promote public private partnership	• Municipal Council • Land developers • Financial Institution • Social Security Funds • Development Partners • Land owners • TANESCO • IRUWASA • TANROAD	• Technical support and capacity building through training • Formulation of policies, regulation and institutional framework • Implementation of the plan • Provision of the infrastructure	50,000
2	Monitoring and evaluation of Nduli and Mkoga satellite town	Promote Public Private Partnership	• Municipal Council • Land developers • TANESCO • IRUWASA • TANROAD	Monitoring project Implementation.	500
3	To demarcate one Tourism site (Kitulase Caves)	Promote Public Private Partnership	• Iringa Municipal Council • Development partners	• Technical support and capacity building through training • Formulation of policies, regulation and institutional framework • Implementation of the plan • Provision of the infrastructure	20
4	Construction of Road Network and Storm Water Drainage to newly residential developed area	Promote Public Private Partnership	• Iringa Municipal Council • Developer Partner • Road Fund • Local Community • Consultants and Contractors	• Technical support and capacity building through training • Supervision • Funder • Implementation of the projects	300
5	Assessment of Master implementation.		• Iringa Municipality • PO-RALG • MLHHSD	• Assessing the Master planning Implementation	10
6	Construction of tented camp at Igeleke hills.	Promote Public Private Partnership	• Iringa Municipal Council • Development partners	• Technical support and capacity building through training • Formulation of policies, regulation and institutional framework • Implementation of the plan • Provision of the infrastructure	750
	SUB TOTAL				**51,580**

12.2 MONITORING AND REVIEW

During the implementation process of the Iringa Municipality Master Plan, the monitoring and evaluation should be undertaken to facilitate tracking the progress by assessing the achievements, constraints or impediments and other changes that facilitate the implementation process. This process will lay a basis for Master Plan review in order to accommodate the necessary changes. This will help the responsible authority to reflect back and see whether the implementation process has achieved the desired aspiration, goals and objectives of Iringa community.

The plan monitoring will involve the following activities:

i. Implementation of proposed Mkoga and Kitwiru satellite towns;
ii. Improvement and construction of road network and storm water drainage to old and new residential area;
iii. Implementation monitoring that involves an assessment of whether the key Master Plan proposals are being implemented;
iv. Impact monitoring that involves an assessment in the achievement of Master Plan aims and plans; and,
v. Objectives and strategic monitoring that entails an evaluation of the relevance of the objectives and proposals of the Master Plan.

It is, therefore, recommended that Iringa Municipal council should take a leading role in the monitoring and review of the Master plan. The underlying assumption here is that the Municipality will be technically assisted by the Council's Management Team (CMT) and the Ministry of Regional Administration and Local Government (TAMISEMI). The Planning Team has adequate and qualified staff to carry out monitoring of the Master plan. The Ministry of LGA will assist in terms of capacity building by providing funds and backstopping services for different projects and introducing Private Public Partnership (PPP) in the Master Plan Implementation.

The Ministry of Lands, Housing and Human Settlements Development will assist in terms of capacity building and backstopping by using then Planning Teams. The monitoring processes will provide a basis for Master plan review. A well monitored plan accompanied with a properly documented process of plan implementation acts as a stepping stone towards effective Master plan review. Since planning and implementation are an on-going activities that take into consideration of the present and future needs, modifications shall be allowed to accommodate the emerging needs or requirements. This will be done through reviews as it will be stated in this document.

It is also recommended that the monitoring process of the Master plan will be well documented to facilitate the review process. Most Tanzanian urban Master plans are recommended for review after every five years. Iringa Municipality also adopts this time frame. However, under special circumstances that falls under the matters of urgency, the review process will be initiated at any time.

The Master Plan is flexible to adjust itself into different and changing circumstances. Whenever changes occur data should be collected and compiled to stand as a basis for evaluating the plan performance and the review of the implementation process. The compilation of the regularly collected data will be the basis of the review of the Master Plan.

The Plan Implementation Team shall be established with adequate skilled personnel (with technical expertise) to coordinate all activities in the plan implementation. The Team should design an evaluation system for the implementation process which will help it to take corrective actions to ensure the continued validity of the plan under changing conditions.

The need for continuous and vigorous monitoring process of the implementation process is important. It is also important that an administrative framework be established to coordinate all the agencies involved in the implementation of the plan. Without that it is not easy to have a coordinated urban development taking place.

Detailed plans need to be prepared in accordance with the needs in both the urban core and satellite center. Developers should ensure that they develop their allocated plots within the period as stipulated in their Leases. Otherwise, the monitoring system has to find ways to reallocate such lands to other developers. However, development conditions for each plot given by the responsible authority need to be adhered to, to ensure conformity to development conditions.

Residential development is very important activity in the Municipality and occupied the largest share of the total land. The main objective of housing development should base on providing adequate and affordable accommodation for residents of all income groups. This spirit has to be encouraged instead of all residents aiming at being allocated a residential plot, of which its development might take too long.

Through Unit Tittles and Mortgage and Financing Acts of 2008, residents can develop housing estates as individuals or in groups (jointly) producing rental apartments in multiple storied buildings or row houses instead of single storied houses.

Developed plots at regular periods of time should be recorded and plotted in standard sheets for easy monitoring exercise. The same should be done for other uses including institutional, industrial and commercial areas. This will help to know the trend of development in the Municipality and determine the vacant plots.

Unplanned development is dominant urban phenomenon in many urban centres of Tanzania. In order to discourage these practices, the Master Plan implementation process should as much as possible strives to regularize existing settlements and prevent further formation of unplanned settlements.

The designed standards should be adhered to, and whenever possible reviewing of building standards be done to ensure their validity. The problems of affording quality building materials for poor people make many developers fail to complete their buildings on time. The Master Developer's option has to be adopted for an easy follow-up in building standards and producing many accommodations for different income groups.

Iringa Municipal Council as the main actor in plan implementation has to ensure that the Master plan is mainstreamed in all sectorial annual and five year development plans. This will be one of the sources of funds for implementing the plan. Public and Private Partnership (PPP) should be adopted and encouraged to promote sense of ownership for the Municipal residents and all stakeholders.

12.3 ZONING AND DEVELOPMENT REGULATIONS

This section describes the basic development control guidelines for various land uses, including landscapes requirements. Development control guidelines are important elements of achieving the Master plan vision. They are a set of illustrated design rules and requirements which describe and guide the physical development of buildings and spaces.

The Objectives of the zoning and development control guidelines/regulation are;

i. To establish a future envisioned Municipality's image of the built environment which is composed of rich and diverse architecture;
ii. To strengthen citizen awareness about the environment in order to create beautiful Municipality landscape; and,
iii. To create an attractive Municipality landscape with balanced development
iv. To indicate the planning control of the all lands in its administrative area

Zoning regulates the types of uses, the building form, building materials, the setting which will includes coverage, building setbacks, parking and height of buildings on any plot. The Zoning Regulations specifically defines the uses into three categories: Permitted, Conditional and Prohibited uses.

Permitted Uses

Uses that comply with the proposed use for the particular zoning area and can be permitted within particular zoning cluster. These developments may have to comply with other context specific additional regulatory restrictions.

Conditional Uses

Conditional uses are usually activities that may create significant traffic, noise, or other impacts on the surrounding neighborhoods. Such identified uses can be permitted "conditionally" within a zone requiring the development to confirm to a set of conditions and standards as per the regulations which must be met at all times. Each zoning district can allow different but compatible developments that are complementary in terms of use and scale. For example, a small-scale commercial development could be allowed in residential districts in order to provide convenience for residents to meet their daily shopping needs. Similarly, civic facilities like schools, day care centres, religious facilities could be allowed in a residential zone, provided the facility meets the parking, noise standards etc. Such conditional uses could be permitted after careful consideration and evaluation by the relevant Planning Authorities City Councils, and may be subject to certain conditions as deemed necessary by the review committee, in order to ensure that the overall planning intention for any particular zoning district is not compromised.

Prohibited Use

These are uses that are deemed prohibited, and include activities that have been found to be incompatible with the particular zoning district. For example, Industrial Uses are prohibited within the residential zones. The Zoning Regulations also stipulate the location of a building on any plot, the overall maximum density, as well as the building height. Specific regulations related to overall building form, design, provision of open space and landscaping, parking, fencing and signage are also stipulated in the Zoning Regulations. Zoning Regulations stipulate maximum allowable development for a particular zone, but

flexibility in development is ensured by allowing conditional and permitted developments of lower zones in the same category in most cases except for areas where such is specifically mentioned.

12.3.1 General Regulations

These are regulations guiding the developments and will not apply in the central area. These include the following:

Residential development zone

The proposed housing regulations are key tools that should be used when implementing this Master plan. The shape and sizes of the plots will be designed to suit specific requirements of the intended user within the specifications of the Urban Planning and Space Standard Regulations of 2011. Residential zones will include; Medium density residential zone (R1) and low density residential zone (R2)

Medium density residential zone (R1)

This is a residential zone type where and residential district offering detached, semi detached and row house family with medium density developments in the immediate after the CBD area.

Table 12.13: Medium density residential zone (R1)

Uses	Regulation	Permitted area
Building		
Building form	Detached villas and single story building	Mafifi planned Area Mawelewele, Ngelewala, Nduli, Itamba, Mkoga (only for low and super density plots)
	Detached houses Semi-detached houses and row houses	Throughout Municipality except CBD (for low, medium and high density plots)
Building Materials	i. Wall; burnt bricks and concrete blocks and curtain wall especially for block of flats, aluminum, timber for doors and windows ii. Foundations; Stones and concrete iii. Roofing; corrugated Irion sheets and clay tiles iv. Any other suitable building material accepted except mud and thatch.	Throughout the Municipality
Existing buildings	i. Additions and alterations necessary to retain an existing approved legally and its use in good order and repair will be allowed, subject to: ii. No material change in use which does not comply with above proposed building material; iii. No further increase in floor area of the existing non-conforming use iv. Any additional floor area required for the non-conforming use will: be subject to the evaluation and approval of the Municipal Engineer;	Throughout the Municipality except CBD
Coverage		
Minimum plots size	i. Detached: 300 square metres ii. Semi-Detached: 300 square metres iii. Row houses: 300square metres iv. Regularization: 90square metres	Throughout the Municipality
Maximum building coverage	80 percent maximum	Throughout the Municipality
Minimum Landscaping Coverage	20 percent minimum and 5percent for CBD	Throughout the Municipality
Maximum Floor Area Ratio	3.0 maximum	Throughout the Municipality
BUILDING HEIGHTS		
Maximum Number of Floors	i. G+3 (Apartments/ Mezzanine) ii. G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 4.5m maximum Other Floors – 3.6m maximum	
Building Form	Detached semi detached row house Apartments/ Mezzanine	
Building Set back (Minimum)		
Detached, Terraced House and Multi Story/Block of flats	i. Common plot boundary (urban planning and space standard 2011) will be applied ii. Plot coverage detached iii. Plot coverage ratio 5.0	Throughout the Municipality
Basement Setback	All plot boundaries fronting roads:3m minimum and common plot setbacks	Throughout the Municipality
Ancillary buildings	i. In the Front setback at the 5 meters. ii. Rear setback 5 metres iii. Side setbacks 3 meters	Throughout the Municipality
Parking Location	Required parking lots shall be provided within the plot boundary, one parking lot per dwelling unit.	Throughout the Municipality
Surfacing	Parking shall be hard surfaced and provided with adequate drainage	
Minimum Required Parking Stalls	i. Villa (Detached) –2 Parking Lots per unit. ii. Hotel - 1 Parking Lot per 200 square metres	Throughout the Municipality
Fencing Wall Location	Fencing and walls in the front, shall be at 1.5m in height	Throughout the Municipality except CBD
Heights	i. Rear and side fencing or walls shall not exceed 2.5m in height. ii. Front boundary wall should not exceed 2m in height. iii. Additional height shall be evaluated on case-by-case.	Throughout the Municipality
Materials	The front boundary wall shall use material that allows 50percent transparency	Throughout the Municipality
Landscaping and recreation		
All types of houses	All plots areas shall be planted with trees (by planting tree, flowers and grasses)	Throughout the Municipality especially in new neighborhoods, communities and districts.

Low density residential zone (R2)

This is a residential zone type where and residential district offering detached, semi detached and row house family with low density developments in the peri-urban areas. The R2 Zone is intended to offer farm house type of housing for the farming community and complementary public facilities as needed. The purpose is to create a pleasant single family area in the peri-urban areas.

Table 12.14: Low density residential zone (R2)

Uses	Regulation	Permitted area
Building		
Building form	Detached villas and single story building	Peri- urban areas
	Detached houses Semi-detached houses and row houses	Throughout Municipality except CBD, district centre and community centre (for low, medium and high density plots)
Building Materials	i. Wall; burnt bricks and concrete blocks and curtain wall especially for block of flats, aluminum, timber for doors and windows ii. Foundations; Stones and concrete iii. Roofing; corrugated Irion sheets and clay tiles iv. Any other suitable building material accepted except mud and thatch.	Throughout the Municipality
Existing buildings	i. Additions and alterations necessary to retain an existing approved legally and its use in good order and repair will be allowed, subject to: ii. No material change in use which does not comply with above proposed building material; iii. No further increase in floor area of the existing non-conforming use iv. Any additional floor area required for the non-conforming use will: be subject to the evaluation and approval of the Municipal Engineer;	Throughout the Municipality except CBD
Coverage		
Minimum plots size	i. Detached: 1000square metres ii. Semi-Detached: 1000square metres iii. Row houses: 1000square metres iv. Regularization: 300square metres	Throughout the Municipality
Maximum building coverage	50percent maximum	Throughout the Municipality
Minimum Landscaping Coverage	20percent minimum and 5percent for CBD	Throughout the Municipality
Maximum Floor Area Ratio	3.0 maximum	Throughout the Municipality
Building heights		
Maximum Number of Floors	i. G+2 (Apartments/ Mezzanine) ii. G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 4.5m maximum Other Floors – 3.6m maximum	
Building Form	Detached semi detached row house Mezzonite	
Building Set back (Minimum)		
Detached, Terraced House and Multi Story/Block of flats	i. Common plot boundary (urban planning and space standard 2011) will be applied ii. Plot coverage detached iii. Plot coverage ratio 5.0	Throughout the Municipality
Basement Setback	All plot boundaries fronting roads:3m minimum and common plot setbacks	Throughout the Municipality
Ancillary buildings	i. In the Front setback at the 5 meters. ii. Rear setback 5 metres iii. Side setbacks 3 meters	Throughout the Municipality
Parking		
Location	Required parking lots shall be provided within the plot boundary, one parking lot per dwelling unit.	Throughout the Municipality
Surfacing	Parking shall be hard surfaced and provided with adequate drainage	
Minimum Required Parking Stalls	i. Villa (Detached) –2 Parking Lots per unit. ii. Hotel - 1 Parking Lot per 200 square metres	Throughout the Municipality
Fencing Wall		
Location	Fencing and walls in the front, shall be at 1.5m in height	Throughout the Municipality except CBD
Heights	i. Rear and side fencing or walls shall not exceed 2.5m in height. ii. Front boundary wall should not exceed 2m in height. iii. Additional height shall be evaluated on case-by-case.	Throughout the Municipality
Materials	The front boundary wall shall use material that allows 50percent transparency	Throughout the Municipality
Landscaping and recreation		
All types of houses	All plots areas shall be planted with trees (by planting at least five tree, flowers and grasses)	Throughout the Municipality especially in new neighborhoods, communities and districts.

Commercial development zone

Commercial development zone include the following zones: commercial residential zone (CR), community centre zone (CC) and district centre zone (DC).

Commercial residential zone (CR)

Commercial residential zone (CR) intended to have residential/commercial within housing development. The zone may offer general use of residential and commercial development.

Table 12.15: Commercial residential (CR)

	Regulations	Remarks
USES		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	Public Facilities Guest house and lodge Petrol stations	
Ancillary uses	Electric substation Refuse area	
Coverage		
Minimum plot Size	600 square metres	
Maximum Building Coverage	80 percent	
Minimum Landscaping Coverage	10 percent minimum	
Maximum Floor Area Ratio (FAR)	2 maximum	
Building heights		
Maximum Number of Floors	G+3(Apartments) G (ancillary buildings) Single storey (zero floor)	
Floor to Floor Height	Ground Floor – 5m maximum Other Floors – 3.6m maximum	
Building Form	Apartments	
Building setbacks (Minimum)		
Building (Above Grade)	Front: 1,5 m (min) Side: 3m (min) Rear: 1.5m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	i. Commercial – 2 Parking Lot for the first 200 square metres commercial space and 1 Parking Lot per subsequent 200square metres commercial space shall be provided ii. Apartment – 1 Parking Lot per 1 dwelling units iii. Food Outlet -1 Parking Lot per 10 seats shall be provided iv. Hotel - 1 Parking Lot per 200 square metres shall be provided	
Fencing		
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot	
Wall Height	2.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot	

The Community Centre Zone (CC)

Community centre zone creates attractive small mixed use developments to cater commercial and public facilities. The serves found in CC zone includes commercial, mixed use, Community Park, playfield, health center, religious site and other public facilities as Planning Authority seem necessary to be provided. At least 40 percent of the overall CC zoned area shall be set aside for development of public facilities as per the proposed public facility standard. (Detail design to be carried out by the Planning Authority).

Table 12.16: Community Centre Commercial Zone (CC)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Public facilities ii. Petrol stations iii. Apartment (on the 2nd storey and above) iv. Organized Open market for Street Vendors	
Ancillary uses	i. Electric substation ii. Refuse area	
Coverage		
Minimum Plot Size	As per public facility provision standards	
Maximum Building Coverage	80 percent	
Minimum Landscaping Coverage	10 percent minimum	
Maximum Floor Area Ratio (FAR)	0.8 maximum	
Building heights		
Maximum Number of Floors	G+10 (Apartments) G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 5m maximum Other Floors – 3.6m maximum	
Building Form	Shop buildings standard	
Building setbacks (Minimum)		
Building (Above Grade)	i. Front: 5m (min) ii. Side: 3m (min) iii. Rear: 3m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	i. Commercial – 2 Parking Lot for the first 200 square metres commercial space and 1 Parking Lot per subsequent 200 m commercial space shall be provided ii. Food Outlet -1 Parking Lot per 10 seats shall be provided iii. Residential – 1 Parking Lot per dwelling unit	
Fencing		
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot	
Wall Height	2.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot	

District Centre Zone (DC)

The District Centre Commercial Zone (DC) is planned to provide commercial and amenities. It accommodate commercial uses such as general commercial and mixed use; public facilities such as Recreation Park, sports complex, polyclinic, polytechnic, Library, police station, Fire station, Government offices and other public facilities as deemed appropriate by the Planning Authority.

Table 12.17: District Centre Zone (DC)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional use	i. Public Facilities i. Petrol stations ii. Residential flats with commercial at ground floor iii. Transport Interchange (Min bus terminal) iv. Organized open air market for Street Vendors	
Ancillary uses	i. Electric substation ii. Refuse area	
Coverage		
Minimum Plot Size	i. As per public facility provision standards	
Maximum Building Coverage	ii. 60percent	
Minimum Landscaping Coverage	iii. 20percent minimum	
Maximum Floor Area Ratio (FAR)	iv. 2 maximum	
Building heights		
Maximum Number of Floors	G+10	
Floor to Floor Height	i. Ground Floor – 5m maximum ii. Other Floors – 3.6m maximum	
Building Form	iii. Shop buildings standard (for commercial)	
Building setbacks (Minimum)		
Building (Above Grade)	i. Front: 5m (min) ii. Side: 3m (min) iii. Rear: 3m (min)	
Parking		
Location	i. Should be provided within plot boundary	
Minimum parking stores	ii. Commercial – 2 Parking Lot for the first 200 square metres commercial space and 1 Parking Lot per subsequent 200 m commercial space shall be provided iii. Food Outlet -1 Parking Lot per 10 seats shall be provided iv. Residential – 1 Parking Lot per dwelling unit v. Parking shall be hard surfaced and provided with adequate drainage	
Fencing		
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot	
Wall height	• 2.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot	

Industrial development zone

The industrial development zone is categorized into three categories which are: Service Industrial Zone (SI), Light Industrial Zone (LI) and Heavy Industrial Zone (HI).

Service industrial zone (S1)

These are small scale industries scattered throughout the Municipality. These shall not generate large quantities of trade effluent or solid waste. They shall also not generate excessive impulsive or continuous noise. They shall also not use large quantities of hazardous substances such as solvents, acids and other chemicals or toxic elements.

Table 12.18: Service industrial zone

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. warehouses ii. Community Hall / Multi-Purpose Hall iii. Primary school iv. Government Offices v. Religious Site	
Ancillary uses	i. Electric substation ii. Refuse area	
Coverage		
Minimum Plot Size	1500square metres	
Maximum Building Coverage	80percent	
Minimum Landscaping Coverage	10percent minimum	
Maximum Floor Area Ratio (FAR)	1.6 maximum	
Building heights		

Maximum Number of Floors	i. G+2 (industrial operations) ii. G+3 (Office operations) iii. G (ancillary buildings)
Floor to Floor Height	i. Ground Floor – 5m maximum ii. Other Floors – 4m maximum
Building Form	Attached Building
Building setbacks (Minimum)	
Building (Above Grade)	i. Front: 5m ii. Side: 3m (min) iii. Rear: 3m (min)
Parking	
Location	Should be provided within plot boundary
Minimum Parking Stores	Parking shall be hard surfaced and provided with adequate drainage
Fencing	
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot
Wall height	3.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot

Light industrial zone (LI)

Service industries are also established to create a clean and light industrial environment that could balance with the surrounding residential area. Service industries one prohibited in using large quantities of hazardous substances such as solvents, acids and other chemicals. A buffer is necessary to separate such industries from affecting land uses. These industries shall not generate large quantities of trade effluent or solid waste. These industries shall also not generate excessive impulsive or continuous noise. A buffer of 50 metre is necessary from the nearest residential district for such industries.

Table 12.19: Light Industrial Zone (SI)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Warehouse ii. Workers accommodations iii. Restaurant (200 seats) iv. Sundries / grocery shop v. Office	
	vi. Religious vii. Community Hall / Multi-Purpose Hall viii. Primary / Secondary School ix. Government Offices x. Religious Site	
Ancillary uses	i. Electric substation ii. Refuse area	
Coverage		
Minimum Plot Size	4000 square metres	
Maximum Building Coverage	40 percent	
Minimum Landscaping Coverage	10percent minimum	
Maximum Floor Area Ratio (FAR)	1.6 maximum	
Building heights		
Maximum Number of Floors	i. G+2 (Industrial operations) ii. G+3 (office operations) iii. G (ancillary buildings)	
Floor to Floor Height	i. Ground Floor – 5m maximum ii. Other Floors – 4m maximum	
Building Form	Attached Building	
Building setbacks (Minimum)		
Building (Above Grade)	i. Front: 5m ii. Side: 3m (min) iii. Rear: 3m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	Parking shall be hard surfaced and provided with adequate drainage	
Fencing		
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot	
Wall Height	3.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot	

Heavy industrial zone (HI)

Heavy industries should be strategically located close to express ways for easy access for heavy vehicles. As it is an area that can generate noise, traffic and pollutants, it will be kept away from residential and other environmental areas. However, it can be established to create a consolidated industrial area for employment in manufacturing and logistics yet a buffer for shielding noise pollution will be necessary (table 12.20)

Table 12.20: Heavy industrial zone (HI)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Religious Facilities ii. Workers' Accommodation iii. Sundries / grocery shop iv. Fast food outlet (200 seating) v. Commercial Use	
Ancillary uses	Electric substation Refuse area	
Coverage		
Minimum Plot Size	10,000 square metres	
Maximum Building Coverage	60 percent	
Minimum Landscaping Coverage	10 percent	
Maximum Floor Area Ratio (FAR)	1.6	
Building heights		
Maximum Number of Floors	i. G+2 (Industrial operations) ii. G+3 (office operations) iii. G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 5m maximum Other Floors – 4m maximum	
Building Form	Detached Building	
Building setbacks (Minimum)		
Building (Above Grade)	i. Front: 15m ii. Side: 10m (min) iii. Rear: 10m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	Parking shall be hard surfaced and provided with adequate drainage	
Fencing		
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot	
Wall Height	3.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot	

12.3.2: Open area and parks (O)

This zone includes; Active recreation zone (O1), urban agricultural zone (O2), passive recreation zone (O3) and reserved zone (O4). This zone allows parks, Trails, opens space and natural open space to provide areas for passive and active recreational purposes, as well as for the protection of open space corridors and ecologically sensitive areas. These areas are not intended for development beyond facilities required to support recreation activities. Active recreation zone (O1) is a zone established as a destine of parks and sports activities.

Table 12.21: Active recreation zone (O1)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Single Family Residences ii. Resort iii. Complementary commercial uses iv. Minor Public Facilities v. Supporting Infrastructure vi. Public Swimming Pools vii. Urban Farming	
Ancillary uses	Parking Toilets	
Coverage		
Minimum Plot Size	As per public facility standards	
Maximum Building Coverage	10percent	
Minimum Landscaping Coverage	N/A	
Maximum Floor Area Ratio (FAR)	N/A	
Building heights		
Maximum Number of Floors	G+2 maximum G (ancillary buildings) maximum	
Floor to Floor Height	N/A	
Building Form	N/A	
Building setbacks (Minimum)		
Building (above grade)	i. Any building in a public park shall be a minimum 10m from residential uses, except stadiums which shall be a minimum of 25m from residential uses. ii. Any building in a public park shall be 10m from all roads	
PARKING		
Location	i. Required parking stalls shall be provided within the lot boundary	
Minimum Parking Stores	ii. Commercial - 1 Parking Lot per 200 square metres iii. Cultural centres – 1/200 square metres of GFA iv. Tourism and culture related commercial uses – 1/200 square metres of GFA v. Sports Complex / Stadium - 1/30 seats vi. N/A	
FENCING		
Location	iii. N/A	
Wall Height	• N/A	

Urban Agricultural Zone (O2)

Urban agricultural zone (O2) is a zone established to reserve the land for future development expansion. The Planning Authority is required to apply land pooling system in this zone to have a land bank for future development expansion. Agriculture and urban agriculture are use classifications of Zoning Code that allow a range of small to large scale agricultural uses.

Table 12.22: Urban agriculture zone (O2)

	Regulations	Remarks
Uses		
Permitted uses	Small scale farming Also refer zoning plan matrix appendix	
Prohibited uses	Any permanent development Also refer zoning plan matrix appendix	
Conditional uses	To be determined by Planning Authority	
Ancillary uses	N/A	
Coverage		
Minimum Plot Size	N/A	
Maximum Building Coverage	N/A	
Minimum Landscaping Coverage	N/A	
Maximum Floor Area Ratio (FAR)	N/A	
Building heights		
Maximum Number of Floors	N/A	
Floor to Floor Height	N/A	
Building Form	N/A	
Building setbacks (Minimum)		
Building	N/A	
Parking		
Location	N/A	
Minimum Parking Stores	N/A	
Fencing		
Location	N/A	
Wall Height	N/A	

Table 12.23: Passive recreation zone (O3)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Minor Public Facilities ii. Restaurants iii. Small kiosk not exceeding 100 square metres iv. Urban Farming	
Ancillary uses	Parking Toilets	
Coverage		
Minimum Plot Size	As per public facility standards	
Maximum Building Coverage	10percent	
Minimum Landscaping Coverage	N/A	
Maximum Floor Area Ratio (FAR)	N/A	
Building heights		
Maximum Number of Floors	G+1 maximum G (ancillary buildings) maximum	
Floor to Floor Height	N/A	
Building Form	N/A	
Building setbacks (Minimum)		
Building (above grade)	i. Any building in a public park shall be a minimum 10m from residential uses, except stadiums which shall be a minimum of 25m from residential uses. ii. Any building in a public park shall be 10m from all roads	
Parking		
Location	Required parking stalls shall be provided within the lot boundary	
Minimum Parking Stores	i. Commercial - 1 Parking Lot per 200 square metres ii. Cultural centres – 1/200 square metres of GFA iii. Tourism and culture related commercial uses – 1/200 square metres of GFA iv. Sports Complex / Stadium - 1/30 seats	
Location	N/A	
Wall Height	N/A	

Passive Recreation Zone (O3)

Active recreation zone (O2) is a zone established as a destiny of parks and sports activities.

Reserved zone (O4)

Reserved zone (O4) is established to conserve and protect the hills, forest reserve, natural streams and valleys, river banks and non-developable lands for other strategic purposes.

Table 12.24: Passive recreation zone (O3)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Infrastructure ii. Botanical gardens, arboretums and conservatories. iii. Outdoor recreational facilities, such as hiking and bicycle trails, greens and commons, sitting areas and picnic areas. iv. Park related public facilities such as public toilet/ changing room. v. Minor Public Facilities vi. Restaurants not exceeding 500 square metres vii. Small kiosk not exceeding 100 square metres	
Ancillary uses	N/A	
Coverage		
Minimum Plot Size	N/A	
Maximum Building Coverage	N/A	
Minimum Landscaping Coverage	N/A	
Maximum Floor Area Ratio (FAR)	N/A	
Building heights		
Maximum Number of Floors	N/A	
Floor to Floor Height	N/A	
Building Form	N/A	
Building setbacks (Minimum)		
Building (above grade)	i. N/A	
Parking		
Location	i. N/A	
Minimum Parking Stores	ii. N/A	
	iii. N/A	
Fencing		
Location	iv. N/A	
Wall Height	• N/A	

Institutional zone

Institutional zone includes land uses which are distributed within neighbourhoods, community, satellite centres and CBD. These include educational, medical and health, religious, administrative areas, civic and community facilities.

Educational facilities regulations

Table 12.25: Regulation for education institutes

	Regulation	Permitted area
Proposed education institute		
Neighborhood centre, Community centre, Satellite Towns	Primary School Secondary School Colleges and vocational Institutes, Training Institutes, ITC Higher Education Institutes/ Universities Foreign and Special Schools	Throughout the Municipality in respective urban centres (as pe hierarchy)
Plot size	Urban Planning and Space Standard (2011) will be applied	
Coverage		
Maximum Floor Area Ratio	Can range from 0.8 -1.4 depending on the plot size and surrounding density	
Maximum Number of Floors	Can range from 2-10 floors depending on the surrounding building heights	
Parking		
Location	Required parking lots shall be provided as per level of functions and category of facility	Throughout the Municipality
Surfacing	Parking shall be hard surfaced and provided with adequate drainage	
Minimum Required Parking Stalls	i. Primary Schools: 1 Parking Lot per 3 classrooms, Plus 20 percent of standard requirement, 4 Bus Parking Lots ii. Secondary Schools: 1 Parking Lot per 2 classrooms iii. For workshops & Laboratories: 1 car parking lot per 200	Throughout the Municipality

	square metres of GFA, plus 20 percent of standard requirement, 4 bus parking Lots iv. Colleges and vocational institutes, training institutes, ITC: 1 parking lot per 30 staff and student population, bus parking as required by regulations v. University: 1 parking lot per 20 staff and student population, bus parking as required by regulations.	
Fencing Wall		
Location	Fencing and walls in the front and rear shall be at 1.5m to the plot boundary	Throughout the Municipality except CBD
Heights	i) Rear and side fencing or walls shall not exceed 2.5m in height. ii) Front boundary wall should not exceed 2 metres in height. Additional height shall be evaluated on case-by-case.	Municipality satellite, community and neighbourhood centres
Materials	The front boundary wall shall use material that allows 50 percent transparency	Throughout the education institutes
Landscaping and recreation		
All types of education institutes	All landscaped areas shall be maintained in good condition (by planting tree, flowers and grasses)	Throughout the education institutes

Medical and Health Facilities regulations

Table 12.26: Regulation for medical and health facilities

Uses	Regulation	Permitted Area
Proposed for medical and health facilities		
Satellite Towns and CBD	Regional Hospital District Hospitals Teaching Hospitals with Education Facilities Specialized Hospitals Private Hospitals	Municipality and satilite towns
Community Centres	Health centres	Community centres
Neighborhood centres	Dispensary	Neighbourhood units
Plot size	Urban Planning Space Standard (2011) will be applied	
Coverage		
Maximum Floor Area Ratio	Dependent on the surrounding density and Ministry of Health requirement; must be evaluated by Municipal health officer	
Maximum Number of Floors	Can range from single to ten depending on the Surrounding building heights.	
Parking		
Location	Required parking lots shall be provided within the plot boundary	Municipality satellite, community and neighbourhood centres
Surfacing	Parking shall be hard surfaced and provided with adequate drainage	
Minimum Required Parking Stalls	First 500 beds: 1 Parking Lot per 4 beds Beyond 500 beds: 1 Parking Lot per 5 beds 2 Parking Lots should be allocated for Disabled visitor parking. 8 additional parking lots (9m x 3m) to be provided for ambulances for hospitals with Accident and Emergency (A+E) departments. For hospitals without A+E departments, 3 additional parking lots (9m x3m) should be provided for ambulances. Additional spaces should be provided for Ambulances and other office vehicles.	Municipality satellite, community and neighbourhood centres
Fencing wall		
Location	Fencing and walls in the front, side and rear shall be at 1.5 metre to the plot boundary	Municipality satellite, community and neighborhood centres
Heights	Rear and side fencing or walls shall not exceed 2.5 metres in height. Front boundary wall should not exceed 2 metres in height. Additional height shall be evaluated on case-by-case.	Throughout the Municipality
Materials	The front boundary wall shall use material that allows 50percent transparency	Throughout the Municipality
Landscaping and Recreation		
All types of health facilities	All landscaped areas shall be maintained in good condition (by planting over five tree, flowers and grasses) by the owner / occupier /management committee of the subject property	Throughout the Municipality

Regulations for religious institutes

Places used or intended to be used for religious public worship purpose can be defined as Religious. Institutes such as churches and mosques and other places of worship are considered as Religious Institutes. Places of worship are usually freestanding developments and in some special situations may be accompanied with schools, dispensaries, hospitals and colleges. Sites for potential religious places are identified in the proposed land use plan. Religious institutions can occur in residential, commercial and industrial area.

Table 12.27: Regulation for religious institutes

Uses	Regulation	Permitted Area
Proposed religious institutes		
Community Centers **Neighborhood centers**	Churches and Mosques	Throughout Municipality
Plot size	Urban Planning and Space Standard (2011) will be applied	
Ancillary use **Maximum 50 percent of the GFA can be used for Ancillary uses such as:** **Religious classrooms** **Priest's houses** **Caretaker's room** **Ancillary related uses** **Maximum 10percent of total GFA can be used for Ancillary uses such as:** **Library Conference room** **Meeting room** **Kindergarten** **Childcare Center** **Maximum 20-40percent of total GFA can be used for Ancillary uses such as:** **Columbarium**	Such offices or commercial related to the institute to be considered by the relevant Planning Authorities on a case to case basis Combined area of Child Care or Kindergarten shall not exceed 300 square metres Amount of GFA allowable for the Columbarium is subject to evaluation by relevant Planning Authorities based on the location and surrounding density and use. Education centers with religious institutes should meet the minimum lot size requirement for the education facility as well as the religious facility and is subject to evaluation and regulations by the relevant Planning Authorities.	Throughout Municipality
Parking		
Location	Required parking lots shall be provided within the plot boundary	Throughout the Municipality
Surfacing	Parking shall be hard surfaced and provided with adequate drainage	
Minimum Required Parking Stalls	Churches: 1 parking lot per 10 seats/persons Other Religious Institutes: 1 parking lot per50square metres of praying area	Throughout the Municipality
	Only 1 vehicular enhance and exist point shall be allowed Additional vehicular enhance and exist point shall be evaluated on case-by-case basis on site layout plan.	
Fencing wall		
Location	Fencing and walls in the front, side and rear shall be at 1.5 metres to the plot boundary	Throughout the Municipality
Heights	Rear and side fencing or walls shall not exceed 2.5 metres in height. Front boundary wall should not exceed 2 metres in height. Additional height shall be evaluated on case-by-case.	Throughout the Municipality
Materials	The front boundary wall shall use material that allows 50percent transparency	Throughout the Municipality
Landscaping and Recreation		
All types of religious	All landscaped areas shall be maintained in good condition (by planting trees, flowers and grasses)	Throughout the Municipality

12.3.3: Central Area Regulations

Residential development zone

The proposed housing regulations are key tools that should be used when implementing this Master plan. The shape and sizes of the plots will be designed to suit specific requirements of the intended user within the specifications of the Urban Planning and Space Standard Regulations of 2011. Residential zones will include; Low rise residential zone (Zone I) and Medium rised redential zone (Zone II)

Zone I: Low rise residential (ZI)

Zone I (Low rise Residential) is a zone establish in the CBD to provide high-quality, high density living with easy access to city level facilities with commercial at ground level. Provision of adequate Public facilities and optimum well landscaped open spaces shall be encouraged to enhance the quality of living in this high density zone. Any new residential development or renovation within CBD shall comply with this condition.

Table 12.28: Low rise Residential (Z1)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Standalone food outlet with less than 50 seats ii. Hotels (incl. its ancillary uses) iii. Public facilities iv. Convenience stores/ Light Commercial uses with floor area not exceeding 60m v. 2 or commercial use not exceeding 5percent of GFA vi. Home Office	
Ancillary uses	i. Car parking garage ii. Servant quarter iii. Outdoor kitchen iv. Store rooms v. Outdoor wash room	
Coverage		
Minimum Plot Size	600square metres	
Maximum Building Coverage	40percent - 80percent	
Minimum Landscaping Coverage	20percent minimum	
Maximum Floor Area Ratio (FAR)	4.0 maximum	
Building Heights		
Maximum Number of Floors	G+5 (Apartments/ Mezzanine) G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 4.5m maximum Other Floors – 3.6m maximum	
Building Form	Apartments	
Building Setbacks (Minimum)		
Building (Above Grade)	Front: 7m (min) Side: 3m (min) Rear: 3m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	1 Parking Lot per 1 dwelling unit	
FENCING		
Wall Height	Walls shall not exceed 2m and rear/ side fencing wall shall not exceed 2.5m in height	

Zone IIA: Medium rise residential (Z2A)

Low rise residential zone (Z2) is a zone establish in the CBD to provide high-quality, high density living with easy access to city level facilities with commercial at ground level. This zone is for area located at Gangilonga and Wilolesi. Provision of adequate Public facilities and optimum well landscaped open spaces shall be encouraged to enhance the quality of living in this high density zone.

Table 12.29: Medium rise Residential (Z2A)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Standalone food outlet with less than 50 seats ii. Hotels (incl. its ancillary uses) iii. Public facilities iv. Convenience stores/ Light Commercial uses with floor area not exceeding 60m v. 2 or commercial use not exceeding 5percent of GFA vi. Home Office	
Ancillary uses	i. Car parking garage ii. Servant quarter iii. Outdoor kitchen iv. Store rooms v. Outdoor wash room	
Coverage		
Minimum plot Size	1000square metres	
Maximum Building Coverage	20percent - 60percent	
Minimum Landscaping Coverage	20percent minimum	
Maximum Floor Area Ratio (FAR)	6 .0 maximum	
Building Heights		
Maximum Number of Floors	G+10 (Apartments/ Mezzonite) G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 4.5m maximum Other Floors – 3.6m maximum	
Building Form	Apartments	
Building Setbacks (Minimum)		
Building (Above Grade)	Front: 7m (min) Side: 3m (min)	

	Rear: 3m (min)
Parking	
Location	Should be provided within plot boundary
Minimum Parking Stores	1 Parking Lot per 1 dwelling unit
Fencing	
Wall Height	Walls shall not exceed 2m and rear/ side fencing wall shall not exceed 2.5m in height

Zone IIB: Medium rise residential (Z2B)

Low rise residential zone (Z2B) is a zone establish in the CBD to provide high-quality, high density living with easy access to city level facilities with commercial at ground level. Provision of adequate Public facilities and optimum well landscaped open spaces shall be encouraged to enhance the quality of living in this high density zone.

Table 12.30: Medium rise Residential (Z2B)

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. Standalone food outlet with less than 50 seats ii. Hotels (incl. its ancillary uses) iii. Public facilities iv. Convenience stores/ Light Commercial uses with floor area not exceeding 60m v. 2 or commercial use not exceeding 5percent of GFA vi. Home Office	
Ancillary uses	i. Car parking garage ii. Servant quarter iii. Outdoor kitchen iv. Store rooms v. Outdoor wash room	
Coverage		
Minimum plot Size	1000square metres	
Maximum Building Coverage	60percent - 80percent	
Minimum Landscaping Coverage	20percent minimum	
Maximum Floor Area Ratio (FAR)	8 .0 maximum	
Building Heights		
Maximum Number of Floors	G+10 (Apartments/ Mezzonite) G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 4.5m maximum Other Floors – 3.6m maximum	
Building Form	Apartments	
Building Setbacks (Minimum)		
Building (Above Grade)	Front: 7m (min) Side: 3m (min) Rear: 3m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	1 Parking Lot per 1 dwelling unit	
Fencing		
Wall Height	Walls shall not exceed 2m and rear/ side fencing wall shall not exceed 2.5m in height	

Zone III: High rise Mixed Use commercial Zone (Z3)

High rise mixed use commercial (Z3) intended to establish CBD core, prime offices area and regional financial hub.

Table 12.31: High rise Mixed Use commercial Zone III (Z3)

	Regulations	Remarks
Uses		
Permitted uses	Mixed use developments Shopping centres Offices Hotels Apartments Galleries Multi-family housing	
Prohibited uses	Industrial use	
Conditional uses	Petrol stations	
Ancillary uses	Electric substation Refuse area	
Coverage		
Minimum Plot Size	400square metres	
Maximum Building Coverage	60percent	

Minimum Landscaping Coverage	10percent minimum
Maximum Floor Area Ratio (FAR)	2 maximum
Building Heights	
Maximum Number of Floors	G+20 (Apartments) G (ancillary buildings)
Floor to Floor Height	Ground Floor – 5m maximum Other Floors – 3.6m maximum
Building Form	Apartments
Building setbacks (Minimum)	
Building (Above Grade)	Front: 1,5 m (min) Side: 3m (min) Rear: 1.5m (min)
Parking	
Location	Should be provided within plot boundary
Minimum Parking Stores	i. Commercial – 2 Parking Lot for the first 200 square metres commercial space and 1 Parking Lot per subsequent 200square metres commercial space shall be provided ii. Apartment – 1 Parking Lot per 1 dwelling units iii. Food Outlet -1 Parking Lot per 10 seats shall be provided iv. Hotel - 1 Parking Lot per 200 square metres shall be provided
6.0 Fencing	
6.1 Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot
6.2 Wall Height	2.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot

Zone IV: service industrial zone

These are small scale industries scattered in the central area. These shall not generate large quantities of trade effluent or solid waste. They shall also not generate excessive impulsive or continuous noise. They shall also not use large quantities of hazardous substances such as solvents, acids and other chemicals or toxic elements.

Table 12.32: Service industrial zone

	Regulations	Remarks
Uses		
Permitted uses	Refer zoning plan matrix appendix	
Prohibited uses	Refer zoning plan matrix appendix	
Conditional uses	i. warehouses ii. Community Hall / Multi-Purpose Hall iii. Primary school iv. Government Offices v. Religious Site	
Ancillary uses	Electric substation Refuse area	
Coverage		
Minimum Plot Size	1500square metres	
Maximum Building Coverage	80percent	
Minimum Landscaping Coverage	10percent minimum	
Maximum Floor Area Ratio (FAR)	1.6 maximum	
BUILDING HEIGHTS		
Maximum Number of Floors	G+2 (industrial operations) G+4 (Office operations) G (ancillary buildings)	
Floor to Floor Height	Ground Floor – 5m maximum Other Floors – 4m maximum	
Building Form	Attached Building	
Building setbacks (Minimum)		
Building (Above Grade)	i. Front: 5m ii. Side: 3m (min) iii. Rear: 3m (min)	
Parking		
Location	Should be provided within plot boundary	
Minimum Parking Stores	Parking shall be hard surfaced and provided with adequate drainage	
Fencing		
Location	i. Fencing and walls are not permitted along the front setback ii. Fencing and walls in the side and rear yards shall be at the perimeter of the lot	
Wall height	3.0 m high solid perimeter fencing wall is allowed at the side and rear of the lot	

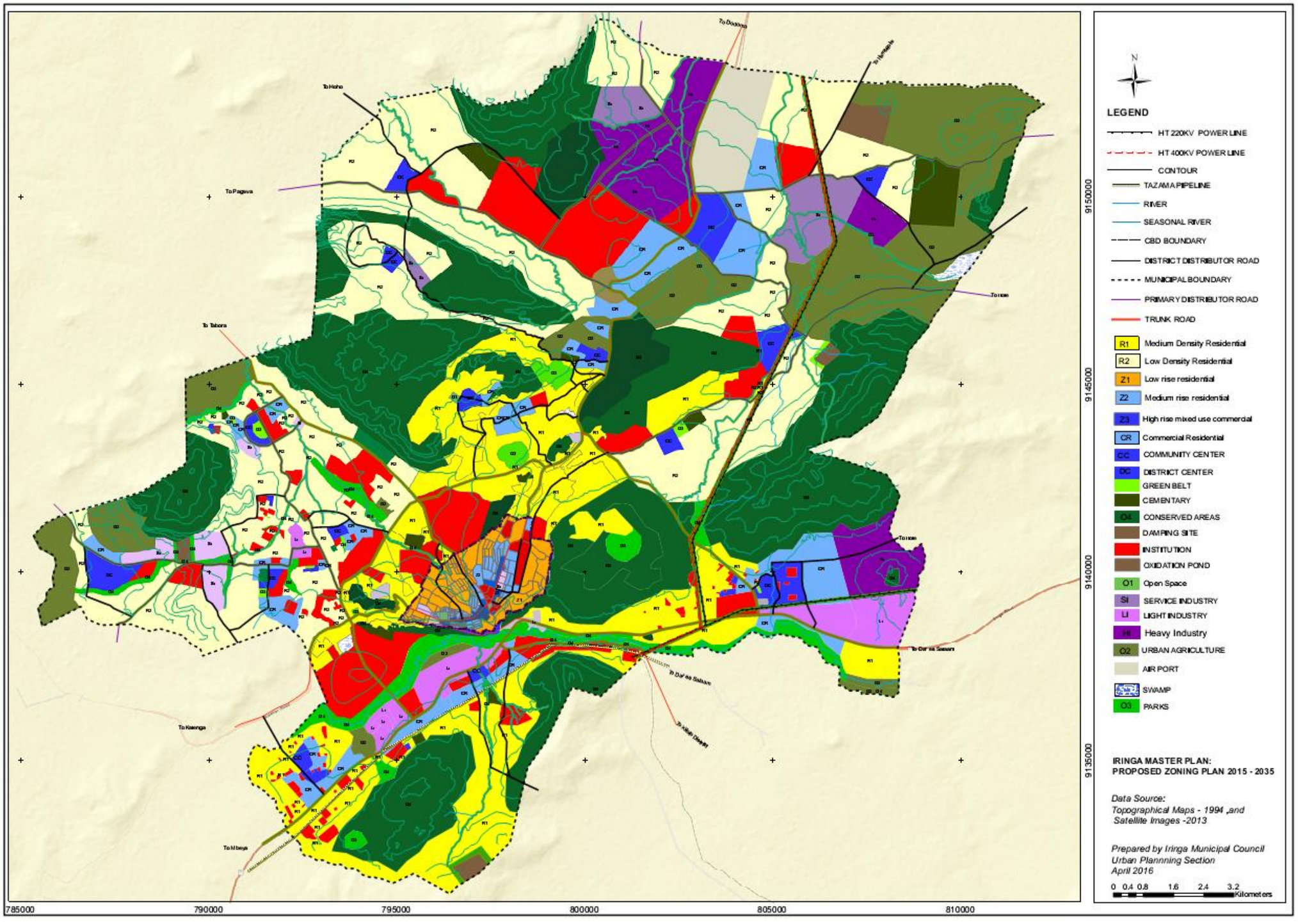
12.4 CONCLUSION

This master plan (2015-2035) marks an important phase for the development of Iringa Municipal Council and gives out a comprehensive and integrated urban development framework that has been missing since the expiry of the 1980- 2000 Master plan.

Urban problems identified in this Master plan such as: poor housing characterised by the expanding slum areas, environmental pollution, degradation, insecurity, unemployment and deterioration of the Municipal's infrastructure are both physical and social. However, challenges associated with tourism and education facilities will be tackles by government as well as other development partners. The implementation of this Master plan will base on the actions of Iringa Municipal Council which is both a planning authority and a responsible unit that coordinates all implementing agencies and partners involved. Stakeholder's participation and commitment required to implement different projects which cost a total of Tsh.134, 793,500,000/=.

The finalization of Iringa Municipal Master Plan marks an important phase for the development of the Iringa town and provides a comprehensive and an integrated urban development framework that geared at making Iringa a centre of education excellence and tourism hub in Southern highland zones.

Map 12.1: Proposed Zoning Plan 2015 – 2035



Map 12.2: CBD Proposed Zoning Plan 2015 – 2035

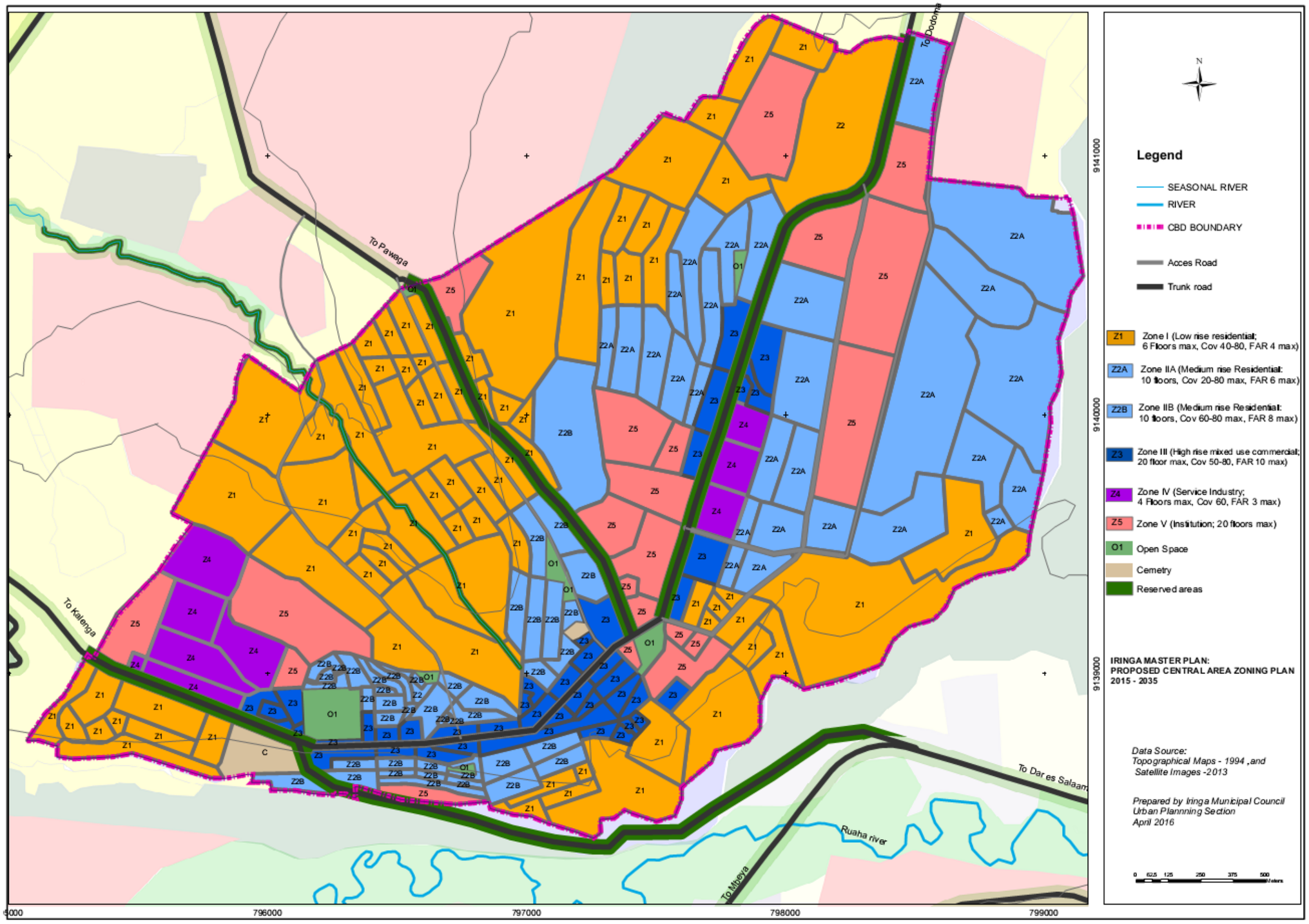


Table 12.33A: Iringa Master Plan; Zoning Plan Matrix

ZONES	LAND USE	SPECIFIC USES																																													
		Residential				Commercial																			Public Facilities																						
		Residential				Commercial																			Education							Health			Other Facilities										
		Detached	Semi-Detached	Row House	Apartment	Convenience Store	Market	Retail Shops	Shopping Centre	Shopping Mall	Hyper Mart	Super Mart	Banks	Small Office	General Office	Corporate Office	Show room	Restaurant	Exhibition Hall	Discotheque	Private Recreation	Convention	Guest House	Hotel >1200square metres	Nursery School	Primary School	Secondary School	Polytechnic	Education Centre	College	University	Health Centre	Hospital	Referral Hospital	Library	Community Hall	Cinema Hall	Cultural Centre	Museum	Police Station	Embassy	Government	Religious Site	Abattoir
General Residential	**R1** Medium Density Residential	√	√	√	C	C	√	√	√	√	C	C	C	C	X	X	X	√	X	X	√	X	√	X	√	√	√	X	X	X	X	√	√	√	√	C	C	C	C	√	C	√	C	X
	R2 Low Density Residential	√	√	√	C	C	√	√	√	√	C	C	C	C	X	X	X	√	X	X	√	X	√	X	√	√	√	X	X	X	X	√	√	√	√	C	C	C	C	√	C	√	C	X
General Commercial	**CC** Community Centre Commercial	X	X	C	√	√	√	√	√	√	√	√	√	√	C	C	C	√	√	√	√	√	√	√	√	√	√	C	C	C	C	√	√	√	√	√	√	√	√	√	C	√	C	X
	DC District Centre Commercial	X	X	C	√	√	√	√	√	√	√	√	√	√	C	C	C	√	√	√	√	√	√	√	√	√	√	C	C	C	C	√	√	√	√	√	√	√	√	√	C	√	C	X
	CR Commercial residential	X	X	C	√	√	√	√	√	√	√	√	√	√	C	C	C	√	√	√	√	√	√	√	√	√	√	C	C	C	C	√	√	√	√	√	√	√	√	√	C	√	C	X
Central Area	**Z1** Low Rise Residential	X	X	C	√	√	√	√	√	√	C	C	C	C	X	X	X	√	√	√	√	√	√	√	√	√	√	X	X	X	X	√	√	√	√	C	C	√	√	√	C	√	C	X
	Z2A Medium Rise Com/ Residential	X	X	X	√	√	√	√	√	√	C	C	C	C	X	X	X	√	√	√	√	√	√	√	√	√	√	X	X	X	X	√	√	√	√	C	C	√	√	√	C	√	C	X
	Z2B Medium Rise Com/ Residential	X	X	X	√	√	√	√	√	√	C	C	C	C	X	X	X	√	√	√	√	√	√	√	√	√	√	X	X	X	X	√	√	√	√	C	C	√	√	√	C	√	C	X
	Z3 Mixed Use Commercial	X	X	X	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	C	C	C	C	√	√	√	√	√	√	√	√	√	C	√	C	X
Industrial	**SI** Service Industrial Zone	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	X	X	X	X	X	X	X	X	X	X	X	X	X	X	√	X	√	X	X
	LI Light Industrial Zone	X	X	C	C	√	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	√	X	√	X	X
	HI Heavy Industrial	X	X	X	X	√	C	C	C	C	C	C	C	C	√	√		√	C	C	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	√	X	√	X	X
Open Area & Parks	**O1** Urban Agricultural	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C	C	C	C	C	C	X	X	X	X	X	X	X	X	X	X
	O2 Active Recreation	√	X	X	X	√	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	X	X	X	X	X	X	X	X	X	X	X
	O3 Passive Recreation Zone	√	X	X	X	√	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C	X	X	X	X	X	X	X	X	X	X	X	X
	O4 Reserved Zone	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 12.33B: Iringa Master Plan; Zoning Plan Matrix

		LAND USE	SPECIFIC USES																						
			Industrial									Open spaces													
			Industrial									Other Facilities					Active Recreation					Passive Recreation			
			Petrol Station	Car Wash	Automotive repair shop	Workshops	Dry Cleaning	Logistics Centers	Bakery	Warehouse	General Industry	Housing Cluster Open	Neighbourhood centre	Community Park	District Park	CBD Park	Play Field	Sports Field	Sports Complex/ Stadium	Golf Course	Zoo / Theme	National Reserve park	Green Belt	Picnic / Camping	Reserved land
ZONES	General Residentia	**R1** Medium Density Residential	C	C	√	C	√	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
		R2 Low Density Residential	C	C	√	C	√	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
	General Commercia	**C2** Community Centre Commercial	√	X	X	X	X	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
		DC District Center	√	X	X	X	X	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
		CR Commercial residential	√	X	X	X	X	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
	Central Area	**Z1** Low Rise Residential	√	X	C	C	√	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
		Z2A Medium Rise Com/ Residential	√	X	C	C	√	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
		Z2B Medium Rise Com/ Residential	√	X	C	C	√	X	√	X	X	√	√	√	√	√	√	√	√	X	X	X	√	X	X
		Z3 Central Business District	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	X	X	X	√	X	X
	Industrial	**SI** Service Industrial Zone	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		X	X	X	√	X	X
		LI Light Industrial Zone	√	√	√	√	√	√	√	√	√	X	X	X	X	X	X	X	X	X	X	X	√	X	X
		HI Heavy Industrial Zone	√	√	√	√	√	√	√	√	√	X	X	X	X	X	X	X	X	X	X	X	√	X	X
	Open Area & Parks	**O1** Urban Agricultural Zone	X	X	X	X	X	X	X	X	X	√	√	√	√	√	√	√	X	X	X	X	√	X	X
		O2 Active Recreation Zone	√	X	X	X	X	X	X	X	X	√	√	√	√	√	√	√	√	√	√	√	√	√	X
		O3 Passive Recreation Zone	√	X	X	X	X	X	X	X	X	√	√	√	√	√	√	√	√	√	√	√	√	√	X
		O4 Reserved Zone	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	√	√	√	√

Key
√= Allowable Uses
C= Conditional Uses
X= Not allowable/ Prohibited Use

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APPENDICES

HALMASHAURI YA MANISPAA IRINGA

13

Simu Na. 026 - 2702647
Fax. Na. 026 - 2702203

Ofisi ya Mkurugenzi wa
Manispaa,
S.L.P. 162,
IRINGA.

Kumb.Na.IMC/L.20/11/13 **19/08/2013**

Katibu Tawala (M),
Mkoa wa Iringa,
S. L. P.
IRINGA.

YAH: KUSUDIO LA KUANDAA MPANGO KAMAMBE (MASTER PLAN) WA MIAKA 20 (2013 – 2033) KWA MANISPAA YA IRINGA

Tafadhali rejea kichwa cha habari hapo juu.

Mpango Kamambe ni Mpango unaoongoza matumizi ya Ardhi kwa ujumla wake. Kwa mfano maeneo yanayofaa kupangwa Makazi, Viwanda, Taasisi, maeneo ya uwekezaji, kilimo n.k. kuwepo kwa Mpango huu kunaongoza uandaaji wa Mipango ya kina na kuepusha Mji kuendelezwa kiholela.

Mpango wa jumla (Mpango Kamambe) wa Halmashauri ya Manispaa ya Iringa uliisha muda wake tangu Mwaka 2000.

Kwa sasa Halmashauri ya Manispaa ya Iringa ipo kwenye mchakato wa kuandaa Mpango mwingine.

Katika mchakato huo mojawapo ya hatua ni Azimio la Halmashauri juu ya Mpango Kamambe unaokusudiwa kuandaliwa. Halmashauri katika Kikao chake cha Baraza la Madiwani cha tarehe 23/7/2013 kilipitisha Azimio hilo.

Kwa maelezo hayo hapo juu naomba kuwasilisha pendekezo la kusudio la kuandaa Mpango Kamambe wa Manispaa ya Iringa wa miaka 20 yaani (2013 - 2033) ili kupata maoni na hatimaye kuwasilisha kwa Mkurugenzi wa Makazi (Katibu Mkuu wa Wizara ya Ardhi, Nyumba na Maendeleo ya Makazi kwa lengo la kutangaza kwenye gazeti la Serikali.

Wako katika Utumishi.

I. Senje
Kny: MKURUGENZI WA MANISPAA
IRINGA.

20

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA WAZIRI MKUU
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA IRINGA

Simu Na. 2702715/2702191
Fax Na. 2702082/2701888

Ofisi ya Mkuu wa Mkoa
S.L.P. 858,
IRINGA.

Unapojibu tafadhali taja:
Kumb. Na. CB/155/295/03/137 24 Septemba, 2013

Mkurugenzi wa Maendeleo ya Makazi,
S. L. P 20671,
DAR ES SALAAM.

YAH: KUSUDIO LA KUANDAA MPANGO KAMAMBE (MASTER PLAN) WA MIAKA 20 (2013-2033) KWA MANISPAA YA IRINGA.

Husika na mada tajwa hapo juu.

Halmashauri ya Manispaa ya Iringa ipo kwenye mchakato wa kuandaa Mpango Kamambe (Master Plan) kutokana na Mpango Kamambe uliokuwepo kuisha muda wake tangu Mwaka 2000.

Kutokana na kuisha kwa muda wake tumekosa mpango unaoongoza matumizi ya Ardhi kwa ujumla wake hali inayokwamisha utekelezaji wa Mipango mbalimbali. Hivyo nawasilisha kwako kusudio hilo la Halmashauri ya Manispaa ya Iringa la kutaka kuandaa mpango huo wa jumla (Master Plan) ili kuweza kupata ridhaa yako pamoja na kutangaza kwenye Gazeti la Serikali.

Pamoja na barua hii, naambatanisha **Kiziduo** cha Muhtasari wa mkutano wa Baraza la Madiwani uliofanyika tarehe 23/06/2013 katika ukumbi wa Manispaa ya Iringa na kupitisha azimio hilo.

Nakutakia kazi njema.

E. P. Machenje
Kny: Katibu Tawala wa Mkoa
IRINGA

Nakala kwa: Katibu Tawala wa Mkoa (*Aione kwenye Jalada*)
Mkurugenzi wa Manispaa ya Iringa- *Kwa taarifa*

ISSN 0856 - 0323

MWAKA WA 96 — 29 Mei, 2015

TOLEO NA. 22

GAZETI

BEI SH. 1,000/= — LA — DAR ES SALAAM

JAMHURI YA MUUNGANO WA TANZANIA

Linatolewa kwa Idhini ya Serikali na
Kuandikishwa Posta kama
Gazeti

YALIYOMO

TAARIFA YA KAWAIDA NA. 393

Notice is hereby given that Sheria Ndogo, Kanuni and Order as set out below have been issued and are published in Subsidiary Legislation Supplement No. 21 dated 29th May, 2015 to this number of the *Gazette:-*

Sheria Ndogo za (Ushuru wa Stendi na Maegesho ya Magari) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 206A la mwaka 2015).

Sheria Ndogo za (Ada na Ushuru) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 207 la mwaka 2015).

Sheria Ndogo za (Uanzishaji wa Bodi ya Mfuko wa Elimu) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 208 la mwaka 2015).

Sheria Ndogo za (Hifadhi ya Mazingira) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 209 la mwaka 2015).

Sheria Ndogo za (Matumizi ya Barabara) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 210 la mwaka 2015).

Sheria Ndogo za (Ulazima wa Kulima Ekari mbili ya Mazao yanayostahimili Ukame) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 211 la mwaka 2015).

Sheria Ndogo za (Kilimo na Utaratibu wa Ununuzi wa Zao la Pamba) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 212 la mwaka 2015).

Sheria Ndogo za (Uanzishaji wa Mfuko wa Afya ya Jamii) za Halmashauri ya Wilaya ya Busega za mwaka 2015 (Tangazo la Serikali Na. 213 la mwaka 2015).

Kanuni za Kudumu za Halmashauri ya Wilaya ya Busega (Tangazo la Serikali Na. 214 la mwaka 2015).

Sheria Ndogo za (Ada na Ushuru) za Halmashauri ya Wilaya ya Liwale za mwaka 2015 (Tangazo la Serikali Na. 215 la mwaka 2015).

Matangazo yahusuyo mali za watu waliofariki, kuvunja mikataba ya ushirikiano na mengineyo, yakiwa ya manufaa kwa umma yaweza kuchapishwa katika Gazeti. Yapelekwe kwa **Mhariri, Ofisi ya Rais—Menejimenti ya Utumishi** wa **Umma, S.L.P. 2483, Dar es Salaam, Simu za Ofisi 2118531/4.** Kabla ya *Jumamosi ya kila Juma.*

Limepigwa Chapa na Mpigachapa Mkuu wa Serikali, Dar es Salaam—Tanzania

Sheria Ndogo za (Ada na Ushuru) za Halmashauri ya Wilaya ya Liwale za mwaka 2015 (Tangazo la Serikali Na. 215 la mwaka 2015).

Sheria Ndogo za Halmashauri ya Wilaya ya Busega (Ushuru wa Huduma) za mwaka 2015 (Tangazo la Serikali Na. 216 la mwaka 2015).

Sheria Ndogo za Halmashauri ya Manispaa ya Ilemela (Uanzishaji wa Mfuko wa Afya ya Jamii Tiba kwa Kadi (Marekebisho) 2015 (Tangazo la Serikali Na. 217 la mwaka 2015).

Order under the Urban Planning (Iringa Municipal Council) (Master Plan) 2015 (Government Notice No. 218 of 2015).

Order under the Urban Planning (Murangi Planning Area) 2015 (Government Notice No. 219 of 2015).

Notice is hereby given that the following Bills to be Submitted to the National Assembly are published in Bill Supplement No. 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 dated 29th May, 2015 to this number of the *Gazette:-*

Muswada wa Sheria ya Utafiti na Uvuvi (The Tanzania Fisheries Research Institution 2015).

Muswada wa Sheria ya Mafuta ya Petrol (The Petroleum Act 2015).

Muswada wa Sheria ya Wafanyakazi (Marekebisho) (The Employment and Labour Laws (Miscelaneous Amendment) Act, 2015).

Muswada wa Sheria ya Mfuko wa Jimbo (The Tanzania Development Fund Act, 2015).

Muswada wa Sheria (The One Stop Boarder Post Act, 2015).

Muswada wa Sheria ya Posta (The Tanzania Postal Bank (Repeal and Transitional Provisions Act, 2015)

Muswada wa Sheria ya Taasisi ya Utafiti wa Kilimo (The Tanzania Agricultural Research Institute Act, 2015).

Muswada wa Sheria ya Uchaguzi (The Electoral and Public Good Laws (Miscelanous Amendment) Act, 2015

Muswada wa Sheria ya Rubada (The Rufiji Basin Development Authority (Amendment Act, 2015).

Muswada wa Sheria ya Extractive Industry Transparency and Accountability Act, 2015).

TAARIFA YA KAWAIDA NA. 394

KUPOTEA KWA HATI YA KUMILIKI ARDHI
Sheria ya Uandikishaji wa Ardhi
(Sura 334)

Hati Nambari: 19085
Mmiliki aliyeandikishwa: HAMISI NNEKA.
Ardhi: Kiwanja Na. 29 Kitalu "A" Temeke Shopping Centre Dar es Salaam.
Muombaji: HAMISI NNEKA.

TAARIFA IMETOLEWA kwamba Hati ya kumiliki ardhi iliyotajwa hapo juu imepotea na ninakusudia kutoa Hati mpya badala yake iwapo hakuna kipingamizi kwa muda wa mwezi mmoja tokea tarehe ya taarifa hii itakapotangazwa katika Gazeti la Serikali.

HATI YA ASILI ikionekana, irudishwe kwa Msajili wa Hati, S.L. P. 1191, Dar es Salaam.

Dar es Salaam,
26 Mei, 2015

BUMI F. MWAISAKA,
Msajili wa Hati Msaidizi Mwandamizi

TAARIFA YA KAWAIDA NA. 395

KUPOTEA KWA HATI YA KUMILIKI ARDHI
Sheria ya Uandikishaji wa Ardhi
(Sura 334)

Hati Nambari: 186174/30 (1/6 share).
Mmiliki aliyeandikishwa: NOORBANU HABIB GULAMHUSSEIN.
Ardhi: Shamba Na. 853 Upanga Dar es Salaam.
Muombaji: NAZEERA ALLIDINA (ADMINISTRATIX OF NOORBANU HABIB GULAMHUSSEIN (DECEASED).

TAARIFA IMETOLEWA kwamba Hati ya kumiliki ardhi iliyotajwa hapo juu imepotea na ninakusudia kutoa Hati mpya badala yake iwapo hakuna kipingamizi kwa muda wa mwezi mmoja tokea tarehe ya taarifa hii itakapotangazwa katika Gazeti la Serikali.

HATI YA ASILI ikionekana, irudishwe kwa Msajili wa Hati, S.L. P. 1191, Dar es Salaam.

Dar es Salaam,
28 Mei, 2015

SUBIRA SINDA,
Msajili wa Hati

TAARIFA YA KAWAIDA NA. 396

KUPOTEA KWA HATI YA KUMILIKI ARDHI
Sheria ya Uandikishaji wa Ardhi
(Sura 334)

Hati Nambari: 84423.
Wamiliki walioandikishwa: MATHUS KABOKO NA REVINA KABOKO (JOINT TENANTS).
Ardhi: Kiwanja Namba 617 Kitalu "C" Mtoni Kijichi Wilaya ya Temeke Jijini Dar es Salaam
Waombaji: EMMANUEL HAMBANAYE SANGA NA ENELESS JOSEPH KYANDO.

TAARIFA IMETOLEWA kwamba Hati ya kumiliki ardhi iliyotajwa hapo juu imepotea na ninakusudia kutoa Hati mpya badala yake iwapo hakuna kipingamizi kwa muda wa mwezi mmoja tokea tarehe ya taarifa hii itakapotangazwa katika Gazeti la Serikali.

FILE NO.

FILE FOLDER

STATION

Urban Planning (Iringa Municipal Council) (Master plan)

GOVERNMENT NOTICE No. 218 published on 29/05/2015

THE URBAN PLANNING ACT
(CAP. 355)

ORDER

(Made under section 12 (5))

THE URBAN PLANNING - (IRINGA MUNICIPAL COUNCIL) (MASTER PLAN) ORDER, 2015

Citation

1. This Order may be cited as the Urban Planning (Iringa Municipal Council) (Master plan) Order, 2015.

Declaration of master plan area Cap. 355

2. The area described in the schedule to this order is hereby declared to have a master plan for the purposes of the urban planning Act.

General and detailed scheme

3. General and Detailed scheme for the scheduled area shall be prepared and deposited with the director of Urban Planning and Iringa Municipal Council Director.

SCHEDULE

All that area of land contained within the boundaries of the Iringa Municipal Council that is all the area commencing at the confluence of the Little Ruaha River which is a common boundary point of Kilolo District, thence south east 2.52 boundary kilometers to Luhota Hill, thence south east about 2.95 kilometers to Nyamfundu Hill thence southern to Isavao Hill about 1.67 kilometers thence south west about 2.01 kilometers to Lufia Hill, thence westerly about 1.71 kilometers to a source of valley north of Itovilo village then along that valley about 8.51 kilometers to the little Ruaha River, thence north east along the little Ruaha River to the corner near Mlolo Prison, thence north west along a valley about 2.13 kilometers to Mapogolo Hill, thence westerly about 2.26 kilometers along Mapogolo Hill, thence westerly about 1.67 kilometers to little Ruaha River, thence along through Mkoga Village about 2.01 kilometers, thence north east about 4.26 kilometers to Utinda Hill thence from Utinda about 2.25 kilometers to

Urban Planning (Iringa Municipal Council) (Master plan)

GN. No. 218 (contd.)

Usangu Hill. Then north east about 3.54 kilometers to Itamba Hill, thence north from Itamba Hill across Mwini Hill about 2.99 kilometers to Ulanga Hill, thence north ward about 1.71 kilometers to the boundary of Kitapilimwa village, along Kilapilimwa village boundary north east about 2.28 kilometers across Pawaga Road to the boundary of Itagutwa village, thence following Itagutwa village boundary about 1.99 kilometers east to point south of Hongombe Hill, from there about 2.78 kilometers easterly to Itahila Hill, thence north east about 2.42 kilometers south of Mapanda Hill to the boundary of igingilanyi village, thence northerly about 3.35 kilometers along Igingilanyi village boundary up to Dodoma road. From the Igingilanyi village boundary about 8.90 kilometers across Ilambilole road, following Ilambilole village aboundary to Mbalasi Hill in the north west following Ilambilole village boundary and Ilole village boundary, from there south east to Kibalangati Hill in the same direction about 3.9 kilometers to Ngongwa Hill, then across Itofya swamp about 3.95 kilometers to Manyangili Hill thence from Manyangili Hill about 3.85 kilometers to malinyi Hill, thence south west following Lundamatwe village to Kigungawe Hill, thence Southern about 2.4 kilometers across Iringa Dar es Salaam Road to little Ruaha River, then following little Ruaha River western ward about 4.13 kilometers nearby Iringa Kilolo Road, from there to Luhota Hill about 2.52 kilometers then from Luhota Hill (back to Nyamfodu Hill about 2.95 kilometers).

Dar es Salaam,
9th May, 2015

WILLIAM V. LUKUVI,
Minister for Lands, Housing and Human Settlements Development

HALMASHAURI YA MANISPAA YA IRINGA

MUHTASARI WA MKUTANO WA WADAU KUPITIA MPANGO KAMAMBE WA MJI WA IRINGA (IRINGA MASTER PLAN) TAREHE 13/03/2014

WAJUMBE WALIOHUDHURIA

Orodha ya wajumbe waliohudhuria ona kiambatanisho.

1.0 – KUFUNGUA MKUTANO

Mwenyekiti kabla ya kufungua kikao alimkaribisha mwakilishi wa Mkuu wa Mkoa ambae ni Mkuu wa Wilaya ya Kilolo ili atoe maelezo ya ufunguzi. Mgeni rasmi akitoa maelezo ya ufunguzi aliwakaribisha wadau wote katika Mkutano ambao uliwahusisha wadau kutoka Sekta mbali mbali kwa ajili ya maandalizi ya Mpango Kamambe wa Mji wa Iringa.

Alisema kuwa Kwa mujibu wa sheria ya Mipango Miji Na. 8 ya mwaka 2007 na sheria ya Ardhi Na. 4 ya mwaka 1999 na sheria nyinginezo hifadhi ya mazingira husimamiwa na mamlaka ya upangaji kwa kushirikiana na wadau wa mji husika.

Manispaa ya Iringa ni mamlaka ya upangaji ambayo inakusudia kuandaa Mpango Kamambe wa Mji wa Iringa kama sheria inavyoelekeza, aliongezea kuwa Mpango Kamambe husimamia uendelezaji wa Mji kwa muda wa miaka 20, pia unaweza kufanyiwa mapitio bada ya miaka 5. Mpango hutoa mwongozo wa matumizi mbalimbali kwa ujumla kulingana na mahitaji ya jamii husika; matumizi hayo ni makazi, biashara, viwanda, kilimo, ufugaji na matumizi mengineyo. Akielezea lengo kuu la kuandaa Mpango Kamambe Mgeni rasmi alisema ni kuwezesha ukuaji wa mji ambao ni endelevu katika Nyanja za kiafya, usalama, mpangilio mzuri, muonekano mzuri na ustawi wa jamii; pia hushirikisha mipango iliyopita na inayoendelea ya kisera katika ngazi mbalimbali za utendaji kama vile kitaifa, kikanda, kimkoa na halmashauri.

Mhe Mgeni rasmi alimalizia kwa kuwaomba wadau kuchangia kwa kina ili kuweza kufanikisha upatikanaji wa Mpango Kamambe wa Manispaa ya Iringa.

Baada ya maelezo hayo alikaribishwa Mhe. Mwenyekiti ili aweze kufungua Mkutano. Mwenyekiti akifungua mkutano ambae ni Mstahiki Meya wa Manispaa ya Iringa aliwakaribisha wajumbe katika Mkutano na kuwaomba wajadili kwa kina kwa lengo la kuwa na Mpango Kamambe (Master Plan) itakayosaidia kupangika kwa Mji wa Iringa baada ya maelezo hayo alitamka kufungua Mkutano mnamo saa 4.30 asubuhi.

2.0 UTAMBULISHO

Ulifanyika utambulisho wa wadau walioshiriki Mkutano huo ambao ni;-

Wananchi na wawakililshi wa Wananchi, Wadau wa Maendeleo na wasio athirika moja kwa moja na Mpango Kamambe, Watumishi kutoka Halmashauri ya Manispaa Iringa na Serikali kuu.

3.0 MADA JUU YA MWONGOZO WA MIPANGO YA UENDELEZAJI MIJI

Mtoa mada ambae ni **KANUTI** kutoka Wizara ya Ardhi Nyumba na Maendeleo ya Makazi alianza kwa utangulizi ambapo alileza kuwa Mpango Kamambe huandaliwa na kusimamiwa na Mamlaka ya upangaji kwa kushirikiana na wadau wa Mji husika Mpango ambao unasimamiwa na sheria mbalimbali na miongozo inayotolewa na Serikali. Alieleza maana ya Mpango Kamambe, lengo la Mpango Kamambe, hatua za kuandaa Mpango Kamambe. Baada ya maelezo hayo wadau walihoji na kupata ufafanuzi kwa kina juu ya ushiriki wao katika kuandaa Mpango Kamambe.

Moja ya maeneo waliohoji ni pamoja na muda wa Mpango huo ambapo alisema kuwa kama ni miaka 20 ni vema uanze 2015 – 2035 badala ya kuanza 2013 kama taarifa ilivyo kuwa imewasilishwa. Mtoa mada aliomba wadau wagawanyike katika makundi 6 ambapo kila kundi lilipewa nafasi ya kujadili na kutoa mawazo yao na hatimaye kuwasilisha maoni kwenye Mkutano.

4.0 HALI HALISI YA UENDELEZAJI WA MJI WA IRINGA

Maada hiyo iliwasilishwa na Afisa Mipango Miji wa Halmashauri ya Manispaa ya Iringa ambae katika maelezo yake alielezea Halmashauri ya Kiutawala, lini Mji wa Iringa ulipata hadhi ya kuwa Manispaa, jinsi ujenzi wabarabara ya Iringa – Dar es saalam ilivyochochea ukuaji wa maeneo yasiopangwa, Mpango Kamambe wa kwanza ulioandaliwa Mwaka 1980, ongezeko la watu akihusianisha na ukuaji wa Mji, matumizi ya Ardhi. Pia aliwaelekeza wadau mwongozo wa uandaaji Mipango ya uendelezaji wa Miji ambao ulionyesha mchakato wa uandaaji wa Mipango na utekelezaji wa Mipango.

Baada ya kuwasilisha mada hizo wajumbe walipata nafasi ya kujadili katika makundi na kutoa katika hadidu za rejea zifuatazo;

- Huduma za jamii
- Nyumba na makazi na ujenzi holela
- Miundo mbinu ya usafiri na mawasiliano
- Huduma za jamii
- Shughuli za kiuchumi na ajira
- Hifadhi ya Mazingira na Usafi wa Mji.

Wadau wakijadili maeneo hayo walielezea kero nini kifanyike pamoja na fursa zilizopo.

4.0 MAJUMUISHO

Wadau kwa pamoja walikubaliana na kupitisha Mpango Kamambe wa Mji wa Iringa (iringa Master Plan)

5.0 KUFUNGA MKUTANO

Mwenyekiti alifunga Mkutano saa 9.50 jioni kwa kuwashukuru wadau wote kwa ushiriki wao na mawazo waliotoa ambayo yatasaidia kuandaa Mpango Kamambe wa Mji wa Iringa.

UMETHIBITISHWA

KATIBU..... **MWENYEKITI**.....

TAREHE...17/03/2014... **TAREHE**...17/03/2014...

3

(62)

HALMASHAURI YA MANISPAA IRINGA

Simu Na. 026 - 2702647
Fax. Na. 026 - 2702203

Ofisi ya Mkurugenzi wa Manispaa,
S.L.P. 162,
IRINGA.

Kumb.Na.IMC/L.20/11/63 **05/10/2015**

Katibu Tawala (M),
S. L. P. 858
IRINGA.

YAH: KUWASILISHA RASMU YA MPANGO KABAMBE WA MJI WA IRINGA 2015 – 2035

Tafadhali rejea barua yako yenye Kumb.Na.CB.155/255/01VOL.B/89 ya tarehe 30/09/2015 kuhusiana na somo tajwa hapo juu.

Naomba kuwasilisha kwako maelezo mafupi ya Mpango Kabambe wa Mji wa Iringa kama ulivyoelekeza kwenye barua yako tajwa hapo juu. Maelezo hayo yameambatanishwa.

Natanguliza shukrani kwa ushirikiano.

pp.
Ahmad S. Sawa
MKURUGENZI WA HALMASHAURI
MANISPAA IRINGA.

IRINGA MUNICIPA
3 - DEC 2015
RECEIVED

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA WAZIRI MKUU
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

MKOA WA IRINGA
Simu Na.2702715/2702191
Fax Na. 2702082/2701888

Ofisi ya Mkuu wa Mkoa,
S.L.P 858,
IRINGA.

Unapojibu tafadhali taja:

Kumb.Na. CB.235/01 VOL C/19 02/12/2015
Mkurugenzi wa Maendeleo ya Makazi,
S.L.P. 20671
DAR-ES-SALAAM.

YAH: KUWASILISHA RASIM YA MPANGO KABAMBE WA MJI WA IRINGA 2015 – 2035.

Tafadhali husika na somo tajwa hapo juu,

Ofisi ya Mkuu wa Mkoa imepokea barua Kumb.Na.IMC/L.20/11/268 ya tarehe 9/07/2015 kutoka kwa Mkurugenzi wa Manispaa ya Iringa yenye kichwa cha habari tajwa hapo juu ikieleza kuwa Manispaa ya Iringa imekamilisha Rasim ya Mpango Kabambe wa Mji wa Iringa. Mpango huo umepitia hatua zote ikiwa ni pamoja na kuridhiwa na Baraza la Madiwani katika kikao kilichofanyika tarehe 02/06/2015 na Mkutano wa wadau uliofanyika tarehe 10/06/2015.

Mpango huo baada ya kuwasilishwa Ofisi ya Mkuu wa Mkoa, ulijadiliwa katika kikao kilichofanyika tarehe 06/10/2015 kati ya Wataalam kutoka Manispaa na Sekretarieti ya Mkoa. Ushauri/mapendekezo mbalimbali yalitolewa na tayari yamefanyiwa kazi na kuingizwa kwenye Mpango huo.

Kulingana na Sheria ya Mipango Miji Na.8 ya mwaka 2007 na mwongozo wa uandaaji Mpango Kabambe wa mwaka 2007 hatua iliyobakia ni kuwasilisha Mpango Kabambe kwako ili uweze kuupitia na kuuwasilisha kwa Waziri mwenye dhamana ya upangaji Miji kwa ajili ya kutangaza kwenye Gazeti la Serikali.

Hivyo Kutokana na taratibu zote kufuatwa, nauwasilisha kwako kwa ajili ya kuupitisha ili hatua zingine ziweze kuendelea.

E.P Machenje
Kny. **Katibu Tawala wa Mkoa**
IRINGA.

Nakala: Katibu Tawala wa Mkoa (Alone katika jalada)
IRINGA

" Mkurugenzi wa Manispaa
S.L.P. 162
IRINGA

JAMHURI YA MUUNGANO WA TANZANIA

WIZARA YA ARDHI, NYUMBA NA MAENDELEO YA MAKAZI

Simu +255 22 211 3165
Nukushi: +255 22 212 4576
Barua pepe: km@ardhi.go.tz
Unapojibu tafadhali taja:

1 MTAA WA ARDHI
S.L.P. 9132,
11477 DAR ES SALAAM

Kumb. Na. CB. 157/197/01/06

23 Februari, 2016.

Katibu Tawala (M),
Ofisi ya Mkuu wa Mkoa,
S. L. P. 858,
IRINGA.

Yah: **MAONI YA MPANGO KABAMBE WA MANISPAA YA IRINGA**

Husika na somo tajwa hapo juu.

Wizara inakiri kupokea rasimu ya kwanza ya Mpango Kabambe wa Manispa ya Iringa. Wataalam wa Wizara wamepitia rasimu hiyo na kutoa maoni kan ilivyoambatanishwa.

Tafadhali waarifu Mamlaka ya Upangaji (Halmashauri ya Manispaa ya Iring kurekebisha rasimu hiyo na kuwasilisha rasimu ya pili kabla ya mwisho w mwezi machi 2016 .

Natanguliza shukurani

Prof. John M. Lupala
Kny: **KATIBU MKUU**

Nakala: Mkurugenzi wa Manispaa
S. L. P. 162
IRINGA.

TRAFFIC COUNT - NON MOTORISED TRAFFIC

IRINGA MUNICIPAL COUNCIL Node

location……

TIME:12 HOUR FROM 06:00 TO 18:00

Name of enumerator……Date of interview……

Route description: From……..……

To…….……..……

TIME INTERVAL	PEDESTRIAN	CYLISTS	CARTS
06.00-07.00			
TOTAL			

HALMASHAURI YA MANISPAA YA IRINGA

JINA LA TAASISI……

JINA LA MSAINIWA……..

JINA LA MSAINI……

CHEO……

TAREHE……

IDADI YA WATU

1(a) Ongezeko la watu katika Manispaa ya Iringa ikoje?

MWAKA	IDADI YA WATU	IDADI KWA KAYA
1978		
1988		
2002		
2012		

(b)Sababu ya kupungua na kuongezeka kwa watu?

i. ……

ii. ……

iii. ……

iv. ……

(c)Idadi ya watu katika kaya kwasasa .....?

2. Muundo waumri na jinsia katikaupovipi?

MGAWANYO	IDADI YA WATU		
UMRI (miaka)	WANAWAKE	WANAUME	JUMLA
0 - 4			
5 - 9			
10 -14			
15 -19			
20-64			
65+			

3(a) Ni kiwango kipi cha kuzaliana katika Manisipaa ya Iringa? KUBWA /NDOGO

(b) Sababu

i. ……

ii. ……

iii. ……

4(a) Ni kiwango kipi cha vifo katika Manispaa ya Iringa? KUBWA/NDOGO

(b) Sababu

(i) ……

(ii) ……

(iii) ……

5. Mgawanyiko wa watu ukoje katika kila kata?

KATA/MWAKA	1978	1988	2002	2012

6(a) Kiwango gani cha uhamiaji katika Manisipaa yaIringa?

(b) Sababu

i. ……..

ii. ……..

iii. ……..

iv. ……

6(a) Kiwangogani cha uhamaji katika Manisipaa ya Iringa?

(b) Sababu

i. ……..

ii. ……..

iii. ……..

iv. ……

TECHINICAL TEAM

1. Mr. Wickriph F. Benda - B.Sc. in Urban and Regional Planning
   MA in Community Development & Project Planning
   Registered Town Planner-Team leader
2. Ms. Magreth Elibariki - B.Sc in Urban and Regional Planning
   M.sc. in Natural Resources Assessment and Management
   Registered Town Planner
3. Mr. Evidence Machenje - B.Sc. Urban and Regional Planning
   M.sc. Natural Resources Assessment and Management
4. Mr. Baraka Kinyamagoha - B.Sc. Urban and Regional Planning
5. Mr. Daudi Panga - B.Sc. Housing and Infrastructure Planning
6. Mr. Gasper Kabendela - B.Sc. Urban and Regional Planning
7. Mr. Abel Mbata - B.Sc. in Geoinformatics
8. Mr. Arnold Jelas - B.Sc. in Geoinformatics
9. Mr. Lugarata Ng'weshemi - B.A. in Education
10. Ms. Isabella Mwakabonga - B.A. in Education
    M.A. in Education
11. Mr. Ikusi Lukas - B.A. Regional Development Planning
    M.A in Community Development & Project Planning
12. Dr. Hassan Mtani - B.Sc. in Doctor of Medicine
13. Ms. Catherine Charwe - Bachelor of Law
    M.A. in Business Administration
14. Mr. Christian Ndenga - B.Sc. in Environmental Health Science
15. Mr. Taphawa Ngwada - Diploma in Water technician
16. Mr. Endy G.Timbuka - Computer System analyst
17. Ms. Sikitu Mwemsi - Advance Diploma in Community Development
18. Mr. Boniface Kasimba - B.A. in Business Administration
19. Mr. Rogasian Lukoa - B.sc. in Forestry,
    Postgraduate Diploma in Forestry
    M.Sc. in Forestry
20. Ms. Naomi Mbilinyi - B.A. in Cultural Anthropology & Tourism
    M.A. in Tourism, Culture and Society
21. Ms. Martha Luambano - B.A. in Education
    M.A. in Education
22. Mr. Sweetbert Maro - B.A in Education
    B.A in Public Administration
    M.A in Public Administration
    Certified Human Resource Officer
23. Ms.Gloria Carlo - Advanced Diploma in Accountancy
24. Mr. Daudi K. Macha - B.Sc in Urban and Regional Planning
    Diploma in Cartography
25. Mr. Aloyce Likali - Advanced Diploma in Accountancy
    M.A. in Finance
26. Eng. Carol Lunyili - Advanced Diploma in Engineering
27. Eng. Yustine Kabuli - B. Sc. in Civil Engineering (IRUWASA)
28. Mr. Richard Hegela - B.Sc. in Agriculture, Education and Extension
    M.B.A Marketing
29. Mr. E. Kilipamwambo - Certificate in Community Development
30. Ms. Sophia Mapunda - Diploma in Community Development
31. Ms. Zaina Ng'ahala - B.A. in Sociology
    Certificate in Secretarial
32. Ms. Getrude Mtenga - Certificate in Secretarial
33. Ms. Hilda Ruguge - B.A. Business Administration
    Diploma in Secretarial
34. Eng. Selestine Kinabo - B.SC. Electrical Engineering (TANESCO)