



STRATEGIC URBAN DEVELOPMENT PLAN FOR MASAKA MUNICIPALITY



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United Nations Human Settlements Programme (UN-HABITAT)
Nairobi, 2010

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HS/161/10

ISBN(Series): 978-92-1-132031-2

ISBN(Volume): 978-92-1-132273-6

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FOREWORD



Lake Victoria is the second largest fresh water lake in the world, and with over 200 fish species, it is the source of livelihood and development for an estimated 25 million people who live within its catchment area. To support the efforts of these people to achieve the Millennium Development Goals, UN-HABITAT, in collaboration with the national governments of the riparian countries of Lake Victoria, is engaged in various initiatives in the region. These initiatives aim to promote environmental sustainability and reduce poverty through improved settlement planning, management and governance. Most of the efforts are focused on the secondary urban centres around Lake Victoria which are experiencing very rapid urbanization rates varying between 3 and 7 percent per annum and are the main source of pollution loads entering the lake

Despite this rapid growth a study undertaken by UN-HABITAT revealed that most of these secondary towns did not have any plan to accommodate rapid growth. Several towns had no plan at all while the plans of others were completed out of date and overtaken by reality. For this reason UN-HABITAT support to these secondary towns centers on two key areas: (i) to help these towns prepare forward looking plans including the spatial configuration of growth; and (ii) strengthening the capacity of these secondary towns to prepare and implement their respective plans. Both these technical aspects of the project are underpinned by a third area – that of urban management and governance.

A key area of innovation has been the adoption of new planning approaches. These approaches are a far cry from the traditional Master Plan approach which has been widely discredited in the region because of its ineffectiveness. Such plans are notoriously inflexible in accommodating unforeseen changes. They also do not seek the participation and ownership of key stakeholders, including the private sector, in the design and implementation process. Most importantly, perhaps, is the fact that the old planning approach is not linked to the resource allocation and budgeting processes.

The Masaka Strategic Urban Development Plan is one in a series of six similar plans which have been prepared under Phase One of the UN-HABITAT supported Urban Planning programme in the Lake Victoria region of Kenya, Uganda, and Tanzania. This plan is meant to support our Water and Sanitation project in the region's municipalities. It is my sincere hope that this plan will also be found useful for guiding other development initiatives and projects in the municipality.

I would like to thank all who contributed to this plan whose process was led by Jossy Materu, Chief of Urban Design and Planning Services Unit.

Dr. Anna Kajumulo Tibaijuka
Executive Director, UN-HABITAT

MASAKA IN THE NATIONAL CONTEXT



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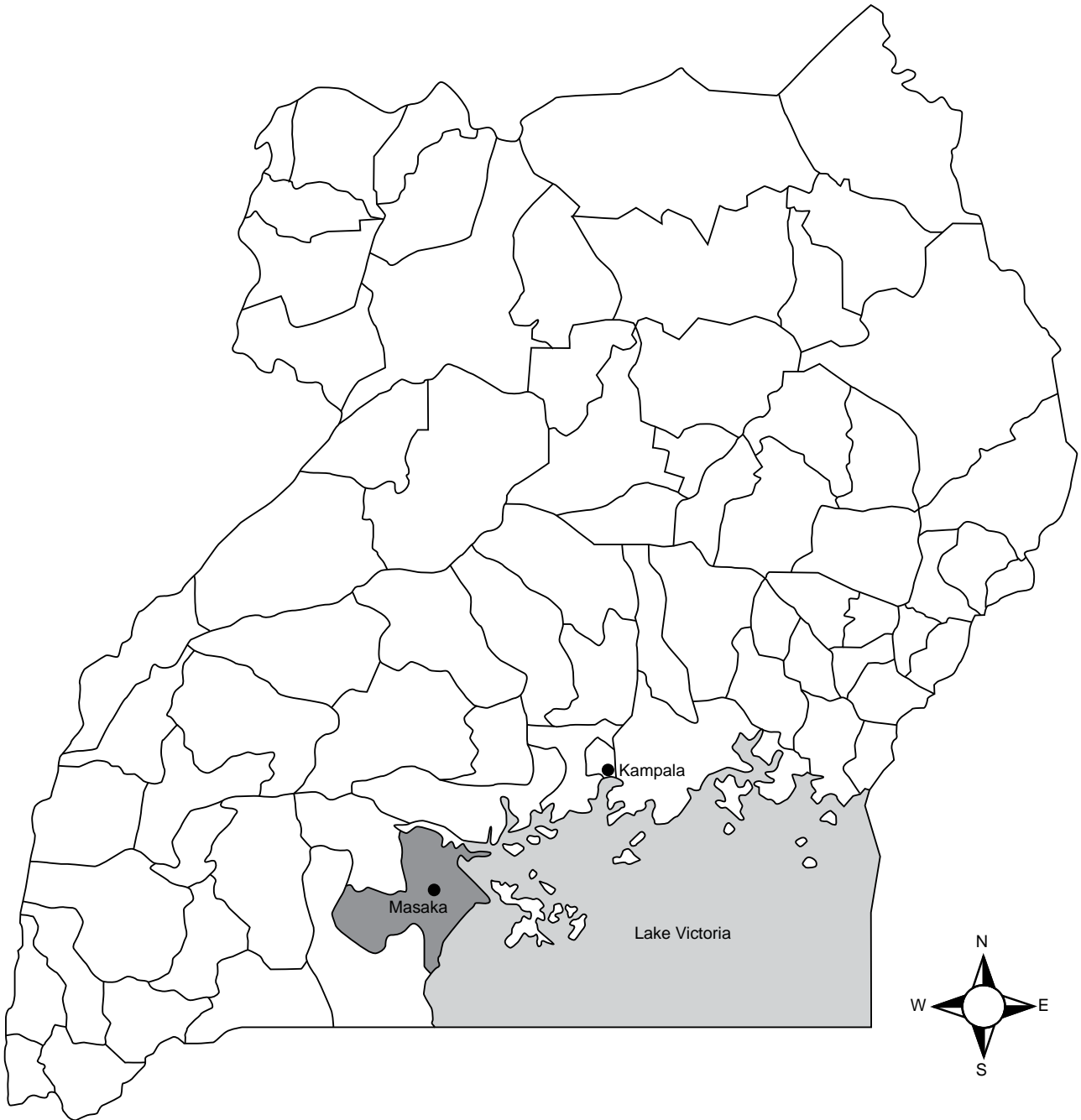
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MAP 1: SHOWING THE LOCATION OF MASAKA TOWN IN MASAKA DISTRICT, UGANDA



Source: UN-HABITAT, 2007

INTRODUCTION

1.1 NATIONAL AND REGIONAL SETTING

1.1.1 LOCATION

Masaka Municipality is located in Bukoto county of Masaka District, in the southern part of Uganda west of Lake Victoria. It is located at 31, 42 degrees East and 0, 24 degrees South. The municipality is situated about 125 km south of the capital city Kampala, along two trans-African highways to Rwanda and the Democratic Republic of Congo in the south-west and to the Republic of Tanzania in the south. It is conveniently situated at the heart of Masaka district and has access routes to various districts, making it a strategically important centre in the region.

Masaka Municipality is a prominent business and transport hub for Masaka district and the surrounding districts of Rakai, Kalangala, Sembabule, Mpigi and Lyantonde. Masaka district administration headquarters and regional offices of many central Government agencies are found in Masaka municipality, thus making it a centre for regional services.

1.1.2 TOWNSHIP BOUNDARIES

Masaka Municipality covers an estimated area of 46 square kilometers. The Municipality borders Kabonera and Buwunga sub-counties in the south, Mukungwe and Buwunga sub-counties in the east, Kalungu and Butenga sub-counties in the north, and Kibinge and Kingo sub-counties in the west. (*see map 2 of Masaka District below*).

1.2 HISTORICAL BACKGROUND

Masaka municipality is one of the oldest municipalities in Uganda. The legend surrounding the birth of Masaka Municipality dates its origin from around the late 18th century. The Municipality started as the headquarters of the colonial administration of then broader Masaka district at the end of the 19th century. From the few residential houses of the colonial administrators surrounded by Asian residences and commercial buildings, the centre gradually grew into a large urban centre.

In 1953, Masaka was declared a township authority.



Street in Masaka town © UN-HABITAT

It was promoted to a town council in 1958 and declared a municipality in 1968 after its boundaries were extended to include Nyendo / Senyange and Kimaanya / Kyabakuza areas. With the operationalization of the “Resistance Councils” statute in 1987, which marked the start of decentralisation in Uganda, Masaka municipality assumed a local council status of level 4 (LC4) and was divided into three Divisions (Local Councils 3s).

Several factors must have complimented each other to produce the present-day Masaka municipality. These include:

- Its location on a key road junction where two international highways and a number of main roads from a rich agricultural hinterland converged.
- Settlement of Asian businessmen in the trading center of Masaka in the early 1910s.
- The coffee boom of the 1950s, which improved the economic strengths of the hinterland. Masaka was the home of the regional farmers union for coffee and a number of coffee processing factories were opened up in the municipality as a result.
- In the late 1960s, Masaka was the terminus of the national hydroelectric power grid in the region, a factor that attracted early processing activities.
- Location of one of the oldest catholic Dioceses in the country in the first decade of the 19th century.
- It was the seat of the traditional ruler, *the Pokino*, under the pre-colonial Buganda Kingdom.

1.3 GEOGRAPHICAL FEATURES

1.3.1 CLIMATE

Masaka Municipality experiences a tropical climate that is highly influenced by relief and its proximity to Lake Victoria. The average annual rainfall is 1100 – 1250 mm with 100 – 110 rainy days. The type of rainfall is mainly convectional out of evaporation from Lake Victoria. The distribution of rainfall in a year follows a bimodal pattern with peaks in March – April (principal peak) and September – November (minor peak). This rainfall pattern is punctuated with two dry spells in January – February and June – July.

The maximum temperature recorded is 30oC and the minimum is 10oC. Because it lies in the equatorial belt, the municipality experiences almost equal lengths of days and nights throughout the year. The diurnal range of temperature is low due to cloud cover at night. Similarly, humidity level in Masaka municipality is generally low.

It is, however, worth noting that in recent years, human activity and encroachment on the environment in the Lake Victoria basin, which have included excessive deforestation and encroachment on wetlands, have brought big changes to the general

climatic patterns of the area. Today there are shorter and more unpredictable rainfall patterns and dry spells are drier and longer than before.

1.3.2 GEOLOGY AND SOILS

Masaka Municipality’s rock composition conforms to the rest of the southern Buganda geological layout. Old pre-Cambrian rocks mainly of quartzite schists and phyllites and granites constitute much of Bukoto County where the Municipality is situated. The soils are generally clay in nature, which tends to have low permeability. On the slopes there are rich brown loam soils while in the valleys black clays dominate. The peri-urban land of the municipality is mainly fertile loamy soil that supports cultivation of cereals, legumes, and various types of temperate crops, fruits, coffee and Banana.

1.3.3 TOPOGRAPHY AND DRAINAGE

The municipality is located on six undulating hills of equal altitude except one. These are Bwala Hill (1303m); University Hill (1303metres), Kizungu /Boma Fort hill (1303metres); Ssenyange hill (1303metres), Ssaza Hill (1303metres), Kyabakuza hill (1272metres). Average altitude ranges from 1212 – 1303 metres above sea level with the lowest altitude being the Nakayiba and Nabajjuzi valleys (1212metres).

1.4 NATURAL RESOURCES:

1.4.1 VEGETATION

The original vegetation cover of Masaka Municipality was predominantly savannah with elephant grass as the pre-dominant flora. However, this natural vegetation has disappeared due to physical developments, urban agriculture, aesthetics and planted forests. Today ornamental trees, flowers, banana plantations and other crops, fruit trees, eucalyptus trees and green fences dominate the vegetation in the Municipality.



Dump site in Masaka town © UN-HABITAT

However, pockets of natural vegetation are still visible in the Nabajuzi and Nakayiba wetland reserves in the central and western parts of the Municipality, although animal grazing and harvesting of papyrus for handcraft and housing purposes, and the effect of waste oils that drain into them are threatening this natural vegetation. Remnants of natural vegetation are also present in some parts of the suburban villages like Kitovu- Senyange, Bwala hill, Kidda and Saza.

1.4.2 WETLANDS

There are two major wetlands in Masaka municipality, the Nabajuzi and Nakayiba wetlands in the central and western parts of the Municipality respectively. The two wetlands are instrumental natural resources because of their support to human settlement in Masaka municipality. The Nabajuzi River is the main source of water for the Municipality, while Nakayiba wetland serves as a purifier for the Municipal Council sewerage system .

In September 2006, the Nabajuzi River became a protected area under the Ramsar International Convention. Nakayiba wetland is also gazetted and protected under the Uganda National Environment Management Act, and recently government took bold steps to rid the wetland of encroachers who had occupied a big part of the swamp.

However the two wetlands still face some threats emanating from animal grazing, silting and dumping of petroleum products, industrial effluent from the tannery and juice industries as well as town abattoir, untreated sewerage deposits and brick making.

1.4.3 OTHER NATURAL RESOURCES

Besides vegetation and wetlands, other natural resource endowments in Masaka Municipality include the following:

- i. The fertile soils, which are conducive for agriculture
- ii. A good climate, which includes bimodal patterns of rainfall that allows two crops in a year.
- iii. A hilly landscape that is favorable for human settlement
- iv. Lake Victoria in the neighborhood, which is a major source of livelihood for the population in the municipality. The lake also offers a potentially cheap transport route connecting the Municipality to the neighboring countries of Tanzania and Kenya.
- v. A literate, energetic and enterprising population
- vi. Sand and clay deposits in the neighborhood which makes construction relatively cheaper than in other Municipalities
- vii. The Sese Islands forests in the neighborhood, which is a source of timber, fuel and tourism attraction.

GOALS, OBJECTIVES AND STRATEGIES

2.1 GOALS

The preparation of a strategic urban development plan for a town is the first step towards guiding and controlling urban and regional development. The strategic urban development plan for Masaka will serve as a policy document to identify future land uses, areas of future growth and road hierarchy and road network/distribution. As such the goals of the strategic urban development plan are:

- To provide a suitable physical growth framework, encouraging an orderly pattern of urban development for convenience, economy and aesthetics.
- To provide a functional, safe and economic transportation system, with convenient accessibility to all parts of the town.
- To provide a planning framework for provision and improvement of the public utilities and social and community facilities.
- To provide sufficient land for the various uses including residential, commercial, industrial, institutional and recreational activities.

2.2 OBJECTIVES

The specific objectives to be achieved by the strategic urban development plan for Masaka municipality are:

- To create an orderly hierarchy of roads within the entire municipality.
- To develop a series of residential neighbourhoods in the loosely settled areas around the central business district.
- To reserve land for appropriate social facilities and civic amenities such as schools, health centres, fire stations, shopping areas and community centres.
- To improve accessibility to commercial facilities by creating commercial centres at localities such as Nyendo, Kyabakuza and Saza.
- To provide various recreational areas and parks in the vicinity of or within residential areas.

In short, accessibility, economy and aesthetic qualities in the layout of the town are to be promoted. Accessibility for people from home to work, shops, schools, industry and recreation areas is central to the employment of resources and should be fostered to achieve the greatest possible measure of improvement

within limited means. The land use conflicts are to be minimised by separation of incompatible uses from each other and association of compatible and complimentary uses. Aesthetic qualities of the town are to be enhanced by carrying out development in as visually pleasant a manner as practicable. The above goals and objectives can only be achieved with the concerted efforts of all authorities, particularly Masaka municipal council and utility providers.

The strategic urban development plan shall be used as both an advisory document and a guiding framework, which should not be neglected even if a conflict arises between the interests of a small group and the overall good for the entire municipality.

2.3 STRATEGIES

- Acquisition of land for infrastructure and public services delivery.
- Increase accessibility to land for provision of housing, community facilities and public utilities.
- Ensuring orderly development within the municipality through physical planning and effective compliance and dual control.
- Upgrading of high density unplanned settlements by provision of the basic facilities and public utilities.
- Provision, operation and maintenance of physical infrastructures and public utilities.
- Attract investment to the municipality by putting in place all the necessary factors of production so as to create jobs and job opportunities.
- Widen the revenue base of the municipality by identification of new sources of revenue.
- Increase mobilization of municipal resources plus improved financial management, governance of services and accountability.
- Promotion of private investment and business prospects in all economic sectors of the municipality.
- Improved administrative services and enhanced interagency cooperation.
- Technical capacity enhancement especially in key sectors of the municipal council.
- Enhance citizen engagement in municipal issues.

ANALYSIS OF THE EXISTING SITUATION

3.1 DEMOGRAPHIC CHARACTERISTICS

3.1.1 POPULATION SIZE AND GROWTH

The population of Masaka municipality was 67,768 in 2002 of which 32,118 were males (47.4 per cent) and 35,650 were females (52.6 per cent). A review of the previous censuses population figures revealed that there was a general reduction in the inter censal population growth rates from 5 per cent in the period 1980-1991 to 2.68 per cent in the period 1991-2002. The highest proportionate growth of the population was registered in Nyendo/Senyange division in the period 1991-2002 as detailed in the table 1 below.

The growth rate of Masaka municipality of 2.68 per cent, 1991 inter censal period was lower than the national growth rate of urban populations which was 5.1 per cent and was even lower than that of the general national population growth rate which was 3.2 per cent over the same period.

The official projected population figure for Masaka municipality for the year 2007 is 77,000 of whom 36,400 are males (47.3 per cent), 40,600 females (52.7 per cent).

TABLE 1: INTER-CENSAL GROWTH RATES AT DIVISION LEVEL BY SEX

ADMINISTRATIVE LEVEL	INTER-CENSAL GROWTH RATES					
	1980 – 1991			1991 - 2002		
	male	female	Total	male	female	Total
Masaka municipality	4.84	5.16	5	2.62	2.73	2.68
Katwe/Butego	4.11	4.96	4.55	1.51	1.57	1.54
Kimanya/Kyabakuza	5.63	5.7	5.67	1.97	2.14	2.06
Nyendo/Senyange	4.72	4.87	4.8	3.9	3.96	3.93

Source: 2002 Population and Housing Census Analytical Report.

3.1.2 POPULATION STRUCTURE

The population structure for the municipality by age and sex is shown in the tables 2 and 3, and figure 1 of the population pyramid.

TABLE 2: MASAKA MUNICIPALITY, POPULATION DISTRIBUTION BY AGE AND SEX

Age in years	0-5	6-12	13-24	12-49	18-30	60+
Males	5,986	6,613	5,974	18,511	11,318	896
Females	6,176	7,165	7,462	20,300	12,937	1,155
Total	12,161	13,778	13,437	38,811	24,255	2,051

Source: 2002 Population and Housing census Analytical report, 2007

**TABLE 3: MASAKA MUNICIPAL COUNCIL
PERCENTAGE AGE AND SEX POPULATION
DISTRIBUTION**

Age	Percentage of total population		
	Males	Females	Total
0-4	7.77	8.02	8.90
5-9	6.21	6.48	6.35
10-14	6.16	7.15	6.66
15-19	6.54	8.48	7.51
20-24	5.70	7.26	12.96
25-29	4.74	5.03	9.77
30-34	3.50	2.97	6.47
35-39	2.23	2.17	4.40
40-44	1.43	1.48	2.91
45-49	0.85	0.91	1.76
50-54	0.65	0.77	0.71
55-59	0.39	0.45	0.42
60-64	0.35	0.51	0.43
65-69	0.29	0.25	0.27
70-74	0.22	0.28	0.25
75+	0.30	0.46	0.38

Source: 2002 Population and Housing census Analytical report 2007

From the tables above, 50.4 per cent of the total population for Masaka municipality are children aged below 18 years while 31.5 per cent are youth aged 18-30 years. The age and sex pyramid figure 1 is broad based. These figures show that the population of the municipality is predominantly young and youthful. Most of it falls in the school going age, which is unproductive, but rather dependants.

3.1.3 POPULATION DISTRIBUTION

The largest percentage (46.3 per cent) of the municipal population is found in Nyendo/Senyange division followed by Kimanya/Kyabakuza with 29.8 per cent. Katwe/Butego, the administrative and business centre for the municipality has the lowest percentage (23.9 per cent) of the municipal population as indicated in table 4 below.

3.1.4 HOUSEHOLD COMPOSITION

The household composition is a variable for determining the demographic characteristics of a population. This section gives an analysis of the household population, number of households and their distribution and household sizes for both Masaka municipality and the different divisions.

TABLE 4: POPULATION DISTRIBUTION BY DIVISION

Division	Males	Females	Total	Percentage of total population
Katwe/Butego	8,595	9,804	18,399	23.9 per cent
Kimanya/Kyabakuza	11,105	11,870	22,975	29.8 per cent
Nyendo/Senyange	16,700	18,926	35,626	46.3 per cent
Total	36,400	40,600	77,000	100 per cent

Source: 2002 Population and Housing census Analytical report 2007.

Household Population

The number of persons enumerated in households in Masaka municipality during the population census day was 64,674 of whom 43.7 per cent were in Nyendo /Senyange division, 25.7 per cent were in Katwe /Butego, while 30.6 per cent were in Kimanya/ Kyabakuza. This means that most of the municipal residents reside in Nyendo/Senyange, with the fewest residing in Katwe/Butego.

Household Numbers

The number of households in Masaka municipality is 22,217. These are distributed in the three divisions as indicated on table 5, 53.5 per cent of the households are in Nyendo/Senyange division, while 25.8 per cent and 20.7 per cent are in Kimanya/Kyabakuza and Katwe/Butego respectively. The average household size for the municipality is four within the Katwe/ Butego and Kimanya/Kyabakuza and three persons in Nyendo/Senyange.

**TABLE 5: DISTRIBUTION OF HOUSEHOLDS
BY DIVISION**

Division	Households		Household size
	Numbers	Percentage	
Katwe/Butego	4,599	20.7	4
Kimanya/Kyabakuza	5,743	25.8	4
Nyendo/Senyange	11,875	53.5	3
Masaka municipality	22,217	100	4

Source: 2002 Population and Housing census Analytical report 2007

Characteristics Of Household Heads

In Masaka municipality, 66.3 per cent of the households were male headed while 33.7 per cent were female headed.

3.1.5 MIGRATION TRENDS

21.5 per cent of the total population of Masaka municipality was made up of migrants, i.e residents of the municipality born outside Masaka district. This high number is attributed to a large number of persons who come to the town in search for better opportunities. However, of the total number of migrants, only 4.89 per cent are international migrants, meaning that most of the migrants are from within Uganda. Katwe/Butego has the highest number of international migrants while Kimanya/Kyabakuza has the highest percentage of migrants as indicated in table 6.



A view of Masaka town © UN-HABITAT

TABLE 6: PERCENTAGE DISTRIBUTION OF MIGRANTS BY MIGRATION CHARACTERISTICS

Division	Local migrants (percentage)			International migrants (percentage)		
	Male	Female	Total	Male	Female	Total
Katwe/Butego	23.57	23.91	23.75	6.65	4.47	5.48
Kimanya/Kyabakuza	27.3	26.21	26.74	5.51	4.35	4.93
Nyendo/Senyange	15.85	17.01	16.46	4.75	4.02	4.35
Total	21.42	21.57	21.5	5.59	4.27	4.89

Source: 2002 Population and Housing census Analytical report 2007

3.1.6 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- High population growth rate registered during the inter-censal period of 1991-2002 creating high demand for community facilities and imposing a high burden on the limited budget of the municipality.
- High mobility rates within the different parts of the municipality. It makes planning operation and maintenance of the projects provided difficult.
- High day populations caused by people who come to town from the rural areas to trade or work. This unprecedented population numbers put pressure on the community facilities and public utilities.
- High numbers of younger unproductive and dependant populations resulting in high poverty levels among the population.

Strategic Interventions

- Formulation of policies and programs for managing population growth such as: birth control and family planning strategies.
- Encourage home ownership within the different parts of the municipality.

- Establish the exact numbers of the daytime population of the town so that planning can be based on accurate figures of people.

3.2 POPULATION PROJECTION

If sufficient land is to be allocated to the different land uses within the municipality, then estimates and population projections are essential. The growth of Masaka population and its projections has been made up to the year 2027. In doing this a number of documents have been consulted and several assumptions made.

3.2.1 MASAKA MUNICIPAL PROFILE REPORT

The profile report prepared in November 2007 did not provide population breakdown by age and sex. Emphasis was placed on population distribution by division, religion, and ethnicity, all of which are not key parameters for determining the future land requirements for the municipality. Hence forth other documents were consulted in order to establish the population characteristics and composition, and their growth and projections up to the year 2027. The documents consulted included:

1. 2002 population and Housing Census Analytical report for Masaka municipality.
2. The 1984 outline structure plan for Masaka municipality.
3. The final report of Masaka Reconstruction and Development Plan. Stage two Socio-economic Surveys 1985.

3.2.2 FUTURE POPULATION ESTIMATES

In line with the national official document on population in this report, the method used in population projection is the 'exponential growth model of projection'. Annual population projections have been made for the municipal population up to the year 2027 while five year interval projections have been made for different interest groups in terms of expected numbers in the respective population groups so as to enable effective calculation of land use requirements and planning.

During the national population census of 2002, the population for Masaka municipality was 67,768, of whom 32,118 were males (47.4 per cent) and 35,650 were females (52.6 per cent). The inter censal growth rate between 1991-2002, was 2.68 per cent. This growth rate was lower than the general national growth rate of urban populations that was 5.1 per cent and the national general growth rate, which was 3.2 per cent.

Given the above situation, assumptions had to be made when working out future population for the municipality, so that a better future of spatial requirements can be obtained.

Based on these assumptions, three growth rates were used to represent the lower, mid and higher growth rates for the municipality. The actual growth rate of 2.68 per cent was assumed as the lower growth rate while the general national growth rate of 3.2 per cent and the general national urban growth rate of 5.1 per cent were assumed as the mid and higher growth rates respectively.

The same rates were used for projection of populations for the special interest groups and the divisions of Katwe/ Butego, Nyendo/Senyange and Kimanya/Kyabakuza as well. Masaka municipal population projections by sex are indicated in the table 7 below.

As can be seen from the table 7, the population of Masaka will more than double within a period of 20 years from 2007. However the projections presented in the 1985 stage two Socio-economic survey report of the Reconstruction and Development plan, put the 2005 population at 118,500 for the lower estimate and 130,490 for the higher estimate based on growth rates of 3.5 per cent and 5.0 per cent respectively.

TABLE 7: MASAKA MUNICIPAL POPULATION ESTIMATES AND PROJECTIONS UP TO THE YEAR 2027

Year	Population numbers		
	Growth rate 2.68 per cent	Growth rate 3.2 per cent	Growth rate 5.2 per cent
2007	77,000	77,000	77,000
2008	79,200	79,500	80,900
2009	81,300	82,000	85,000
2010	83,500	84,600	89,300
2011	85,800	87,300	93,900
2012	88,100	90,100	98,700
2013	90,500	93,000	103,700
2014	92,900	96,000	109,000
2015	95,400	99,100	114,600
2016	98,000	102,300	120,500
2017	100,600	105,600	126,700
2018	103,300	109,000	133,200
2019	106,100	112,500	140,000
2020	109,000	116,100	147,200
2021	111,900	119,800	154,700
2022	114,900	123,600	162,600
2023	118,000	127,600	170,900
2024	121,200	131,700	179,600
2025	124,500	135,900	188,800
2026	127,800	140,300	198,400
2027	131,200	144,800	208,500

3.2.3 POPULATION PROJECTION FOR SPECIAL INTEREST GROUPS

The population for special interest groups has been projected at five-year intervals, up to the year 2027. Like in the case of total population projections, the projections were based on assumptions made above. The growth rate of 2.68 per cent was used for the lower

estimate of the growth rate for Masaka municipality projection. 3.2 per cent, the national growth rate was used in the mid estimate projection and the 5.1 per cent, the general national urban growth rate was used for the high estimate projections. The projections are contained in table 8 .

TABLE 8: POPULATION PROJECTION FOR THE SPECIAL INTEREST GROUPS UP TO 2027

Year	2007	2012			2017			2022			2027		
		2.68per cent	3.2per cent	5.1per cent	2.68per cent	3.2per cent	5.1per cent	2.68per cent	3.2per cent	5.1per cent	2.68per cent	3.2per cent	5.1per cent
0-5	12,161	13,915	14,235	15,594	15,882	16,663	19,997	18,127	19,505	25,645	20,690	22,832	32,886
12-Jun	13,778	15,764	16,128	17,668	17,992	18,879	22,657	20,536	22,099	29,055	23,439	25,869	37,259
13-24	13,437	15,374	15,728	17,231	17,547	18,411	22,096	20,028	21,552	28,336	22,859	25,228	36,337
<18	38,811	44,406	45,431	49,770	50,684	53,180	63,823	57,849	62,251	81,845	66,028	72,869	104,956
Dec-49	47,345	54,170	55,420	60,713	61,828	64,874	77,857	70,569	75,939	99,842	80,546	88,893	128,034
18-30	24,223	27,714	28,354	31,062	31,632	33,191	39,834	36,104	38,852	51,082	41,208	45,480	65,506
60+	2,051	2,346	2,400	2,630	2,677	2,810	3,372	3,056	3,289	4,325	3,488	3,850	5,546

3.2.4 HOUSEHOLD PROJECTIONS

An attempt has been made to project the future number of households for Masaka municipality. This projection was done per division at five-year intervals for 20years up to 2027.

The household projections were based on the assumed mid population growth rate of 3.2 per cent and the average household numbers for each division. The household projections are presented on table.9 below.

TABLE 9: HOUSEHOLD PROJECTIONS BY DIVISION AT 5 YEARS INTERVALS

Division	Number of households				
	2007	2012	2017	2022	2027
Katwe/ Butego	4,599	5,383	6,309	7,385	8,651
Kimanya/ Kyabakuza	5,743	6,712	7,867	9,208	10,787
Nyendo/ Senyange	11,875	13,905	16,297	19,075	22,347
Total	22,217	26,000	30,473	35,668	41,785

In the first five years, in 2012, the household would be 26,000. However, over the 20-year period up to 2027, the number of household would almost double from 22,217 in 2007 to 41,785 in the year 2027.

3.3 HOUSING

3.3.1 HOUSING CONDITIONS AND QUALITY

Three types of housing can be distinguished in Masaka municipality according to the type of materials used for their construction. These include permanent dwelling buildings, semi permanent and temporary dwelling buildings.

Permanent buildings are those built out of construction materials (for the roof, foundation and wall) that can maintain their stability for more than 15 years. Semi permanent buildings include those built with a combination of permanent and temporary materials. While temporary dwelling units, are those that are built with materials that cannot maintain their stability for more than three years.

Based on the above classification, 72.4 per cent of the household reside in permanent buildings, 13.1 per cent of the households live in temporary dwelling buildings and 14.5 per cent live in semi permanent structures as shown in table 10.

TABLE 10: DISTRIBUTION OF HOUSEHOLDS BY TYPE OF DWELLING UNITS

Type of dwelling unit	Percentage of total households
Permanent	72.4
Semi-permanent	14.5
Temporary	13.1
Total	100

Source; 2002 Population and Housing census Analytical report 2007

3.3.2 CONSTRUCTION MATERIALS

Basing on the construction materials, 66.9 per cent of the households live in dwelling units constructed with stabilised bricks for walls, while 10.9 per cent, live in houses constructed with mud and pole walls. The most common type of roofing materials used in the municipality is iron-sheets. These comprise of 92.4 per cent of all the housing units in the municipality. 69.0 per cent of the houses have cement screed floors. The table 11 below shows the distribution of households by construction materials.

3.3.3 DWELLING UNITS

In Masaka municipality households reside in different types of dwelling units. The four types of dwelling units distinguished include; main houses, room/rooms, servants quarters and unconventional units, which include basements, garages, go downs plus others not meant for human habitation.

TABLE 11: DISTRIBUTION OF HOUSEHOLDS BY CONSTRUCTION MATERIALS

Construction materials					
Foundation/ Floor	percentage of total households	Wall	percentage of total households	Roof	percentage of total households
Concrete	7.97	Concrete	2.89	Iron sheets	92.34
Brick	2.05	Cement blocks	9.84	Tiles	3.02
Stone	1.03	Stone	0.26	Asbestos	1.51
Cement screed	69.11	Stabilised bricks	66.91	Concrete	1.17
Ram reed earth	19.09	Un burnt bricks with cement	3.4	Tins	0.5
Wood	0.07	Un burnt bricks with mud	5.01	Thatch	1.35
Other	0.69	Wood	0.19	Other	0.1
		Mud and pole	10.91		
		Other	0.6		
Total	100		100		100

Source: 2002 Population and Housing Census Analytical report 2007

Most households stay in conventional dwelling units. 32.7 per cent of the households stay in a main house, while 60.1 per cent stay in room/rooms, and 5.5 per cent stay in servant quarters. The unconventional type of dwelling units constitute 1.9 per cent of the total households as shown on table 12.

3.3.4 CURRENTLY AVAILABLE HOUSING UNITS

From table 13, 32.7 per cent of the households reside in dwelling units described as 'main house'. This kind of dwelling is known to be the decent type of accommodation because each unit has the full range of facilities for a home. In this category are 7,265 households. The second category households live in dwellings composed of room or rooms. Such accommodation normally has shared facilities and in some cases some facilities (e.g kitchen) may be missing. However, there is no detailed data to this effect. These kinds of dwelling units are generally acceptable in Masaka municipality. In this category are 13,352 households.

7.2 per cent or 1,600 households in Masaka municipality reside in either servants quarters or unconventional housing. All households living in these types of dwelling units can be described as in need of accommodation. Therefore the current shortage of housing in Masaka municipality is 1,600 dwelling units.

TABLE 12: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS BY TYPE OF DWELLING UNITS

Type of dwelling unit	Percentage of total households
Main house	32.7
Room/Rooms	60.1
Servant quarters	5.3
Un conventional	1.9
Total	100

3.3.5 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- High shortage of Residential Accommodation
- High numbers of households living in roomed accommodation without adequate facilities
- Large numbers of households residing in temporary structures, and unconventional housing.

Strategic Interventions

- Upgrading unplanned high density residential settlement at Nyendo.
- Establishment of public housing schemes in Masaka on the basis of sites and services schemes.

3.4 LAND USE

The various broad categories of land uses within Masaka municipality include the following: Residential use, commercial, institutional, industrial, recreational, open spaces and parks, transportation, forest reserves agricultural and special purposes.

The distribution of the various land uses within the municipality is indicated in map 3 and table 13 below.

TABLE 13: EXISTING LAND USE FOR MASAKA MUNICIPALITY

Land use description	Area, (Ha)	Percentage
Residential	625.0	12.5
Commercial	37.0	0.7
Industrial	24.5	0.5
Institutional	238.5	4.8
Residential/Agriculture	1533.8	30.6
Agriculture	644	12.9
Public/Civic	38.2	0.8
Special purposes	247.0	4.9
Recreational/Open space	55.4	1.1
Transportation	268.0	5.4
Reserved areas	1,189.8	23.8
Other	102.0	2.0
Total	5000.0	100.0

3.4.1 RESIDENTIAL LAND USE

All land within the municipality that is under housing use is categorised under residential use. This includes both areas with housing in a planned environment, housing estates and unplanned slums and squatter settlement. Residential land covers an area of 625 hectares.

In Masaka municipality, the land under residential use is distributed throughout the three divisions of Katwe/ Butego, Kimanya/Kyabakuza and Nyendo/Senyange, under low, medium and high density housing areas.

The low-density areas are found in both planned and unplanned settlements. The planned low density residential areas are localised in areas such as Boma hill, along Barnes Terrace, Birch Avenue, Alexander road and on Bwala hills in the Soweto area.

The other low-density residential areas are predominantly located along and far off the major roads within the banana plantations and crop fields in Senyange and Saza areas.

The planned medium density residential areas are located in Mutuba and Mususi gardens. Other medium density residential areas are distributed all around the municipality at Kimanya, Kirumba, Kijjabwemi, Kyabakuza, and parts of Bwala and Saza areas.

It is important to note that a good number of the residential developments have taken place without any planning control in spite of an existence of a structure and detailed layout plan in the municipality.

3.4.2 COMMERCIAL LAND USE

The commercial areas of Masaka contain shops, markets, and some private offices. Commercial areas are basically localised within the CBD and in some parts of the sub-centres of Nyendo, Kyabakuza and Saza. Within the commercial area a good number of the commercial buildings are also used for residential accommodation. In the CBD some upper floors of the commercial buildings accommodate residential flats while in the sub centres the back rooms of the commercial buildings are used for residential accommodation. The land under commercial use is approximately 37.0 hectares.

3.4.3 INDUSTRIAL LAND USE

Industrial areas in Masaka municipality are located in Kirumba area north east of the CBD, in Katwe / Butego division. This area is for the light industries. At Kijjabwemi and Kyabakuza are sites for heavy industrial developments. In Kijjabwemi, heavy industrial area, there is only one leather-tanning factory with a second one under construction. Residential developments have encroached upon part of this heavy industrial area. At Kyabakuza industrial area is the pineapple factory and a coffee factory. Land under industrial use is about 24.5 hectares.

Small-scale industries and workshops are scattered and distributed in Kyabakuza, Katwe, CBD and Nyendo areas.

3.4.3 INSTITUTIONAL LAND USE

Institutional land comprises of all land that accommodates institutions such as health, education, religious, police and prison barracks. The land under institutional use is approximately 238.5 hectares.

Health

Institutional land under health use includes land on which Masaka regional referral hospital in Kimanya / Kyabakuza division and Kitovu mission hospital at Kitovu in Nyendo / Senyange division. Seven health centre facilities are distributed in different parts of the municipality. Other health facilities include 15 clinics, four maternity homes and pharmacies all distributed in the various parts of the municipality.

Education

Land under educational use includes land covering various educational institutions including nursery schools, primary schools, secondary schools and tertiary institutions up to the universities. Educational land uses are distributed within the three divisions, with Nyendo / Senyange having 14 primary schools and three secondary schools plus a technical /business school.

Kimanya / Kyabakuza has 14 primary schools and six secondary schools and business institutions. While Katwe / Butego has nine primary schools, one secondary school and Mutesa 1 Royal. University located on the Kirumba hill.

Religious land use

Religious land uses includes land on which are churches and mosques. Kimanya, Kijabwemi, Kitovu, Katwe and with the CBD areas are churches for Catholics, protestants, and Pentecostals, and mosques for Muslims.

Prisons and Police barracks

The prisons and police barracks are located at Kumbu in Kimanya / Kyabakuza division.

3.4.5 PUBLIC / CIVIC LAND USE

The civic area is located along Broad way, north of the commercial area. It includes areas in which the postal office, various government offices, the magistrates' court. Other public lands are located at Saza accommodating the district administration headquarters, the municipal yard along Herbert Avenue, the works offices at Kijabwemi and the Television station on Bwala hill. Land under public use covers an area of 38.2 hectares.

3.4.6 SPECIAL PURPOSE

Under special purpose use, includes land put to use with special restrictions due to security concerns. The military barracks at Kasijagirwa, north of the CBD falls under this category. The military barracks cover a substantial amount of land. Approximately 247 hectares of land is occupied by the barracks at Kasijagirwa.

3.4.7 PUBLIC OPEN SPACE /RECREATIONAL LAND USE

Recreational use includes public open spaces, which include the golf course, on the slopes of Boma hill and the playgrounds at Kimanya (Masaka recreation ground).

Most of the land zoned for public open space has been built up with various kinds of developments. On the other hand the new golf course proposed on part of Kumbu forest was never constructed due to difficulties encountered when the municipal council tried to de gazette the land from forest to golf course.

The land zoned for stadium in the previous 1985 structure plan was never implemented instead residences have been constructed in the area.

Map 4 shows the community facilities in Masaka. The existing public open spaces cover area of only 52.4 hectares.

3.4.8 TRANSPORTATION LAND USE

Transportation includes all land under highways, roads, and footpath networks, vehicle parking, airstrips, and bus and taxi terminals.

There is an airstrip on Senyange hill. This however has been out of use for over three decades now. The municipal Council has turned part of the land for this facility into a refuse dumping site.

It is important to note that, several of the parking areas provided in the old development plan for Masaka have been converted to other uses. This encroachment has affected mainly the parking areas within the CBD. Land under transportation is approximately 268.0 hectares.

3.4.9 RESERVED AREAS

These include gazetted wetlands of Nakaiba and Nabajjuzi rivers and the gazetted Kumbu forest reserve. Reserve lands cover an area of 1,189.8 hectares.

3.4.10 RESIDENTIAL/AGRICULTURAL LAND USE

There are low residential areas that are located far off from the major roads within the banana plantations and crop fields. These areas have been described as Residential / Agricultural use. Such areas are found in Saza, Kimaanya, Kijabwemi, Senyange and Kyabakuza. Residential/Agricultural land use cover an area of 1532.8 hectares.

3.4.11 AGRICULTURAL USE

Within the municipality is land purely under agricultural use with banana plantations, and crops of various types. This type of land use accounts for approximately 644 hectares.

3.4.12 OTHER USES

Some land within Masaka Municipality has uses that are not clearly defined, while the rest in that the steep slopes is vacant. This type of land covers approximately 99 hectares.

3.4.13 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- High mixed uses within the municipality
- Uncontrolled developments in many parts of the municipality.
- Growth densification and multiplication of slums.
- Lack of an up to date physical plan to guide the developments.
- Highly scatted homestead especial in residential/ agriculture zone are expensive service.
- Many small scale (maize mills, coffee hullers and carpentry workshops) industries are mixed with the residential and commercial areas resulting in user conflicts.
- Many of the public open spaces have been encroached upon by other uses and the existing ones neglected by the authorities.
- Roads are not standardised. Many road reserves have been encroached upon by developers.
- To many restrictions in the reserved wetlands, turning them into constraint areas.

Strategic Interventions

- Ensuring orderly development in the municipality through physical planning, effective compliance and development control.
- Upgrading of high density unplanned settlements.
- Preparation of a strategic urban development plan

to guide the development.

- Provision of sites for the small scale industrialists.
- Ensure protection and care for all public open spaces.
- Turn the wetlands into productive sites by utilising them for economic activities that conform to wetlands use.
- Developments should consistently commence from the centre outwards to the peripheral.

3.5 ECONOMIC ACTIVITIES

Economic life of the people of Masaka Municipality is based on the rich diversity of its natural resources as well as its strategic location. Masaka dwellers earn their living through engaging in various economic activities, which can be broadly categorized as:

- Commerce
- Services
- Tourism
- Manufacturing, Processing and Fabrication
- Urban Agriculture
- Wage Employment

3.5.1 COMMERCE

Like all urban centers, commerce constitutes the largest economic sector in Masaka Municipality. Situated as a major regional centre in the southern region, Masaka town is strategically positioned to be a key commercial centre for the surrounding districts of Masaka, Kalangala, Rakai, Lyantonde and Sembabule. Further, the town is situated at two main international highways, a factor that promotes transportation to and from the town and makes it an important call-point for travelers.

Commerce is hence, the largest single contributor of local revenue for the municipality. An inventory of business activities drawn from the municipal business register for financial year 2006/07 reveals that there are altogether a total of 2,628 licensed commercial business enterprises in the entire municipality as shown in table 14.

Business activities in Masaka municipalities can be categorized in the following main groups:

- Wholesale
- Retail
- Street vending and hawking
- Transport service
- Banking and micro finance service
- Insurance services

- Security services etc

Retail trade is the largest business activity in the municipality followed by services and hotels, restaurants and lodges in that order.

TABLE 14: LICENSED BUSINESS ENTERPRISES IN MASAKA MUNICIPALITY BY DIVISION

Division	Businesses
Katwe – Butego	1,492
Nyendo – Ssenyange	823
Kimanya – Kyabakuzo	313
Total	2,628

It is however important to note that there also is a big informal sector represented by market vending and petty street vending and mobile hawking as well as quasi markets in the evening selling foodstuffs and other merchandise. The statistics used to compile the proportions of businesses presented in figure 5 above did not include businesses in the informal sector since these are not licensed.

Factors promoting trade and services in Masaka Municipality include the following:

- A rich hinterland where agriculture and fishing are two main economic activities that support the market for goods and services offered in Masaka.
- Good road transport: The main road from Kampala to Masaka has an all weather surface.
- Existence of financial intermediaries. There are many commercial banks, deposit-taking micro finance institutions, insurance firms as well as savings and credit cooperative societies in Masaka. There is also a currency centre, which is a regional branch of the Central Bank of Uganda.
- Telephone communication network: There are four mobile telephone providers serving Masaka Municipality and a number of public internet service centers.
- Availability of hydroelectric power which continues to attract industrial activities.

3.5.2 THE SERVICE SECTOR

Masaka municipality has a moderately developed services sector. Main categories of services offered in Masaka include transport services (including Bodaboda), *clinics and laboratory services, veterinary services, motor vehicle, motorcycle and bicycle services, electronic repairs, tailoring services, hairdressing salon and bridal services, secretarial services, catering services, public pay phones, internet cafes, architects, artists and photo studio, entertainment services and car washing, etc.* There are also well developed professional services in Masaka municipality such as lawyers, surveyors, auditors, accountants, teachers, medical workers, etc.

3.5.3 HOTEL AND TOURISM SECTOR

Being a regional hub, Masaka municipal council is a big tourist center. There are many tourism attractions in the areas surrounding Masaka municipality that make it strategically positioned for tourism development. For example, the municipality is the gateway to the highly attractive sceneries of the Sese islands in Lake Victoria. Similarly, the Nabugabo Holiday resort located a few kilometers away on Lake Nabugabo is a major domestic tourism attraction in the region. It has been renowned for being the only Bilharzia-free Lake in the East African region.

Other factors that attract / support the tourism sector in Masaka Municipality include:

- Historical sites including the Buganda Kings palace at Nkoni and ancestries for a number of Buganda clans.
- Historical religious sites including sites of the colonial inter religious wars between the French Catholics and British Anglicans in the 1890s.
- The historical site for the interlacustrine kingdoms of the great lakes region, (the Bigobyamugenyi sites) found in Ssembabule district.
- The Musambwa islands in Lake Victoria which is a winter sanctuary for the gray-headed sea gull birds from Europe, is located a distance of 80km from Masaka Municipality.
- Availability of modern hotel facilities in the municipality
- Hospitable people.
- Good road communication: the town is located at a junction between two international highways.
- A well developed banking sector including two international banks.
- Good health facilities: the municipality hosts the regional referral hospital for the southern region. There is also a missionary hospital at Kitovu with modern health facilities.

Hotel Facilities

In Masaka Municipal Council the hotel facilities are averagely developed. The hotel industry is one of the fastest growing in the southern region. There are hotels of a high standard in the municipality with the highest currently running at 3-star level. The main hotels are indicated in table 15 following.

In addition, there are many high-standard lodges and guesthouses offering quality accommodation and restaurant services at very attractive rates.

These facilities have made Masaka Municipality the natural venue for many central government, NGO and donor activities in the region.

TABLE 15: MAJOR HOTELS IN MASAKA MUNICIPALITY

NAME OF HOTEL	CLASSIFICATION	LOCATION BY DIVISION
Tropical Inn	3 Star	CBD
Brovad Hotel	Do	Do
Zebra Hotel	Un-rated	Do
Laston Hotel	Do	Do
New Hotel	Do	Do
Maria Flo Hotel	Do	Do
Hotel Gretton	Do	Nyendo – Senyange
Palm Springs Hotel	Do	Katwe – Butego

Source: Masaka Municipal council Development Plan, 2007-2010

3.5.4 MANUFACTURING AND PROCESSING SECTOR

Generally, processing and manufacturing in Masaka is on a very small scale, mainly dealing in agricultural products (maize milling and coffee hulling) and metal fabrication. There are two medium-scale industries, one producing soft drinks and the other a tannery.

However, despite the current low level of industrial development, Masaka Municipality has potential for a number of industries due to availability of raw materials in its hinterland, a big market and power availability. The municipality has great potential for the following industries:

- Fish Processing
- Timber industry
- Meat and milk processing
- Tanning
- Food processing
- Coffee roasting
- Brewing and distilling
- China and other clay products industry
- Glass industry etc

3.5.5 URBAN AGRICULTURE

Owing to the fact that a big proportion of the municipality is peri-urban, urban agriculture constitutes a significant economic activity in the municipality. However agriculture is offered as a coping mechanism to supplement food and money incomes. Due to land scarcity, most of the urban agriculture activities are practiced on an intensive scale apart from a few cases of institutional agriculture (such as those in prisons and the military barracks). Main crops grown include banana, cassava, fruits, and vegetables.

Agriculture in Masaka municipality is widely spread in all divisions including Katwe- Butego, which is largely a central business area. Agriculture is supported by a number of factors, including a good market for agricultural products, fertile soils and adequate rainfall. In addition, by providing medium and low density residential areas which have big plots, the current structural plan encourages urban agriculture. People have used the excess land for crops and animals within the confines of their household.

Livestock farming is also a significant agricultural activity in Masaka Municipality whereby poultry is one of the main husbandries in many urban homes. It is practiced both on subsistence and commercial scale although the trends are that it is now becoming major commercial activity. There is a huge market for poultry products in Masaka.

According to the 2002 population and housing census, pigs constitute another popular animal kept by 34 per cent of all households in the municipality. Piggery was followed by indigenous cattle (23.1), goats (22.4 per cent) and exotic cross breed cattle (17.4 per cent). Other animals kept were sheep and rabbits.

Fish farming is another emerging agriculture husbandry activity in Masaka municipality. The most popular type of fish is tilapia representing 20.4 per cent of fishponds in the municipality . Other fish species include the miller cap and Claris.

Implications of Urban Agriculture

Urban agriculture has both positive and negative implications to the municipality. The positive implications include the following:

- Urban agriculture provides a strong alternative source of incomes for the municipal population.
- Urban crop farming keeps the municipality green and the crops help to absorb carbon and provide oxygen to the population in the municipality.
- The livestock kept feeds on waste food and organic garbage thereby contributing to solid waste disposal.

Similarly, home gardens help to absorb biodegradable matters /solid wastes as manure and this helps to reduce the burden of solid waste disposal on the part of the municipal authorities.

However a number of challenges also accrue from urban agriculture. These include:

- Urban livestock create more garbage and are a threat to tree planting and other aesthetic arrangements in the municipality.
- Crops like maize do provide good breeding grounds for mosquitoes which cause malaria

- Use of garbage as fertilizers create risks of toxic agriculture products that are dangerous for human consumption
- Tall crops like maize and bananas in road reserves reduce visibility for traffic at sharp bends.

3.5.6 FINANCIAL INSTITUTIONS

Masaka municipality has got a highly developed financial sector with five major banking institutions, of which two are international and one credit institution. As shown in table 16 below, there are also big deposit-taking micro finance institutions, savings and credit cooperative societies (SACCOs), and a number of insurance firms.

TABLE 16: FINANCIAL INSTITUTIONS IN MASAKA MUNICIPALITY

NATURE OF INSTITUTION	NAME
Commercial Bank	Centenary Bank Stanbic Bank Barclays Bank DFCU Bank Tropical Africa Bank Post Bank
Micro-Deposit Taking Institution (MDIs)	Foundation for International Community Assistance (FINCA) PRIDE Microfinance Uganda Finance Trust Masaka Microfinance Limited
Savings and Credit Cooperatives (SACCOS)	Micro Enterprises Development Network (MEDNET) Excel Microfinance Prosperity Microfinance Buddukiro Microfinance
Insurance Companies	Excel Insurance Statewide Insurance National Insurance

Source: Masaka Municipal Profile Report 2007

3.5.7 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Inadequate supply of power and the high tariffs, which makes the production cost very high.
- Lengthy procedures and high costs for acquisition of land for establishment of factories.
- Lack of formal trading places for the majority of small scale traders

- Poor state of public utilities such as the roads.
- High incidents of traffic accidents caused by undisciplined motorcycle operators.
- Urban livestock creating more garbage in the town and destroying newly planted trees and flowers.
- Crops like maize become breeding grounds for mosquitoes, which transmit malaria.
- Tall crops grown in the road reserves affect visibility.

Strategic Interventions

- The municipal authority should encourage people to use alternative sources of power e.g. solar.
- Increase accessibility to land by the potential industrial developers.
- Provide more trading places by opening up more markets within the municipality.
- Strictly enforce the law that prohibits grazing in the municipality.
- Clear all road reserves of tall plants.
- Ban planting crops that promote multiplication of disease vectors

3.6 COMMUNITY FACILITIES

Several community facilities exist in Masaka town that were provided by Government, and through community and private efforts. Map 4 shows the distribution of the major community facilities in Masaka municipality.

3.6.1 HEALTH

Under the current national health delivery system, municipal councils are mandated to provide primary health care through three levels of health units, i.e. Health sub-district, Health Centre III, and Health centre II. The primary health services delivered by Masaka Municipality mainly include, immunization, maternity and antenatal care, outpatient and inpatient services, and reproductive health services.

Diseases and their interventions

Like most cities in the tropical zone, malaria is the leading disease in Masaka, accounting for over 70 per cent of all outpatient attendances in municipal health units. Other common illnesses include diarrhea (especially in prisons) upper respiratory tract infections, sexually transmitted diseases, HIV and tuberculosis.

In Uganda, primary health care services are one of the leading national government priorities for poverty reduction. As part of this program, Masaka Municipal Council has witnessed an increase in central government funding to health services.

Leading among government interventions in the health sector are:

- Increased supply of drugs through a two-pronged funding approach, including locally managed drugs funds under the PHL program and a drugs quota system via the Uganda National Medical stores / credit line system.
- Intensified immunization campaigns
- Prevention of HIV/ AIDS through counseling and testing, condom use, and prevention of mother to child transmission.
- Increased support to anti-retroviral therapy and treatment of opportunistic diseases for people living with HIV/ AIDS. The municipality has two major HIV/ AIDS treatment programs operated through partnership with NGOs. They include: prevention of mother to child transmission offered at Masaka Municipal Council Clinics, Masaka Referral Hospitals and Kitovu Hospital and anti-retroviral therapy program offered at Masaka Referral Hospital, Kitovu Hospital, Uganda Cares, The Aids Support Organization (TASO) etc.

Delivery of health services in Masaka Municipality is also supplemented by a number of NGOs, which are mostly working on HIV/AIDS interventions. The most active NGOs that are operating in the municipality are listed table 17.

Health Facilities

Health facilities in Masaka Municipality are categorized between public health units and private ones. Public health units are those owned by the central and municipal local government. They include one regional referral hospital, one health sub-district and seven health centers of a second level of health units (Health centre 2) as categorized in the Uganda health delivery system.

TABLE 17: NGOs WORKING IN THE HEALTH SECTOR IN MASAKA MUNICIPALITY

NAME OF ORGANISATION	AREAS OF INTERVENTION
Kitovu Missionary Hospital	Curative, immunization and outreach services
Kiitovu Mobile Organization	HIV/Counseling, testing, home visiting
TASO	HIV Testing, counseling, ART Treatment and Prevention of Mother To Child Transmission (PMTCT)
Uganda Cares Initiative	''
Family Planning Association	Family Planning Services
Private Clinics and Midwives	Curative, immunization and maternity services
Private Pharmacies and drug shops.	Drug supply and stocking.

Source: Municipal Health Department

In addition, Masaka Municipality has private health facilities, which include 15 clinics and four maternity homes as seen in table 18 below. In between public and private health facilities, are private-not for profit health institutions. Masaka Municipality has one such facility at Kitovu Missionary Hospital.

The health sub-district is a management and coordination level of health services in the municipality where all health services providers, both government and private, are supposed to report.

3.6.2 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Health Centre two facilities do not have adequate facilities, all of them located on small plots some in small single block premises.
- High disease prevalence especially malaria, TB and HIV/AIDS.
- Poor environmental conditions characterized by poor garbage management, poor housing, etc, which expose the population to high disease risks.

TABLE 18: HEALTH INSTITUTIONS AND MEDICAL STAFFING IN MASAKA MUNICIPALITY

Type of Health Unit	Public	Private Not for Profit (PNP)	Total	STAFFING					
				Drs	Medical Asst	Nurses	Mid wives	Medical Asst	Total
Hospital	1		2						
Health Centre 2	7		7	1	1	7	5	14	28
Clinics	0	15		NI	NI	NI	NI	NI	NI
Maternity Home	0	4							
Total	8	19	28						

Source: Municipal Health Office Monthly Records

NI: No Information

- Low supply of essential drugs in the public health units.
- Poor nutrition leading to stunted growth, diseases, general brain retardation among the youth etc.
- Lack of transport facilities and other basic facilities at the municipal health offices. The municipal offices are visibly dilapidated.
- HIV/AIDS pandemic with its cross cutting effects.

Strategic Interventions

- Secure more land for the expansion of the health centre two facilities.
- Intensification of preventive approach to disease control.
- Improve the environment through campaigns etc.
- Increase access to the health facilities by the population.
- Putting in place prevention of mother to child transmission services in all municipal health centers.
- Revitalizing family planning services in the municipality.
- Increasing immunization services.
- Promoting sanitation and latrine coverage.
- Promoting and strengthening comprehensive HIV/AIDS care.
- Scaling down maternal deaths reviews.

3.6.3 EDUCATION

Uganda's education system includes formal and informal education. Formal education comprises of training at primary, secondary and tertiary levels. Primary, seven years, secondary, six years, and tertiary three to five years. Informal education trains beneficiaries, basic skills of education like reading, writing and numeracy.

Tertiary education includes universities, colleges of commerce, technical and vocational colleges, technical institutions and teacher training colleges.

The official primary school going age is 6-12 years although studies have shown that children older than 12 years attend primary schools. In 1997, Government introduced Universal primary education program for children aged 6-15 years.

This section gives an analysis of the existing situation of the education sector in Masaka municipality.

Educational Facilities

Primary schools

There are 59 primary schools within Masaka municipality. Of these, 14 are government aided, while 44 are private owned. These schools are distributed in the municipality and are shown in table 20.

The present pupil enrollment is 21,577 pupils. This number is larger than the children within the municipality who fall within the 6-12 years age bracket. This means a good number of pupils come from outside the boundaries of the municipality to attend school within the municipality.

Secondary schools

There are 16 secondary schools in the Masaka municipality of which three are government aided and 13 privately owned. Their distribution within the different divisions is contained in table 19.

Tertiary Institutions

There are 10 tertiary institutions in the municipality of which two are universities, one technical school and the rest commercial business schools.

The government and mission schools have adequate land to accommodate all the facilities of the schools. In some cases the land is enough to accommodate even school farms. Although some buildings in the government and mission schools are old, generally the structures are in a sound state of repair. The buildings are permanent and meet the standards for a school. Table 20 and 21 show the existing public schools in Masaka.

On the other hand, most of the private schools are located on small plots hardly enough to accommodate the classroom blocks. In a big number of cases, many facilities are missing in these schools. There are cases where residential buildings have been converted into fully-fledged schools. In such a case, it is common to find a school without any of the necessary facilities.

TABLE 19: DISTRIBUTION OF EDUCATION INSTITUTIONS IN MASAKA MUNICIPALITY

Type of Ownership	Katwe/Butego	Kimanya/Kyabakuza	Nyendo / Senyange	Total
PRIMARY SCHOOLS				
Government aided	4	6	4	14
Mission	2	1	1	4
Private	10	12	19	41
Total	16	19	24	59
SECONDARY SCHOOLS				
Government aided	-	2	1	3
Mission	-	-	-	-
Private	2	5	6	13
Total	2	7	7	16
TERTIARY INSTITUTIONS				
Government aided	-	1	1	2
Private	5	1	2	8
Total	5	2	3	10

TABLE 20: EXISTING GOVERNMENT AIDED PRIMARY SCHOOLS

Primary school	Location	Size of land in hectares
1. Mugigi Primary school		1.5
2. Kijjabwemi p.s	Kimanya/ Kyabakuza	7.0
3. Hill Road Public School		4.0
4. Bwala P.S		2.0
5. Masaka Islamic Institute		1.0
6. Kyabakuza P.S	Kyabakuza	5.0
7. Ssaza P.S		2.0
8. Masaka P.S	Kimanya	10.0
9. Kimanya P.S	Kimanya	4.0
10. Kasijajirwa P.S		-
11. Nyendo P.S	Nyendo	8.0
12. Kitovu Girls P.S	Ssenyange	10.0
13. Ssenyange P.S	Ssenyange	6.0
14. Kitovu Boys P.S	Ssenyange	8.0

TABLE 21: EXISTING SECONDARY SCHOOLS

School	Location	Area in Hectares
St Henry's College Kitovu	Senyange	50
Masaka Sen Sec School	Kimaanya	32
Kijjabwemi Sen Sec School	Kijabwemi	12
Total		94

Source: Masaka Development Plan 1985

3.6.4 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Most of the private schools are located on small plots, hardly enough to accommodate the classroom blocks many facilities are missing in these schools.
- Cases where residential buildings have been converted into fully-fledged schools.

Strategies

- The land allotted for private schools should be increased to meet the minimum standards. In cases where locations cannot permit this expansion the schools should be relocated to other sites within the neighborhoods.
- All schools operating in non conventional school premises should be relocated within a given period.
- The Municipal authority must ensure that all schools have adequate facilities and any new school that is established in the municipality should have enough land.

3.6.5 SOCIAL AMENITIES

Social amenities are things, facilities, circumstances and surroundings that make social life easy or pleasant. In an urban setting, social amenities include green parks, playing fields, public theatres, community centers, public libraries, mayor's gardens and social clubs, etc.

Public Theatres

Currently there are no public theatres in Masaka municipality. The only theatre that was constructed in the 1950s has now been turned into a shopping mall. Meanwhile a number of private multi-purpose entertainment halls and discotheques have emerged. Currently, Ambiance Discotheque in the center of the town offers the most advanced facility though a number of others have been set up in various parts of the municipality.

Community Centres

There used to be three community centres in Masaka Municipality but these have long ceased to operate.

Public Libraries

Masaka Municipality operates one public library located on Edward Avenue in the central business district. However, this library is inadequately stocked and lacks modern equipments and facilities like Internet connection.



Masaka Municipal Council public library © UN-HABITAT

In addition, there are two privately-owned public libraries in the municipality, one operated by the Catholic Church and the other by a private operator. The two private libraries have more stock than the municipal library although the facilities there are inadequate and they too are not connected to the internet.

Golf course and play grounds

There is one Golf Course located in Katwe-Butego division on the out skirts of the central business district. However, golfing is not an active sport in Masaka and, hence, much of the Golf course is not well maintained.

Its central location exposes the golf course to tremendous land pressure as the Central Business District expands. For example, it has now been turned into other uses including public gatherings, exhibition show ground for farmers, and political campaigning ground, etc.

There are five playgrounds in Masaka Municipality located at:

- Kasaana and Kayirikiti in Nyendo-Ssenyange Division
- Masaka Recreation ground in Kimaanya-Kyabakuza Division
- Kigamba ground in Kimaanya-Kyabakuza Division and
- Ssaza grounds in Katwe-Butego Division

Masaka Recreation ground is the biggest and is the only one that is fenced though it was partly destroyed by the 1979 war.

Green Parks

Though not gazetted as a green park, the golf course in the centre of the Municipality is the most conspicuous green belt in Masaka town today. However, being a default green park, the municipality has not developed any infrastructure for public use and convenience on this area. The area is also facing a potential risk of a gradual land re-allocation by the district land board for other uses. Potential threats for encroachment are likely to come from the six big hotels surrounding it. It is hence crucial that Masaka Municipal Council acquires this land from the land board and gazettes it as a green park.

Other green belts in Masaka Municipal Council include the two planted forest zones of Kajanse in Kimanya-Kyabakuza and one in Katwe-Butego totaling to about 30 acres. These forest reserves are located at the periphery of the town and are therefore not easily accessible to the public.

Mayor's Garden

The Municipal Council has earmarked a space in the centre of the town for the mayor's garden. This is the space of about ½ acre formerly used for lorry parking though informally. The municipality has embarked on reclaiming this space to turn it into a green zone for a mayor's garden, but owing to financial limitations, progress is very slow.

Social Clubs

There are Lions and Rotary clubs in Masaka Municipality. The two clubs are very active and have undertaken a number of social development projects, the most recent including i) Provision of wheel chairs to people with disabilities by Rotary clubs; ii) Construction of Masaka Children Center by Lions club; and iii) Town sanitation programs by both clubs. Map 5 Shows the location of Recreational Open Spaces in Masaka Municipality.

3.6.6 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Recreational open space land has been allocated to private developers for other uses.
- Negligence of existing open spaces by municipal authority.
- Encroachment on recreational land by private developers.

Strategies

- No land under public open space should be leased out for other uses. The former golf course should be reserved, re-planned, beautified and developed into a central public recreational open space.
- Secure and develop all open spaces that have not been encroached upon.
- Encroaching uses such as parking that are being carried out in open spaces should be stopped immediately.
- Beautification of all public open spaces must be done in the municipality.

3.7 PUBLIC UTILITIES AND INFRASTRUCTURE

3.7.1 WATER SUPPLY

The various water sources in Masaka Municipality include: shallow wells, springs wells, bore holes, rivers, rain water and piped water supply.

Accessibility studies to water by the different households in the municipality indicate that only 24 per cent of the households have water on the premises, while 66 per cent have water in less than one kilometre from the homes, 8 per cent access it within a distance of 1-5 kilometres and 2 per cent move more than five kilometres in search of water.

Piped Water Supply

The provision and supply of piped water in Masaka municipality is under a specialized parastatal body, the National Water and Sewerage Corporation (NWSC). NWSC is responsible for provision of piped water and sewerage services in the major urban centers in Uganda. Established in 1973 by a decree of 1972 as a corporate body and as a water authority, NWSC was given powers to take over from local authorities their water and sewerage services. The corporation, with the approval of the Minister concerned, may make regulations for several purposes, including fixing water rates and charges for other services rendered.

TABLE 22: CURRENT CAPACITY OF WATER SUPPLY SYSTEM IN MASAKA MUNICIPALITY

No	Particulars	Unit of Measure	Measurement Values
1	Estimated Service Coverage Water	per cent of Municipality	81
2	Water Treatment Plant(s)	Nos	1
3	Plant Capacity (WTP No.1)	m ³ /day	5,000
4	Plant Capacity (WTP No.2)	m ³ /day	2,500
5	Length of Transmission /Pumping	Km	7
6.	Length of Distribution Network	Km	203.7
7	Length of Service lines	Km	
8.	Water Pumping Stations	Nos	1
9	Reservoirs	Nos	5
10.	Practical waterworks capacity	000m ³	225
11	Total raw water abstracted	000m ³	139
12	Total water produced	000m ³	107
13	Capacity Utilization	per cent	48
14	Service water	000m ³	18
15	Total treated water supplied	000m ³	89
16	Power failure (total hours)/shut down Power Usage	Hours	128
17	KWH Used per month	KWH	80,062
18	KVA Used per month	KVA	263
19.	KWH/m ³ per month	KWH/m ³	748
20.	Average Daily Production	000m ³	3.6

Source: National Water and Sewerage Corporation, Masaka Office

The main water supply is composed of an old and a new adjacent treatment works located on the Nabajuzi river. The old plant treats and delivers 2500 cubic Meters of water each day while the new plant treats and delivers up to 5000 cubic Meters of water per day. The water is delivered through 200mm, 300mm, 100mm and 80mm diameter pipes to five reservoirs located on Boma hill, Bwala hill, Kitovu hill and at Kyabakuza. Map 6 shows the water distribution network in the municipality. Further information on the current capacity of the municipal water system is presented in table 22 below.

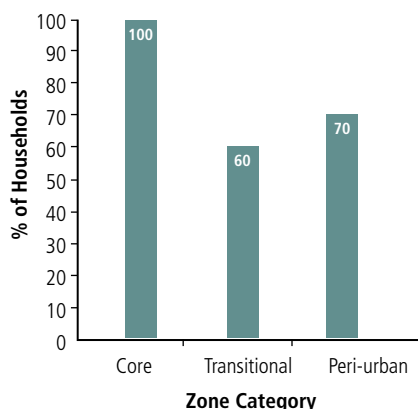


Masaka Municipal Council storage tank © UN-HABITAT

In terms of coverage, Masaka Municipality has got a fairly well established piped water system. The water system covers all the three divisions, although it is more concentrated in the CBD, parts of Nyendossenyange and the planned areas of Kimanya-Kyabakuza divisions. On average over 73 per cent of households in the Municipality use piped water. Map 6 shows water supply coverage in Masaka.

A recent survey on water utilization in homes revealed the following consumption statistics in the core transitional and peri-urban areas of the municipality shown on figure 2

FIGURE 2: DISTRIBUTION OF CONSUMERS OF PIPED WATER BY ZONE CATEGORY



Consumption of water by categories of water consumers is presented in table 23 below.

Since 1987, when management of Masaka Municipality water was placed under NWSC, the corporation has been implementing water supply recommendations contained in the detailed report of urban water supply and sanitation feasibility study for Masaka by Parkman Consultants. As a result of this implementation, the piped water supply coverage in the municipality is at 81 per cent while more than 70 per cent of the population has access to piped water. In the extension of water to the different parts of the municipality, NWSC follows the existing and proposed roads within the various parts of the municipality.

As a national body, the mandate of NWSC goes beyond the boundaries of the Municipality. So its priorities are not necessarily the same as those for Masaka Municipality. The priority extensions for water mains have been beyond the boundaries of the municipality, to Kyabakuza along Bukoba road and to settlements several miles away from the municipality along Villa Maria road.

TABLE 23: WATER CONSUMPTION UNDER NWSC

No	Indicator	Domestic	Industrial Commerce	Public Stand Pipes	Government/ Institutional	Total
Water						
1.	No. of water connections	4,001	587	144	286	5,018
2.	Active water connections	3,523	487	125	246	4,381
3.	Inactive water connections	502	110	20	39	671
4.	Active sewerage connections	149	133	0	39	321
5.	Inactive sewerage connections	29	21	0	2	52
	Total sewerage connections	178	154	0	41	373
Public Stand Posts						
6.	Active Private Standard Pipes (PSP)			125		125
7.	Inactive PSP			20		20
Total PSP						145

Other Sources of Water

The other sources of water used by residents of the municipality include 20 protected springs, 10 unprotected springs, 20 protected shallow wells, and 30 unprotected shallow wells, rivers and a few bore-holes. These alternative sources of water are used by Municipal residents in the areas without piped supply in parts of Butego ward and Kitabazi, Kanoni, Kisuuna, Kimanya, Kyabakuza, Buchulo, Ssenyange, and Bujja Njeru.

Although NWSC took over the responsibility of providing piped water to the municipality, it still remains the duty of the Municipal Council to provide safe water to all the residents

3.7.2 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Only a small percentage of households with water on their premises which makes it impossible to have water borne toilets on most of the premises.
- A good percentage of people using water from unsafe water sources.
- Many people having to move more than a kilometre to the water sources.

Strategies

- Municipal authorities to take the responsibility of providing safe water to all her residents within reach so that they can have inside connections to their premises.
- Ensure quality control of all water sources used by the residents
- Protect all unprotected spring and shallow wells that are not polluted.

3.7.3 ENERGY SUPPLY

Energy consumption in urban areas normally takes different forms including, though not limited to, the following purposes:

- Energy for domestic lighting and cooking
- Energy for commercial purposes
- Energy for industrial and agricultural production
- Energy for public services like supply, street lighting etc.

The common sources of energy used in Masaka Municipality are wood fuel, electricity, petroleum products, biogas, and solar energy.

Energy for Domestic use

The 2002 Census indicated that a big proportion of the population (51.6 per cent) in the municipality uses electricity while 46.9 per cent used paraffin in conventional lanterns and locally fabricated small lanterns locally called “Tadooba”. 0.2 per cent used petroleum gas, while 1.1 per cent used candle wax and 0.2 per cent used firewood for lighting.

On the contrary, charcoal and firewood are the most popular sources of energy for domestic and institutional cooking. The 2002 Census results indicated that charcoal and firewood account for 54.4 per cent and 30.2 per cent respectively of energy for cooking in most households. Electricity, gas, paraffin accounted for just 11.9 per cent of the households.

Energy for Commercial and industrial use

Electricity is the dominant source of energy for commercial and industrial use in Masaka. Electric power is used in commerce, services, and light processing industries as well as in some urban agriculture activities like poultry. In addition, there is also considerable use of petroleum energy, especially in the transport and small commercial enterprises where generators are used as alternative sources.

3.7.4 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Low supply of electricity due to low generation and a high national demand. The municipality experiences rampant black outs.
- Limited use of alternative and clean energy.
- Low level of environmental sensitivity.
- Limited use of energy saving technologies in domestic cooking.

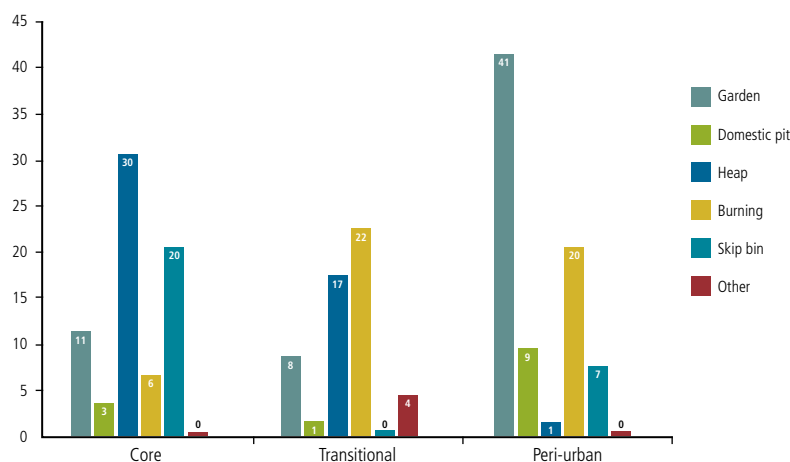
Strategies

- Alternative sources of power namely solar power should be explored and developed. The solar power can be used on security and street lighting, and also running traffic lights, and in the residential homes.
- Repair all the faulty security lights along the major roads and in the core areas. Those in public places and on street security lighting must be provided.

3.7.5 REFUSE DISPOSAL

In Masaka Municipality solid waste mainly consists of garbage from households, commercial enterprises, factory waste, agricultural waste from markets and farmers, metal scrap from garages and fabricators, plastic and polythene bags from bars, hotels and restaurants, etc. Like many municipalities, Masaka is experiencing a growing challenge of inorganic waste which is non-biodegradable.

FIGURE 3: METHODS OF GARBAGE DISPOSAL IN MASAKA BY ZONES



There are five methods of domestic garbage disposal practiced by residents of Masaka Municipality. These include *burning*, *dumping in garden*, *domestic pit*, *heaps* and *refuse skips*. A survey conducted as part of this Municipal profile reveals that heaps, skips, burning and gardens are the most commonly used methods although other methods are also applied.

Collection of garbage in the municipality is directly done by municipal staff using municipal trucks. The municipality owns two refuse trucks and 41 skips.

At the final dumping site, the disposal method used is crude dumping whereby refuse is dumped in the open. There is no sorting, processing or grading of the solid waste before or after it is dumped. Located at a distance of just four Kms on Ssenyange Hill in Nyendo-Ssenyange division, the site is a major pollutant in the area and it poses great environmental threats. The area hosting the present garbage dumping site is a former aerodrome and the land is owned by the Uganda Police Force.

- Direct garbage collection by the municipal staff is often affected by irregular cash flows experienced by the council.
- Increasing amount of inorganic solid waste cause higher environmental hazards and complicates final management.
- Inadequate enforcement of existing legislation on environmental legislation.
- Pollution of water sources by waste water washed from the refuse dumping site.

Strategies

- Securing a proper permanent site fitted with treatment facilities for refuse disposal
- Ensure pre sorting of garbage before disposal
- Introduction of contribution towards refuse collection and disposal by refuse generators.
- Privatization of refuse collection in the Municipality

3.7.6 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Indiscipline of community members leading to indiscriminate disposal of garbage.
- Poor mechanical conditions of the garbage collection trucks and lack of equipment cause delayed collection from the skips.
- Limited staffing in the works department. The department has got only five garbage collectors.
- Inadequate and poor distribution of skips
- Crude dumping method at the dumping site poses environmental threats.
- Lack of own dumping site.
- Refuse skips are misused by the population.

3.7.7 WASTE WATER DISPOSAL

Waste water is mainly produced by households, commercial enterprises and institutions. In the core area, waste water disposal is channelled through the municipal sewerage system. However, owing to the fact that most of the houses in this area are very old, most of the central sewerage systems have become dysfunctional and many of the new structures are not connected to the central system. As seen from table 24 below, only 10 per cent of the households in Masaka municipality are connected to this system. The rest of the municipality (90 per cent) is not served by centrally planned waste water and sewerage system. Here waste water is managed haphazardly by individuals and in many cases it is washed down the natural drainage system and finally ends in wetlands. In the unplanned settlement areas of Nyendo, Kimaanya and Kyabakuza, waste water is not managed at all and this constitutes one of the main causes of poor sanitation in these areas.

TABLE 24: STOCK OF SEWERAGE FACILITIES AND THEIR CAPACITY

No.	Particulars	Unit of measure	Measurement values
1	Estimated service coverage sewerage	per cent	10
2	Conventional Waste Treatment Plant (s)	Nos	1
3	Waste water Pond System (s)	Nos	1
4	Plant Capacity of Waste Water Treatment Plant	M3/day	
5	Length sewer network	Km	12
6	Waste water pumping stations	Nos	2

3.7.8 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- A very small percentage of the population access the central sewerage system.
- Haphazard disposal of waste water by a large number of people, especially those in the unplanned high density residential areas resulting in deadly disease transmission.
- Increasing cases of poor, sanitation-based diseases within the high density residential areas.

Strategies

- Ensure proper management of waste water in all areas of the Municipality.
- Increase accessibility of the sewerage system to more residents
- Ensure good sanitation practices especially among the residents of the unplanned high density residential settlements.

3.7.9 SEWAGE DISPOSAL

There are three methods of sewage disposal practiced in the municipality including i) Sewerage system; ii) Septic tank usage; and iii) Pit-latrines. The census findings indicate that 92.4 per cent of the house holds had a safe toilet while nearly 7.0 percent did not have a toilet facility. 6.7 percent of the households use uncovered pits, 0.3 percent dispose off their sewage in polythene bags and throw it in gardens or refuse skips.

Sewerage system

As already stated, Masaka has a sewerage system constructed in 1961, which is also run by the National Water & Sewerage Corporation. As revealed from the management of NWSC in Masaka and Map 7 demonstrates that the CBD plus the prison and police lines, and are the only places served by a system of sewage disposal connected with a conventional type of sewerage works. The works were constructed with combined settlement and biological aeration tanks and a sludge pumping station equipped with two 100 mm diameter electric pumps and drying bed facilities. It was found out that the separate primary settling tanks as well as the whole mechanical equipment are out of use. Consequently little or no treatment is performed. For this reason partly treated or untreated flows are emitted into the Nakaiba. Currently, a total 373 clients are connected to the municipal sewerage system, although 52 of these are inactive as seen in table 25 below. This method of sewage disposal accounts for only 1.5 per cent of the whole municipal population.

A set of oxidation lagoons were constructed in Kamugombwa valley on this facility but only a few sewage facilities of the Masaka hospital have been connected.

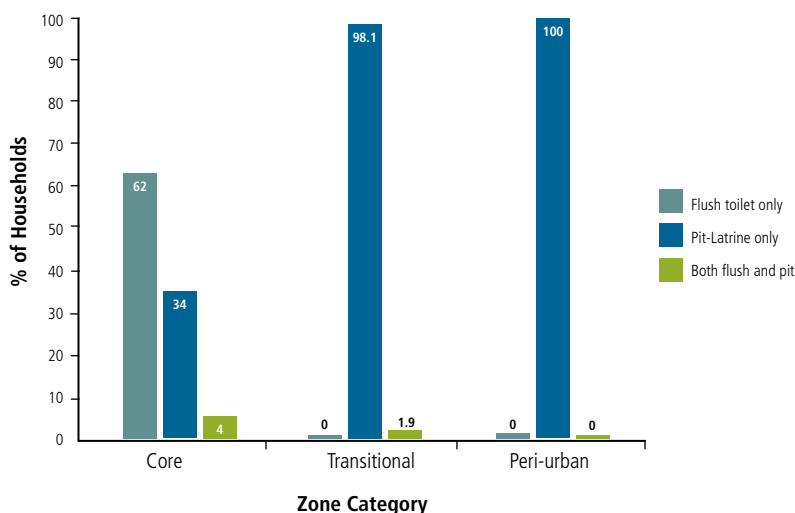
Septic Tank and Soak Pits

Septic tanks are used in those high and middle income settlements around the Boma area Mutuba gardens Bwala hill, Soweto, Kumbu, and in most of the institutions such as the schools, the university, the hospitals and health centres. Septic tanks are possible only in buildings with inside water connections. Only 30 per cent of the entire population uses this sanitary facility.

TABLE 25: USAGE OF SEWERAGE SYSTEM IN MASAKA

No.	Indicator	Domestic	Industrial Commercial	Government/Institutional	Total
1	Active sewerage connections	149	133	39	321
2	Inactive sewerage connections	29	21	2	52
	Total sewerage connections	178	154	41	373

FIGURE 4: SEWAGE DISPOSAL METHODS BY ZONES



Pit Latrines

Pit latrines are the most dominant method of excreta disposal used in all divisions. A recent survey in the core, transitional and peri-urban areas of the municipality revealed that pit latrines are used widely in all zones apart from the core zone where flush toilets were dominant. And as seen in figure 4 below, in many cases households including those in the core zone use both pit latrines and flush toilets.

- In the remote areas without piped water supply or inside house connections a wide range of low cost sanitary facilities are recommended. These include: Ventilated Improved Pit Latrines, Ventilated Improved Double Vault Pit Latrines), Composting toilets and Eco san toilets.
- For public or other communal facilities where frequent re-siting is impracticable a vault system with tank emptying is recommended. For this matter, a cesspool emptier must be available in the municipality.

3.7.10 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- The Municipality has got one very old cesspool emptier and no lagoons for disposing excreta from private septic tanks.
- Inadequate coverage of latrines especially for tenements and commercial buildings in the informal settlement areas.
- Inadequate public toilets in the municipality
- Low levels of inside house water connections which makes it impossible to use water borne toilets

Strategies

- The NWSC to rehabilitate the sewage treatment works so that pollution of Nakaiba wetland ends.
- Extension of the sewerage system as indicated on the Map 7. Another set of oxidation ponds are proposed at Nyendo.
- All developments (houses etc) located within range of the existing sewer lines must be connected to these sewer lines in the areas with access to piped water supply but out of reach these sewers septic tanks and soak pits are recommended.

3.7.11 STORM WATER DRAINAGE

The Municipality of Masaka is fortunate in being sited on hilly ground which makes surface water to be rapidly discharged into Naikaiba and Nabajuzi rivers via small tributaries. The soils of sandy murrum rapidly absorb storm water.

The residential neighbourhoods, including Bwala hill, Kimaanya, Kumbu, Kyabakuza, Ssenyange, Kijabwemi and Saza do not have any formal discharge system for storm water. Water from these areas rapidly discharges to the rivers of Nabajuzi and Nakaiba. Even Nyendo, a high density unplanned settlement has no formal surface drainage system. Some houses in this area have their own concrete channels which are also used for disposal of household sullage.

On the other hand in the Central Business District there exists storm water drainage system consisting of triangle shaped, covered and concrete lined channels. The cross sections of the storm water seems sufficient for drainage of storm water but unfortunately most of the sections of the channels and some of the manholes are without covers.

The storm water in these channels runs without any control in depressions near the central area. This has caused serious damage and deterioration of most roads. Trunk roads are provided with trapezoidal shaped open ditches, partially pitch lined. The roads in the residential areas are generally not provided with any form of storm water drainage. Effects of erosion are visible on the road surfaces and surrounding areas.

3.7.12 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Lack of storm water drains in most areas of the Municipality.
- Uncontrolled drainage of storm water that damages road surfaces.
- Dysfunctional and clogged storm water drains that result into destruction of roads and the surrounding areas.
- Erosion of top soils and destruction of soil fertility by high speed storm water run off.
- Strategies
- Repair and desilt all the existing storm water channels.
- Construct drainage channels in all the areas of the Municipality.

- All new roads and layouts must incorporate adequate surface water drainage channels. The different types of drainage channels to be constructed along the roads are shown on the drawings in figures.

3.7.13 TRANSPORTATION

There are three categories of traffic in Masaka Municipality including *i) traffic to and from the hinterland, ii) transit traffic which mainly involves heavy commercial vehicles carrying agriculture goods from the hinterland and exports destined for neighboring countries, and iii) traffic within the Municipality boundaries.* There are no water, rail or air transport networks in Masaka Municipality. All transportation is by road.

Consequently, most common types of vehicles in Masaka town include cars, buses, light commercial vehicles, heavy commercial vehicles, motorcycles (boda bodas), and bicycles.

Road Network

Masaka Municipality has a total road network of 80 roads whose total lengths equal to 146.1 kms. The roads are categorised between i) surfaced urban roads (36.6Kms), ii) Gravel/ earth roads (105Kms) and iii) Sanitary lanes (4.5 Kms) as presented in table 26 below.

TABLE 26: CATEGORIES OF ROADS IN MASAKA MUNICIPALITY

Length	No.	Length (Km)	percentage of total road length
Surface urban roads		36.6	25
Unpaved roads (Gravel/Earth roads)	18	105	72
Sanitary lanes (all unpaved)	6	4.5	3
Total	80	146.1	100

Source: Office of the Municipal Engineer, Masaka Municipal council

Road Classification

The roads in Masaka Municipality can be classified into four main categories namely:

Major roads, primary distributors, local or secondary distributors, and access roads.

Map 8 shows the difference classes of these roads.

Roadside Storm Water Drainage System

Along most of the tarmac roads within Masaka are storm water drains. The total length of the side storm water drainage system is 292.2kms and falls in three types namely i) Covered, ii) Open, and iii) Surface drainages.

Covered drainages cover 49.4 Kms, while open and Surface drainages cover 16kms and 226.8kms respectively. As such, over 77 per cent of the road drainage system in Masaka is surface.

Most of the road side drainages in Masaka flow into the Nakayiba and Nabajjuzi Rivers, which are part of Lake Victoria drainage system. This causes a serious environment concern because it leads to silting and pouring of petroleum waste materials in the two rivers.

Road Furniture

In urban areas, road furniture mainly consists of street lights, traffic control lights, traffic signs, rumble strips, etc.

Street lights cover less than 6kms and are mainly found in the core area of the CBD. There are some traffic signs on major paved roads and rumble strips at several points in Nyendo-Ssenyange division and Kimanya-Kyabakuza division, mainly on the highway. There are no traffic control lights anywhere in the municipality, despite an observed need at some crucial points. Most of the paved roads in the CBD are provided with walkways, although they are visibly neglected and are sometimes abused by cyclists.

Traffic Congestion

Though traffic congestion in Masaka is not as serious a problem as in major cities, the municipality still faces some traffic challenges. With a population of approximately 70,000 people and being an administrative service centre, and a commercial hub in the south western region, Masaka municipality experiences some high traffic densities some parts of the day. The international trade routes to the Democratic Republic of Congo (DRC), Rwanda, Burundi and Tanzania also contribute significantly to a high traffic density in the municipality. Traffic congestion is also caused by narrow roads, most of which were designed with no provisions for roadside parking.

The Municipal authorities have taken a number measures to control traffic congestion in the CBD.

The measures include;

- Traffic restriction, whereby some roads have been designated one-way.
- Imposition of street parking fees to control roadside parking.
- Redesigning of key roads by removing road islands to increase their capacity.

Parking Facilities

There are two main taxi parks in Masaka Municipality located in Katwe-Butego and Nyendo Senyange Divisions. The Park in Katwe-Butego is the central taxi park where most of the public transport vehicles to and from the hinterland converge. The central Park was constructed by the municipality in 1995. It is paved, though the access roads remain incomplete. The Nyendo Taxi Park is gravelled with very poor service infrastructure.

There is also one Bus Park in the CBD, but the facility is inactive and has been abandoned, mainly because unlike in the period before 1990, there are no more daily buses with end destinations in Masaka Town.

Most of the buses just transit through the town on their way to Kampala, the capital city. Consequently, the town is experiencing sporadic bus stops at strategic junctions on the high ways for transit buses. The major emerging bus stop points are Nyendo-“Welcome” in Nyendo-Ssenyange Division, and Kyabakuza in Kimaanya-Kyabakuza division.

However, there are no parking facilities for lorries and heavy commercial vehicles in the municipality, although until recently, these vehicles used to park at a central square which has now been turned into a Mayors Garden. The Uganda Revenue Authority (URA) in conjunction with Masaka Municipality have also constructed a night parking yard at Kijjabwemi in Kimaanya-Kyabakuza for transit trucks to Rwanda, Burundi, DRC and Tanzania. This is mainly a control measure and the facility is not fully effective as truck drivers tend to prefer staying in more populated towns of Lukaya (20Kms before Masaka town) and Lyantonde (74Km after Masaka town).

Public Transport

Transport is provided by private providers. The main means of public transport in Masaka include buses and minibuses for long distance routes; small commuter buses, cars and light trucks for travel to and from the hinterland. Travel within the municipality is mainly by “boda- boda” cyclists.

Overloading, overspeeding, and poor mechanical conditions of the vehicles are the main public transport challenges in Masaka Municipality.

3.7.14 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Inadequate human resources in the works and technical department. The existing staff also lacks basic skills in effective management of the traffic and transportation network.
- Poor funding due to limitations in local revenue sources and rigidities in central government grants.
- Lack of modern equipment and tools in the works department e.g. road designing equipments.
- High cost of construction materials like bitumen and stones.
- Roadside drains are overwhelmed due to the uncoordinated development of spaces, which were empty at the time of designing the drains.
- The high cost of electricity and accessories make it extremely hard for the municipality to provide street lights.
- Poor road conditions especially those in the municipal centre.

- Encroachment on sanitary lanes.
- Poor solid waste management leading to blockage of drains.
- Lack of street lights and other basic road furniture.
- Poor enforcement of traffic regulations especially in public transport.

Strategic Intervention

- Increase funding for operation and maintenance of roads.
- Provide parking in entire town
- Improve enforcement of traffic regulations especially in public transport.
- Create a hierarchy of roads within the town.
- Traffic segregation should be introduced in the Municipality in order to reduce traffic accidents.

3.7.15 ENVIRONMENTAL POLLUTION

Environmental pollution is a condition where the purity and sanctity of the environment is destroyed or made dirty. In urban areas pollution affects the air, water, atmosphere, soil and plant surroundings. Main pollutants normally include the following:

- Exhaust fumes from motor vehicles.
- Smoke from domestic kitchens.
- Waste oil from petrol stations and service garages.
- Refuse / solid waste.
- Dust from gravel roads and factories.
- Noise from traffic and entertainment industry. Etc.

Most of these pollutants are significantly present in Masaka although some are more serious than the others. The most significant pollutants include garbage / solid waste which mainly affect water and soil; exhaust fumes from motor vehicles which affect air and the atmosphere; smoke from wood fuel and paraffin stoves which affect the atmosphere and women and children health; dust from gravel roads which affects the atmosphere, merchandise, crops and buildings; etc. Poor garbage collection poses a big pollution problem in Masaka. It exposes the population to considerable risks, especially those living in areas surrounding the market places, rubbish heaps, garbage bunkers and dumping sites.

Air and noise pollution is not a major problem in Masaka Municipality, although some parts of the municipality (especially the slum areas of Nyendo-Ssenyange) experience a relatively greater degree of this pollution. The main pollutants include metal fabrication, discos that operate in the open, night clubs, open air advertisements, taxis and boda-boda

fumes etc. Garbage accumulation also exposes the population to considerable air pollution, especially the areas around the markets. There is also air pollution in Kirumba cell, arising out of poor waste management procedures at the municipal abattoir.

Petroleum Waste Disposal

Petroleum waste carries strong environmental risks in Masaka. The main polluters are the petrol stations and the numerous motor garages which have got very poor or no mechanisms for disposing used oil and other petroleum wastes. A few petrol stations have provided for oil interceptors and used-oil tanks. However, most of these interceptors are silted and are therefore ineffective measures. In addition, most petrol stations have not put in place systems for final disposal of waste oil from the interceptors.

Most petroleum wastes are washed by storm water down to the Nakayiba wetland and this has had a negative effect on the functionality of the natural filter mechanisms in this wetland, besides causing a big environmental risk to Lake Victoria, where the Nakayiba stream finally flows via the Katonga River. Petroleum waste kills bio-organisms in the wetland that are so essential in the natural treatment of sewerage wastes poured there from the municipal sewerage system.

As a default disposal mechanism, used oil is used by the population in treating timber for construction, lubrication of timber cutting machines, and as a crude method for fighting mosquitoes in soak pits, pit latrines and septic tanks.

3.7.16 CHALLENGES AND STRATEGIC INTERVENTIONS

Challenges

- Disposal of petroleum wastes into the wetlands and other water sources.
- Destruction of the environment by petroleum waste products.
- Accumulation of refuse in the collection points for long periods of time, resulting into environmental destruction.
- Disposal of refuse without treatment on high grounds where the waste is washed into the wetlands down hill.

Strategies

- Ensure proper disposal of petroleum wastes through functional interceptors
- All petrol stations and motor garages must have oil interceptors constructed and maintained. The Municipal authority must ensure compliance with this requirement.

- Timely emptying of refuse collection skips so the garbage does not rot in them.
- Identification of a new appropriate site to develop a land fill fitted with refuse treatment facilities.
- All petrol stations and motor garages must have oil interceptors constructed and maintained. The Municipal authority must ensure compliance with this requirement.

3.8 ANALYSIS OF MASAKA MUNICIPALITY'S STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

Future development trends in Masaka Municipality will be influenced by both internal and external factors. Internal factors, in particular the Municipality's strengths and weaknesses, will determine the speed at which it will adopt and absorb innovative technologies as well as good governance practices that are so vital in achieving sustainable city development anywhere in the world. However, internal factors alone are not sufficient. There are lots of external opportunities, which the Municipality will need to exploit in order to consolidate its development efforts. But there are also external threats to guard against.

In the following section, we present the main strengths, weaknesses, opportunities and threats for Masaka municipality.

3.8.1 STRENGTHS

1. Its position as the largest commercial centre in the southern region attracts investment.
2. Strategic location of the municipality on the transient and truck route from Kampala to Burundi, Rwanda, Democratic Republic of Congo, and Tanzania makes the municipality attractive to investment.
3. Existence of financial institutions
4. An educated and enterprising population.
5. Existence of basic utilities, including water and sewerage systems, electricity, telephone, communication and postal services.
6. Existence of a basic stock of facilities and infrastructure for operational and administrative purposes and service delivery such as buildings, road network etc.
7. Presence of many institutions e.g. schools which boosts the market for goods and services in the municipality.
8. Existence of well developed hotel and accommodation facilities.
9. Well-developed political and administrative structure up to grassroots. Policies formulation and their implementation are done quickly.

3.8.2 WEAKNESSES

1. A narrow revenue base relative to the demand for services.
2. Weak linkages between the top municipality administration and the lower administrative units.
3. Understaffing in key sectors such as physical planning and roads sectors.
4. Poor and inadequate equipment, and inadequate office facilities especially in the works and transport department.
5. Political conflicts leading to inadequate cooperation between political and technical departments.
6. Poor compliance to the physical plan leading to unplanned buildings.
7. Poorly developed urban infrastructure such as roads and sewerage systems.
8. Lack of readily accessible land for future developments by the municipal council.

3.8.3 OPPORTUNITIES

1. Tourist attraction sites.
2. Transportation corridors (trunk roads) The trans African highway runs through Masaka municipality, connecting it to other towns, districts, regions, and countries. (Tanzania, Rwanda, Burundi and Democratic Republic of Congo). These infrastructures stimulate development.
3. Potential industrial bases, the industrial area at Kijabwemi and Kyabakuza where services are still vacant. These can form a strong base for industrial development.
4. Virgin undeveloped areas: most of the land is still undeveloped.
5. Proximity to Kampala city the capital of Uganda. It is only 80 miles or 1.5 hours drive from Masaka to Kampala. This makes it close to ministry headquarters in Kampala.
6. A populace interland of reasonable purchasing power.
7. A favourable climate that ensure adequate rainfall and good temperatures.
8. Presence of civil society and donor organisations that compliment municipal efforts in development.
9. Support from central government in form of conditional and unconditional grants.

3.8.4 THREATS

1. HIV/AIDS which continues to affect the production capacity of the population.
2. Vagaries of weather in the Lake Victoria region, which are a result of uncontrolled human exploitation of natural resources in the region.
3. Inorganic solid waste which make management of environmental sanitation in the municipality very expensive.
4. Obsolete laws especially in planning which make one no longer relevant or applicable to the present situations.
5. Weak laws and regulations which make it difficult to enforce them.
6. Rural Urban migration causing rapid urbanisation and slum development.
7. The existence of private land ownership in most parts of the municipality, which makes it difficult to implement plans.
8. High levels of poverty among the people resulting from unemployment, high dependency ratio and lack of skills to compete for jobs.
9. Degradation of environment: trees have been cut, wetlands destroyed, building developers; some have been encroached upon by squatters and slum settlers.
10. High rates of immigration and mobility within the municipality, which has resulted into unprecedented population growth, growth of slums and destruction of environment. High mobility rate has made it difficult for people to maintain the services provided.
11. Population structure, which has a large percentage of young children and women. This has resulted in high dependency ratio.
12. High altitude of land terrain coupled with high rains, which erodes murrum roads to high costs of construction and maintenance.

In the following table 27, we present a summary of the main strengths, weaknesses, opportunities and threats for Masaka Municipality.



A busy local market in Masaka © UN-HABITAT

TABLE 27: SWOT ANALYSIS

Strengths

- Its position as the largest commercial centre in the southern region attracts investment.
- Existence of financial institutions
- An educated and enterprising population.
- Strategic location of the Municipality on the transient and truck route from Kampala to Burundi, Rwanda, Democratic Republic of Congo, and Tanzania makes the Municipality attractive to investment.
- Possession of a structural and a detailed layout plan, though outdated.
- Qualified and competent technical staff.
- Existence of basic utilities including, water and sewerage systems, hydro electricity, telephone communication, and postal services..
- Existence of a basic stock of facilities and infrastructure for operational and administrative purposes and service delivery such as buildings, road networks, etc.
- Presence of many institutions e.g., schools which boosts the market of goods and services in the Municipality.
- Existence of well developed hotel and accommodation facilities.

Weaknesses

- A narrow revenue base relative to the demand for services.
- Weak linkages between the top Municipality administration and the lower administrative units.
- Understaffing in key sectors such as physical planning and roads sectors.
- Poor equipment and inadequate office facilities in the works and transport department
- Political conflicts leading to inadequate cooperation between political and technical departments.
- Poor compliance to the physical plan leading to unplanned buildings

- Poorly developed urban infrastructure such as roads and sewerage systems, etc.
- Lack of land for future developments by the Municipality council

Opportunities

- The policy of decentralization which provided opportunities for self governance and participatory development.
- Conditional and unconditional grants from the central government.
- Presence of civil society and donor organisations that complement municipal efforts in development.
- A favourable climate that ensures adequate rainfall and good temperatures.
- The Mutukula border post positively influences the flow of traffic through Masaka Municipality causing high market.
- A populous hinterland of reasonable purchasing power.

Threats

- HIV/AIDS which continues to affect the production capacity of the population.
- The downward trend of global prices of mostly agricultural products produced in the hinterland affects demand of goods and services in Masaka municipality
- Vagaries of weather in the Lake Victoria region, which are a result of uncontrolled human exploitation of natural resources in the region.
- Inorganic solid waste which makes management of environmental sanitation in the municipality very expensive.
- Disruptions in local revenue collections as a result of political conflicts.
- Outdated urban planning laws.
- Unfavourable government policy on urban land;
- Unpredictable central government transfers making planning and service delivery difficult.
- Rural-urban migration causing rapid urbanisation and slum development.

LAND USE PROJECTIONS

4.1 LAND USE STANDARDS

Allocation of land for different uses must be accomplished with foresight and anticipation of future requirements. Space allocations for various facilities such as housing and health centres, schools and social halls should be made, bearing in mind that one generation may contribute for substantial benefit of a subsequent one.

To work out the future spatial requirement for the various facilities and utilities, the prediction of the magnitude and numbers of these facilities must be based upon planning standards.

The outline structure plan for Masaka municipality that was prepared in 1984 and the Masaka Reconstruction and Development plan of 1985 spelt out some key planning guidelines (standards) that have been in force for more than 20 years now.

These standards have been reviewed and most of them adopted for use in this strategic development plan. This has been necessary in order to create consistency in the implementation and development within the municipality. The planning standards used in this document are indicated in the table 28 below.

TABLE 28: SPACE STANDARDS ON PUBLIC FACILITIES

Facility	Catchments Population	Land requirement in Ha	Notes
Open space	5,000	1.5	Can be integrated with the school.
Shopping Centre	20,000	1.5	Serves the entire community.
Local shopping area	5,000	0.5	Local shopping only
Nursery School	2,500	0.25	To be safely accessible
Primary school	5,000	3.0	Can be combined with open space
Secondary school	20,000	5.0	-do-
Religious zones	5,000	0.5	To cater for various denominations
Hospital	20,000	5.0	To serve town
Police station	20,000	5.0	-do-
Post office	20,000	0.25	-do-
Bus terminal	50,000	1.0	To be used as required
Abattoir	50,000	1.0	
Fire station	50,000	0.5	
Health centre	20,000	2.0	
Community centre	20,000	2.0	
Social hall	10,000	0.25	
Special purpose area	10,000	1.0	
Lorry Park	-	2.0	Serves the whole town

4.1.1 THE SPECIFIC STANDARDS FOR PUBLIC FACILITIES

The strategic development plan maintains the spatial standards for institutional establishments as outlined in the development plan for Masaka. These form the guidelines for the site development plans for the short and long term requirements up to the year 2027. These spatial standards are contained in the table 28 above.

Open Space

Provision of open space is vital because most of the population of Masaka is generally deprived of private recreational resources. The pedestrian circulator system and leisure facilities such as football fields and play grounds must thus be incorporated into the design of the scheme. One to 1.5 hectares of open space are required for 5,000 people. Thus each neighborhood should be provided with this public land for the benefit of all.

Shopping Facilities

A local shopping centre consisting of a few shops catering for everyday needs of the population should be provided. A site of 0.5 hectares is sufficient. The community shopping centre would cater for all retail needs of the population, including shops such as pharmacies, butcheries, grocery, hardware, clothing and others. An area of five hectares is required.

Nursery Schools

Nursery schools should be provided at the rate of two per neighborhood of 5,000 people. They should have all basic facilities for a nursery school. An area of 0.25 hectares is required for each nursery school and a catchment radius of 300 metres walking distance.

Primary Schools

A space of three hectares and two hectares is sufficient to accommodate one three stream and one two stream primary school respectively. This would include play fields, and school buildings. One three stream primary school is required for each neighborhood, located in the centre together with shopping facilities and religious areas. This would ensure easy access from the periphery of the neighborhood and minimize walking distances for pupils.

Secondary Schools

The land required for a secondary school incorporating athletic facilities, out door teaching facilities, and staff accommodation is six hectares. One secondary school up to a maximum of 2,000 students is designated for four neighborhoods for a catchment population of 20,000. Combination of schools with a community center could result in sharing of facilities and subsequent savings.

Religious Zone

Given the varied composition of the population, it is foreseen that several denominations will require places of worship. To cater for various denominations, the area required for a religious facility shall be standardized at about 0.5 hectares. This will provide space for the place of worship and auxiliary buildings.

Health Centre

Health centre / Dispensary should be available for primary health care. We shall need one facility for every division or one facility for every 40,000 people.

Police Station

The police stations would cater for approximately 20,000 people. To accommodate a station and auxiliary facilities about five hectares of land is required.

Post Office

Post offices must be accessible to the general population based on a walking

distance of two kilometers. Each community of 20,000 people should have one post office.

Fire Station

For a population of 30,000 -50,000 people, one fire station is required. This would include space for the station storage and parking. An area of 0.4 hectares would be sufficient for this purpose.

Abattoir

An abattoir is required for a town of 5,000 people or more and being a noxious use, it should be located within an industrial zone. An area of 1.0 hectares would be sufficient for this purpose including loading space and processing facilities.

Bus Terminal

A well equipped bus terminal of about 1.0 hectares is sufficient for the municipality as it is a regional centre.

Lorry Park

Given the fact that Masaka is located on the international routes of Tanzania, Rwanda, and DR Congo, the Municipality is subjected to considerable lorry traffic. Much of this traffic does not move at night, thus overnight parking for Lorries is common. A properly laid out and equipped lorry park of two hectares is required.

Community Centre

For a population of 20,000 people, who form a community, a community centre should be supplied. This centre would be the recreational hub of the community, and consists of meeting some, Educational and recreational facilities as well as catering for amenities. A size of 1.52 hectares would be sufficient.

Dispensary / Clinic

Each neighborhood should be provided with first aid clinics or dispensary. An area of 0.25 hectares would be sufficient.

Social Hall

Each neighborhood should ideally be supplied with a social hall in which a meeting room and class room are provided. An area of 0.25 hectares is sufficient.

4.2 FUTURE LAND REQUIREMENTS

4.2.1 RESIDENTIAL LAND REQUIREMENTS

Short-term (5 years) land use requirements:

In working out the residential land requirements for the whole municipality, a number of assumptions were made. The number of households in Masaka municipality is 22,217. Each household is assumed to occupy a dwelling unit. Of these 22,217 households, 70 per cent fall within the low-income brackets, thus high-density sector, while 20 per cent are in medium income and 10 per cent are high income, which are medium density and low density residents respectively.

Analysis of the available housing revealed that there is a shortage of 1,600 dwelling units in the municipality, all of whom fall under low-income brackets. These households reside in either servants quarters or in other forms of unconventional housing.

The average net land required to meet this short fall is 50.0 hectares. The residential land represents 70 per cent of the total developed land area in the case of this density residential area. Therefore the gross land area is 71.4 hectares.

By 2012, the number of households is expected to grow to 26,000 in the whole municipality. This means an addition of 3,783 households shall be added. Of these, 70 per cent shall be low-incomes, 20 per cent medium incomes and 10 per cent high income earners. The net land requirements are contained in table 29. The standard sizes for high density, medium density and low-density areas are 32 dwellings units per hectare, 16 dwelling units per hectare, and six dwelling units per hectare respectively.

TABLE 29: SHORT TERM (FIVE YEARS) RESIDENTIAL LAND REQUIREMENTS

Type	Percentage	Dwelling units	Dwellings per Hectare	Area required in Ha
Current shortfall, high density		1,600	32	50.0
High density	70	2,649	32	82.2
Medium density	20	756	16	50.4
Low density	10	378	6	73.0
Total		5,383		205.2

The residential land represents about 55 per cent to 70 per cent of the total developed area in the neighbourhood. Therefore the average net residential land will be about 65 per cent of the total land area of the neighbourhood. The gross short-term residential land requirement for the municipality is 315.7 hectares.

Long term (20 years) residential land requirements

The long-term residential land requirement for Masaka municipality is indicated in the table 30.

Over a period of 20 years to the year 2027, the number of households are expected to grow up to

47,785 households in the municipality. Approximately 15,785 households shall be added on, of which 1,578 households which is 10 percent shall be high income, 3,157 households that is 20 per cent shall be medium income group, while 13,699 households shall be in the low income bracket.

By using the above standards, the long term land requirement for the municipality is 1,547 hectares while the gross land requirement is 2,380 hectares. The detailed breakdowns are contained in table 28 below.

TABLE 30: LONG-TERM RESIDENTIAL LAND REQUIREMENTS-2027.

Type	Percentage	Dwelling units	Dwellings per Hectare	Area required in Ha	Gross area requirement Ha
High density	70	13699 plus			
1600 shortfall	32	478.0	735.4		
Medium density	20	3,913	16	244.6	376.2
Low density	10	1,956	6	326.0	543.3
Total	100			1048.6	1654.9

4.2.2 COMMERCIAL LAND REQUIREMENTS

The main commercial activities are contained within the central business district and the commercial sub centres within the divisions. The 1985 Development plan for Masaka extended the CBD eastwards, up to river Nakaiba to cater for the projected land requirements for commercial use. However to date, 26 hectares which is about 70 per cent of the total land zoned is not developed. Given the rate at which the commercial developments are coming up the available land can cater for commercial the land requirements for the municipality.

In addition to this the land for commercial shopping centres has been worked as part of the gross area for the residential land use.

4.2.3. INDUSTRIAL LAND REQUIREMENTS

The industrial activities in the municipality are located at Kirumba light industrial area, Kijjabwemi heavy industrial area, and at Kyabakuza. The amount of land reserved for the different industries by the 1985 Development plan was 70.3 hectares distributed as 25.2 Ha, 30.6Ha and 14.5Ha in Kirumba, Kijjabwemi and Kyabakuza industrial areas respectively.

Over a 20 year period only 30 per cent of this land has been developed. In Kijjabwemi industrial area, only one factory has been built with a second one under construction, while no new factories have been built at Kyabakuza. Kirumba light industrial area remains only 50 per cent developed of all the plots that were created in the 1985 development plan.

The industrial land requirements are placed at 50 hectares which is the undeveloped land within the industrial areas of Kirumba, Kijjabwemi and Kyabakuza.

4.3.4 INSTITUTIONAL LAND REQUIREMENTS

The land requirements and proposals for some institutional establishments have been met in the calculations and design of the residential neighbourhoods. Educational, particularly nursery and primary schools, health facilities especially the dispensary/clinics, religious and social halls, have all been catered for in the designs. Masaka hospital has adequate land to the north for future expansion.

The detailed calculations for the institutional establishments are presented in the table 31 below.

TABLE 31: FUTURE INSTITUTIONAL LAND REQUIREMENT

FACILITY	REQUIRED NUMBER OF FACILITIES BY 2027	LAND REQUIREMENTS BY 2027 IN HECTARES
Nursery Schools	27	7.0
Primary Schools	13	39.0
Secondary Schools	3	18.0
Places of Worship	13	6.5
Hospitals	1	5.0
Health Centre	3	6.0
Police Stations	2	10.0
Fire Stations	1	1.0
Post Offices	2	0.5
Bus Terminal	2	2.0
Abattoir	1	1.0
Lorry Park	1	2.0
Community Centres	3	6.0
Social Halls	12	3.0

Recreational Open Space

The pedestrian circulator system and leisure facilities such as football fields and playgrounds shall be incorporated into the design of the scheme. One to 1.5 hectares of open space are required for 5,000 people. Thus each neighborhood shall be provided with this public land for the benefit of all.

An 18-hole golf course shall be provided, while the former golf course, on Boma hill shall remain as a recreational open space. A sports complex shall cover

an area of 25.0 hectares. In addition to this, within the residential land calculations land for public open spaces was included.

Educational Land Requirements

Although there is Universal Primary and Secondary Education in Uganda, the enrolment rates in primary and secondary schools show that Masaka Municipality is not utilizing the Universal Primary Education (UPE) Program fully. The net enrolment rate for primary schools is 90.72 per cent while that

in secondary schools is 50.9 per cent.

The calculation of the future primary and secondary school requirements is based upon the existing standards as specified in the Reconstruction and Development plan. These plans are spelt out as follows:

The maximum number of students per class is 40 students, both in primary and secondary schools

The maximum and minimum numbers of streams per class in primary schools is three and two respectively. The total enrollment would be 840 pupils in a three stream primary school and 560 pupils in a two stream school.

The land required for a three stream school is three hectares while the two stream school would be two hectares.

The secondary school would have a maximum enrollment of 2000 students.

The minimum size of land required for a secondary school would be six hectares while the maximum would be 15 hectares for a boarding secondary school i.e including land for student dormitories and staff accommodation.

According to these standards only 12 primary schools out of 59 schools which are government aided meet the above standards.

The sites of most of the other schools and especially the private ones are too small.

Future Primary Schools Land Requirements

In calculation of future land requirements for primary schools, the following assumptions have been made.

Because of the better performance of schools within the Municipality than those in the rural areas, children shall not be sent out of the municipality for schooling.

Children are expected to continue coming to the municipality from outside for education purposes.

In the short term up to the year 2012 the population for the 6-12 year age group is expected to rise by 2291 children from 13,437 in 2007 to 15,728 by the year 2012. Of these, 90.72 per cent i.e. 2078 children are expected to be in school. These shall need 51 class rooms or four schools of two streams. The land required is nine hectares or eight hectares for three and two stream schools respectively.

While in the very long term (20 years) period, the population of the same age group (6-12 years) will rise by 12,432 from 13,437 in 2007 to 25,869 children by the year 2027 of whom 11,278 will be in school. 13 schools of three streams or 20 schools of two streams will be needed by the year 2027. The land requirements shall be 39 hectares for schools with three streams and 40 hectares for schools with two streams.

Secondary Schools

The short term (five years) secondary school age projections and land requirements are as follows:

The population of the secondary school age will increase from 13,437 to 15,728 in the year 2012. An increase of 2,291 people given the enrollment level of 50.9, only 1,166 shall be in school, so only one new secondary shall be required, needing 6.0 hectares of land.

The long term (20 years) projection and land requirements are: The population will increase from 13,437 in 2007 to 25,228 in the year 2027, an increase of 11,791 children within the secondary school age of 13-24years. The children expected in school are 6001. These shall be accommodated in three new secondary schools. Land requirements for these three day schools are 18 hectares.

The table 32 below presents the short and long term land requirements for Education Institutions in Masaka

TABLE 32: LAND REQUIREMENTS FOR PRIMARY AND SECONDARY SCHOOLS

Period	Projected Population	PRIMARY SCHOOL		Land Requirements in Hectares		SECONDARY SCHOOLS		
		No of School		Three Streams	Two Streams	Projected Population	No. of Schools Needed	Land Required in Hectares
Short term (5 yrs) up to 2012	2078	3	4	9	8	1,166	1	6
Long term (20 yrs) up to 2027	11,278	13	20	39	40	6,001	3	18

TOWN FORM / URBAN CONCEPT

5.1 THE URBAN FABRIC

The 1984 structure plan for Masaka municipality established a strategy of creating a land use fabric consisting of communities, each of which would contain neighbourhoods. The neighbourhood offers a logical framework for urban planning, in that it contains a justifiable mix of public facilities, housing and transportation links. This strategy shall be maintained in the design of the strategic development plan for the municipality.

The basic principals of the 'neighbourhood' as outlined by Perry in 1929 are:

- Major arterial roads and through traffic routes should not pass through the neighbourhoods. Rather these roads should form the edges of the neighbourhoods and as such should not require to be crossed by pedestrians.
- The interior street pattern should contain a hierarchy of residential roads designed for low speed traffic. Through the use of cul-de sacs, curved layouts and light surfacing a quiet and safe traffic environment can be created which would preserve the residential atmosphere.
- One primary school would form the centre of the neighbourhood. 5,000 people are assumed to be required to support this school, thus defining the population size of the neighbourhood.
- Other facilities within a catchment's area of 5,000 people should also be located at the centre of the neighbourhood. This would ensure an introspective traffic movement of local residents, making travel on arterials or crossing of major roads unnecessary. These facilities would include open spaces, shopping zones, religious amenities and other components.

As can be seen on figure 5, the neighbourhood conceptually forms one quarter of a community. The neighbourhood would have a centre in which facilities that are needed on a daily basis are located.

The community on the other hand would have a centre in which specialised facilities would be located which require a greater support population than contained in the neighbourhood. This centre is joined to the neighbourhood by a primary distributor road, which continues towards another community. From this primary distributor road, local distributors lead into each neighbourhood and thence to minor access

roads. Various pedestrian movements are encouraged through footpaths which radiate from the community centre towards each neighbourhood.

The circulation in a neighbourhood is conceptually illustrated in figure 6. The primary distributor bypasses the neighbourhood but from it the local distributor penetrates the residential areas in a loop. It follows a track through a sub neighbourhood and is not designed to lead directly to the centre. From the distributor road minor roads branch off to the residential blocks.

The land use concept for a neighbourhood is shown in figure 7. Schools, local shopping, open spaces, and religious facilities are located in the centre of the neighbourhood, surrounded by the residential areas. The community facilities, accessible by footpaths would be shared by adjoining neighbourhoods and as such are located outside the neighbourhood itself.

5.2 FUTURE TOWN GROWTH MODELS AND GROWTH DIRECTIONS

5.2.1 URBAN STRUCTURE

The historical development of Masaka town can be defined as 'concentric development' in that the developments and expansion have taken place in a circular form around the town centre.

The Central Business District is located on a gently sloping ground sub-divided in a grid-iron pattern. Around this centre, on the different hills a variety of urban related developments have come up.

To the east of the CBD are residential settlements of Nyendo and Senyange and institutional developments of Kitovu hospital, Kitovu catholic mission and Kitovu secondary school. To the south of the CBD are Bwala and Kimanya residential developments. Kumbu high density residential, Kyabakuza settlement and Kijjabwemi industrial area are located in the west of the town centre. To the north of the CBD, are: Boma hill low density residential area, Masaka regional referral hospital, Kasajjirwa military barracks, Muteesa 1 Royal University and Masaka district administration headquarters at Saza. Kirumba light industrial development is located north east of the CBD. The hilly terrain of Masaka creates beautiful and attractive scenery within the different locations of the municipality.

5.2.2 DEVELOPMENT CONSTRAINTS

In Masaka municipality are physical constraints that hinder developments. The main constraints including the steep slopes, reserved areas, security restricted, and densely built up areas are shown on map 9.

- **Gazetted wetlands:** which include the Nakaiba and Nabajjuzi wetlands. Nabajjuzi river is the source of water for the municipality. No developments are allowed in these areas unless granted permission by the Executive Director of Natural Environmental Management Authority, (NEMA).
- **Gazetted forest reserve:** at Kumbu is another constraint to development. The process of de-gazetting this forest is so lengthy and involves a lot. So many un-willing partners, most of whom are not residents of the municipality. Part of this forest was zoned for golf course but up to now the construction of the golf course has never taken off.
- **Built up areas:** The heavily built up areas especially the old part of the CBD, Boma hill, Nyendo high density residential settlements are all constraints to development.
- **Steep areas:** The steep areas on the lower slopes of Ssenyange as one approaches Bwala hill are constraints to development. It is impossible to construct access roads on these slopes and very expensive to carry out development in these areas.
- **Restricted lands:** Restricted lands such as Kasijagirwa military barracks and the areas surrounding these institutions constitute development constraints. The restrictive measures imposed by the military make it impossible to use this land for anything non-military.
- **Land ownership:** private individuals own a large portion of Masaka municipality land under mailo land tenure system. Areas of Nyendo/ Ssenyange, Saza and Kyabakuza are held under this type of tenure system. On these lands it is practically impossible to plan and control developments on them.
- **Agricultural farms/ banana plantations:** large tracks of land within the municipality are covered with banana plantations and other crop fields. These banana plantations are perennial thus owners are not willing to have them removed to give way for developments. They also provide a source of livelihood to a good number of people.

5.2.3 EFFECTS OF GROWTH CONSTRAINTS TO THE FUTURE DEVELOPMENT MASAKA

Wetlands

Under the NEMA act, developments in wetlands are prohibited with exception of a few developments which are described as compatible with the wetlands and these are permitted with the written permission from the Executive Director of NEMA. The restricted use of wetlands is an obstacle to development. This puts limitations to planning and implementation of the development plans of the area. Since it is the Executive Director for NEMA who determines what development is compatible with the wetland use, this kind of land cannot be planned for anything and can be regarded as not available for development.

Gazetted Forest Reserve

The gazetted forest reserve at Kumbu constitutes another obstacle to development and planning. The 1984 structure plan provided for a golf course on part of this forest reserve, but up to now the National Forest Authority (NFA) has refused to degazette this land from forest use. The process of degazetting a forest is very long and it involves very many stakeholders many of whom are at national level.

5.2.4 POSSIBLE AREAS FOR DEVELOPMENT

In order to determine the future growth possibilities for Masaka municipality, various undeveloped areas have been identified.

In fill areas:

- The area beyond the boundaries of Nyendo Neighbourhood. Including the land between Kalungu road, the by-pass road and the left hand side of Kampala road.
- The area 2 between the by-pass road and the Mutesa 1 Royal University and Kirumba light industrial area.
- Area 3, the land beyond the pineapple factory at Kyabakuza.
- Area 4, the land on to the left of Bwala hill neighbourhood.
- Area 5, area to the west of Saza neighbourhood.
- Area 6, area below Kitovu hospital.
- Area 7, undeveloped lands within the planned residential neighbourhoods, Kimanya, Kijabwemi, and Senyange.
- Area 8, Un developed land bellow the taxi park.

These are shown in the map 10 showing possible areas for development.

DEVELOPMENT PROPOSALS

6.1 LAND USE PROPOSALS

Based on the findings made in analysis and calculations of the future land requirements, the future land use for Masaka Municipality is presented in Map 11.

6.1.1 RESIDENTIAL LAND USE

It has been determined that the future population for Masaka up to the year 2012 can be accommodated in the existing seven neighborhoods of the municipality. The population of 90,000 people can be settled within the neighborhoods particularly Kijjabwemi, Kimanya, Kirumba, Bwala Hill and Ssenyange.

The long term population projection of 144,800 people by 2027 can be accommodated within boundaries of the municipality in the existing neighborhoods and the in fill areas which include

- The areas north of Kirumba neighborhood beyond the sports complex up to the by pass road.
- The areas north of the Nyendo settlement up to the northern boundary of the municipality
- The areas east of Saza neighborhood

A desirable mixture of low –medium and high density residential areas as well as a desirable mixture of compatible and complementary land uses and infrastructure shall be maintained. The roads, particularly in the parts where plots have been surveyed and allocated in accordance with the existing lay outs shall be conserved.

Nyendo high density residential settlement, which has developed without any planning control shall be upgraded through provision of basic utilities and social facilities. Those people who shall be displaced by the upgrading of Nyendo settlement will be accommodated in the in fill areas north of the settlement.

Within the commercial area a good number of the commercial buildings are also used for residential accommodation. In the CBD some upper floors of the commercial buildings accommodate residential flats while in the sub centres the back rooms of the commercial buildings are used for residential accommodation. This status quo shall continue, whereby the commercial areas shall be used for residential as well as commercial use.

6.1.2 COMMERCIAL LAND USE

The extended commercial area has remained unchanged. The redevelopment of the dilapidated structures and the vacant plots in the core area can meet the demand for commercial facilities in the short term up to the year 2012. Additional plots are available in the extended areas eastwards up to Nakayiba valley. In this area demanding enterprises such as departmental stores, automobile and furniture showrooms, wholesale and retail markets as well as cinemas, bus stations and taxi stands can be accommodated.

With more commercial facilities to be located in the sub-centres of Nyendo, Kyabakuza, Saza and within the designed neighbourhood unit centres, the future long term commercial needs for Masaka municipality shall be met.

6.1.3 INDUSTRIAL LAND USE

The three industrial areas at Kirumba, Kijjabwemi, and Kyabakuza have only a few factories.

In the whole of Kijjabwemi heavy industrial area is only one factory (tannery) with a second one under construction. Kirumba light industrial area has more than half of plots vacant. Some of the plots have dilapidated warehouses and the structures are due for redevelopment. At Kyabakuza industrial area is only one factory, the pineapple canary.

In these industrial areas, the basic infrastructure and utilities have been extended. They have thus been maintained and the land available can meet the short and long term land requirements for industrial development.

6.1.4 TRANSPORTATION

Road Hierarchy

The 1985 Development plan proposed a hierarchy of roads which were suitable for the neighborhood concept and all urban arteries of Masaka. Although attempts have been made to standardize the roads in the different divisions of the municipality, the consultants demonstrate that the sizes of these roads vary in width, hence they have to be standardized in the strategic development plan.

The proposed hierarchy of roads include:

By pass road with a right of way of 40.0 metres, major roads with right of way of 30.0M, primary distributors with right of way of 20.0M-25.5M and local distributors with right of way 12.0-15.0M.

The strategic development plan proposes a system of segregation of footpaths which interconnects portions of the neighborhoods, individual facilities and provides access to adjoining plots.

Road Network

Whereas the CBD area of Masaka has a grid iron pattern of road network, the distribution in the residential neighborhoods is based on the following principles:

- a) Major arterial roads and through traffic routes do not pass through the neighborhoods, rather, these roads form the edges of the neighborhoods
- b) The interior street pattern contains a hierarchy of residential roads designed for low speed traffic. Through the use of cul-de-sacs, curved layouts and light surfacing, a quiet and safe traffic environment can be created which would preserve the residential atmosphere.

This proposed road network is shown on the proposed land use map.11

Parking Policy Proposals

The parking policy guidelines for the municipality include:

- 1) Provision for sufficient surface car parks in the proposed neighborhoods within the three divisions as per parking standards recommended.
- 2) Additional car parks on either sides of the roads in the local shopping centers and CBD
- 3) Sufficient space provision (3.0 by 5.5m) in front of private building within the private properties
- 4) Public car parking facilities to be provided in the core areas of the municipality particularly in the CBD.

Buses and Taxi Terminals

The present taxi terminal in the CBD is adequate for future requirements of loading and off loading of passengers. However, two smaller terminals shall be established in Nyendo and Kyabakuza neighbourhoods to supplement the main bus and taxi terminals in the centre

International Air Transport Facilities

The current location for the police aerodrome is too small while the terrain cannot permit the aerodrome to be upgraded into an airport to international standards.

An appropriate site will have to be found, preferably outside the municipal boundaries for development into an international airport.

6.1.5 RECREATIONAL LAND

All the existing recreational open spaces in the municipality shall be preserved.

A pedestrian circulation system and leisure facilities such as football fields and playgrounds has been incorporated into the design of the scheme. One to 1.5 hectares of open space have been provided for every 5,000 people. Thus, each neighborhood has been provided with this public land for the benefit of all.

An 18-hole golf course has been provided on part of Kumbu forest reserve which shall be degazetted for that purpose, while the former golf course, on Boma hill shall remain as a recreational open space. A sports complex covering an area of 25.0 hectares has been provided along the bypass road north of Kirumba neighbourhood.

6.2 HOUSING

As stated above, the housing situation in Masaka municipality is characterized by large numbers of low income households residing in temporary and non-conventional housing. While the others reside in semi-permanent rented houses without adequate facilities located in high density unplanned settlements at Nyendo and Kyabakuza. The improvement of incomes for the majority of the Municipal's poor can result in housing improvement.

The strategic urban development plan makes the following proposals on housing improvement in the municipality:

- The low income settlements at Nyendo where the majority of the low income people reside should be upgraded by provision of the basic facilities and utilities. The upgrading should include a component of house improvement (consolidation) and security of tenure. This component can be in the form of housing loans extended to the project beneficiaries for house improvement.
- Secondly, public or semi public aided housing schemes should be established within the municipality.
- Thirdly, more housing for low income earners should be provided on sites and services schemes similar to that of New Kumbu in the areas of Kimanya.
- The extension of utilities and social amenities to the new neighborhoods can trigger off private house construction and improvement within the less dense medium and high income settlements of Soweto, Bwala and Kijjabwemi residential areas.

6.3 ECONOMIC ACTIVITIES

In order to improve the economic base of the municipality, and to raise the incomes for the majority of the residents of the municipality, it is necessary to put in place mechanisms that can stimulate the economic activities within the municipality.

Consequently, the following recommendations are made concerning employment and income.

6.3.1 COMMERCE SECTOR

Commerce being the largest economic sector in the municipality, this plan recommends the strengthening of this sector in the following ways:

- Organising all retail and petty traders, most of whom operate on the road reserves and shop verandas. This can be done by creation of more retail trading facilities through opening up a new market on the reserved market site adjacent to the Taxi Park in the central commercial area. Also by improvement of the existing markets at Katwe, Kyabakuzza, Kimaanya and Nyendo. In addition, more markets have to be opened up within the new residential neighbourhoods.
- Improvement of entrepreneur skills of the business community through training seminars and workshops

6.3.2 SERVICE SECTOR

Under this sector it is recommended that the transport services, especially the boda boda cyclists be organised. This shall involve:

- Training these motor cycle operators and enforcement of the safety precautions and regulations, including traffic rules and road signs.
- Gazetting parking centres for boda bodas.
- Registering all boda boda cyclists in the municipality.
- Carrying out routine checks on the road worthiness of the motor cycles
- Segregation of cycle traffic from vehicle traffic along the major roads.
- Create more trading places for the petty traders by opening up more markets etc.

6.3.3 TOURISM SECTOR

- Improve tourism to the municipality by improving social facilities, hotels, and improving accessibility to tourist attraction sites especially those within the municipality.

6.3.4 THE MANUFACTURING AND PROCESSING SECTOR

The manufacturing and processing sector, which would be a major source of jobs for the people of Masaka is carried out on a very small scale. The following recommendations are therefore made for this sector.

To generate the required jobs, it will be necessary to revive the existing industries and also attract new investments to the municipality, especially for factories that use locally available raw materials and are labour intensive. This shall be done through the following:

- 1) Attract new industrial investments especially those factories which shall use the existing agricultural raw materials. This will be achieved by making available encumbrance free, fully serviced industrial plots which can be acquired easily and quickly. These must be established within the light industrial area at Kirumba and heavy industrial area at Kijabwemi.
- 2) Repair and extension of public utilities within the municipality. These utilities include roads, water supply, drainage, street lighting etc.
- 3) Putting in place social facilities that are needed by the investors.
- 4) Improvement of power supply by establishing alternative sources of power such as solar.
- 5) Construct industrial estates within the municipality.
- 6) Revival of the closed industries through tax incentives or other attractive arrangements.
- 7) Removal of the bureaucratic red tape that hinders easy and quick acquisition of land for industrial development.
- 8) Construction of industrial estates within the municipality. Within these estates industrialists can establish their factories without wasting any time.
- 9) Increase skilled manpower within the municipality by conducting skills training programmes for the residents of the municipality and opening up Technical Institutions for the youth.

6.3.5 URBAN AGRICULTURE

Since urban agriculture provides a strong alternative source of income to the municipal population, this economic sector needs to be organized and strengthened. The agricultural potential that exists within the peri-urban areas of the municipality must be exploited to the benefit of the residents.

Agricultural activities that can be carried out on small pieces such as poultry keeping, cattle keeping by zero grazing, and piggyery and horticulture should be encouraged within the different areas of the municipality. The crops to be grown should include vegetables, pineapples, and fruits.

Fish farming and other agricultural activities that are compatible with the wet lands should be carried out within Nakaiba and Nabajuzi wetlands. Through controlled and organised agricultural practices, these wetlands shall be converted from constraints to high production economic potential areas of the municipality.

6.3.6 FINANCIAL INSTITUTIONS

Since Masaka has got a highly developed financial sector consisting of international banks, credit institutions, deposit taking micro financial institutions, savings and credit cooperative societies (SACCOs) and insurance firms, it is recommended that the Municipal council enters into an understanding with these institutions whereby residents can access credit from them on relaxed terms.

Concerning the collateral needed by most financial institutions in order to give loans, it is recommended that customary land owners should be encouraged to get leasehold titles over their pieces of land, which can be used as collateral for securing loans.

Attract more credit giving institutions to the municipality.

Encourage formation of development groups among the different interest groups within the municipality, namely: the youth, the women and people with disabilities.

Availing seed capital to the disadvantaged groups or people.

Strengthening the working relationships between the various development groups such as NGOs, CBOs, central government and micro finance institutions.

6.4 COMMUNITY FACILITIES

6.4.1 HEALTH

The two main hospitals within Masaka Municipality, i.e. Masaka Hospital and Kitovu Hospital, are located on land which is large enough to cater for any future expansion needs. The seven health centers within the municipality, which at level two are very small, are located on very small pieces of land. Some of them are on one small block building while others are just on part of buildings. Many of them do not have space for provision of the services they ought to provide. It is therefore recommended that more land must be secured so that these facilities are expanded.

On addition to that, more land is available in the proposed neighborhoods on which more health facilities can be established.

6.4.2 EDUCATION

Unfortunately there was no data about the size of land owned by the various private schools in the municipality. However the consultants' investigation revealed that most of the private primary schools are located on very small plots, some schools located in single block residential houses. In such cases these schools do not possess the basic necessary facilities for schools. It is therefore recommended that the land for these schools is enlarged to meet the minimum standards. In cases where locations cant permit this expansion the schools should be relocated to other sites within the neighborhoods.

All schools operating in non conventional school premises should be relocated within a given time span.

The municipal authority must ensure that all schools have adequate facilities and any new school that is established in the municipality should have enough land.

In the short term up to the year 2012, three new primary schools and one secondary school must be built in the municipality.

6.4.3 RECREATIONAL OPEN SPACES

In line with the Ministry of Local Government directive, no land under public open space should be leased out for other uses. The old golf course should be reserved, re-planned, beautified and developed into a central public recreational open space. It should be provided with all the necessary facilities for a public open space such as security lighting. Even other open spaces that have not been encroached upon must be secured and developed. Encroaching uses such as parking that are being carried out in open spaces should be stopped immediately.

Part of Kumbu forest should be developed into a new golf course.

The sports complex site that has been developed with residential houses has been shifted north wards to a new site of 25 hectares along the By Pass Road.

Land provided for public open space within the neighborhoods shall provide more recreational land.

Generally there must be beautification of all public open spaces in the municipality.

6.5 PUBLIC UTILITIES

6.5.1 WATER SUPPLY

Although the piped water coverage in the municipality is impressive, the piped water supply is quite distant from a good number of residents. Most of them do not have water on their premises and many continue to use water from unsafe sources. It is recommended thus:

- The Masaka Municipal Council assumes its responsibility of providing safe water to all residents within reach so that they can have internal connections to their premises.
- Ensure quality control of all water sources used by the residents
- Protect all unprotected spring and shallow wells that are not polluted. There are 20 unprotected spring wells and 30 unprotected shallow wells. The quality of the water in these wells must be assured.

6.5.2 ELECTRICITY SUPPLY

Like in the case of water supply, electricity generation and distribution to the different types of the nation is done by specialized agencies.

UMEME is responsible for the distribution of hydro electric power to the consumers in the various parts of the municipality. Although the electricity supply coverage in Masaka Municipality is impressive, there is low supply of electricity due to low power generation and high national demand, with results of rampant power black outs. It is therefore recommended that alternative sources of power, namely solar power should be explored and developed. The solar power can be used on security and street lighting, and also running traffic lights, and in the residential homes.

Provision of security lighting within the municipality is a responsibility of Masaka Municipal Council. The broken down security lights along the major roads and in the core areas must be repaired. Those in public places and on street security lighting must be provided.

6.5.3 WASTE WATER DISPOSAL

In line with the recommendations on waste water disposal contained in the Urban Water Supply and Sanitation Feasibility study by Parkman Consultants, in the peri urban areas and within the unplanned high density residential areas particularly Nyedo settlement where residents dispose of their waste waters into the roads and grounds around the houses, we recommend that washing slabs with soak pits should be introduced in these communities. Even bathing water should be piped to these slab soak pits.

In other areas all developments (houses etc) that are located within range of the sewer lines must be connected to the sewer lines without any further delay. This should include those properties that are adjacent to the lagoons at Kamugombwa.

6.5.4 REFUSE DISPOSAL

- Disposal of refuse at the current disposal site at the top of Ssenyange hill should stop immediately so that no further pollution to the Nakaiba wetland and water sources takes place. A new refuse disposal site should be identified, most likely outside the municipal boundaries, within a range of 10-15 kilometers from the town centre, down stream and away from water sources. This land of approximately 20-50 hectares should be purchased by the council and developed into a refuse treatment site with refuse treatment facilities. This land can be identified and secured through a tendering process.
- Unsorted refuse is expensive to treat, and sorting at the disposal site difficult to handle since most of it would have started to rot. It is therefore recommended that pre disposal sorting be done by depositing biodegradable refuse in one disposal container and non biodegradable into a separate container. That means every home or resident should have two refuse disposal bins.
- Given the fact that the costs of collection and disposal are very high, it is further recommended that the refuse generators should contribute towards refuse disposal.
- Masaka Municipal Council should stop focusing on refuse collection but rather consider refuse management, which would include other ways of handling refuse e.g. turning it into a raw material for goods manufacturing.

6.5.5 SEWAGE DISPOSAL

- As a matter of urgency the council should put pressure on the National Water and Sewerage Corporation to rehabilitate the sewage treatment works so that no further pollution of Nakaiba wetland continues.
- Secondly, in line with the recommendations on sewerage contained in the Urban Water supply and sanitation feasibility study by Parkmans Consultants, this plan recommends extension of the sewerage system as indicated on Map 7. Another set of oxidation ponds are proposed for Nyendo. On these lagoons will be connected the existing inactive sewage works. Also vast areas would be served by these lagoons, including Nyendo, Ssenyange, Kitovu, Kirumba Soweto/Bwala hill and Boma hill.

- All developments (houses etc) located within range of the existing sewer lines must be connected to these sewer lines without any further delay. This should include those properties that are adjacent to the lagoons at Kamugombwa.
- In the areas with access to piped water supply but out of reach, these sewers' septic tanks and soak pits are recommended.
- On the other hand, in the remote areas without piped water supply or inside house connections, a wide range of low cost sanitary facilities are recommended. These include: Ventilated Improved Pit Latrines, Ventilated Improved Double Vault Pit Latrines, composting toilets and Eco san toilets.
- For public or other communal facilities where frequent re-siting is impracticable, a vault system with tank emptying is recommended. For this matter, a cesspool emptier must be available in the municipality.
- Repair and desilt all that existing storm water channels.
- Construct drainage channels in all the areas of the municipality.
- All new roads and layouts must incorporate adequate surface water drainage channels
- Disposal of petroleum wastes in storm water drains should stop immediately.

6.5.7 TRANSPORTATION

Repair all run down roads in the municipality

Construct roads in the industrial areas and new residential areas.

Road Hierarchy

The 1985 Development plan proposed a hierarchy of roads which were suitable for the neighborhood concept and all urban arteries of Masaka. However, there has been no attempt to standardize the roads in the different divisions of the municipality, the consultants demonstrate that the sizes of these roads vary in width, hence they have to be standardized in the strategic development plan as indicated on table 33 following.

6.5.6 STORM WATER DRAINAGE

As indicated above, there are no storm water drainage facilities in most of the areas of the municipality. Even in the CBD where they exist, they are in a state of disrepair,. The following recommendations are made concerning the storm water drainage.

TABLE 33: PROPOSED HIERARCHY OF ROADS

Type of Road	Right of way(M)	Carriage way width		Footpath	Reserves in (M)
		Type	Lane(M)		
By- Pass	40	Dual (4lanes)	3.5	7	2.5 Shoulder 1.5 Storm water drain. 6.0 service reserve. 6.0 Central reserve
Major Road	30	Dual (4lanes)	3	2	2.5 Shoulder 1.5 Storm water drain. 6.25 Service reserve
Primary Distributor Road	20.0-25.0	Dual (4lanes)	3.75	2	1.25 Lighting reserve 1.5 storm water drain 3.5 service reserve
Local Distributor Road	12.0-15.0	2 lanes	2.75	-	3.0 service reserve 2.2 surface water drain
Access Road	9	2 lanes	2.25	1	2.0 service reserve 2.2 surface water drain
Access Road	9.0	2 lanes	2.25	1.0	2.0 service reserve 2.2 surface drains

The objectives of the standardization of the road network are based on the following criteria:

- i) Provision of convenient and efficient vehicular and pedestrian movement
- ii) Reduction of possible sources of traffic accidents at certain types of intersections and road alignments
- iii) Provision of off street and curb parking space, laybys and other subordinate facilities
- iv) All roads and street footpaths or sidewalks should be provided for either side of the primary and local distributors.
- v) Acceptable trees and shrubs to be planted and maintained along the primary and local distributor roads
- vi) No street should have a carriage way of less than two lanes
- vii) Where a residential street meets a primary distributor road, provision should be made for suitable design of the intersection
- viii) Uncontrolled cross junctions should be avoided and T junctions preferred

The strategic development plan proposes a system of segregation of footpaths which interconnect portions of the neighborhoods, individual facilities and provides access to adjoining plots.

Road Network

Whereas the CBD area of Masaka has a grid iron pattern of road network, the distribution in the residential neighborhoods is based on the following principles:

- c) Major arterial roads and through traffic routes do not pass through the neighborhoods, rather, these roads form the edges of the neighborhoods
- d) The interior street pattern contains a hierarchy of residential roads designed for low speed traffic. Through use of cul-de-sacs, curved layouts and light surfacing, a quiet and safe traffic environment can be created which would preserve the residential atmosphere.

This proposed road network is shown on the proposed land use map.11

Parking Policy Proposals

The parking policy guidelines for the municipality include:

- 1) Provision for sufficient surface car parks in the proposed neighborhoods within the three divisions as per parking standards recommended.

- 2) Additional car parks on either sides of the roads in the local shopping centres and CBD
- 3) Sufficient space provision (3.0 by 5.5m) in front of private building within the private properties
- 4) Public car parking facilities to be provided in the core areas of the municipality particularly in the CBD.

Parking policies in the various zones are outlined below:

Residential Areas

Within the residential areas at least one parking lot should be provided for each residential building in the low, medium and high density areas.

Commercial areas

In this area, parking provisions per hundred square meters of gross floor area should be established for the following types of developments;

- i) Wholesale stores: Four car parking spaces
- ii) Banks: Four car parking spaces
- iii) Group of retail shops: Two car parking spaces
- iv) Markets: Four car parking spaces
- v) Administrative office: Two car parking spaces
- vi) Other commercial e.g medical clinics; three car parking spaces

Industrial developments

For intensive manufacturing and service industries, a minimum of three car parking lots for the first 750 square meters of net industrial floor area and one car parking space for every additional 600 square meters should be provided.

Hotels and motels

One car parking lot for every two bedrooms shall be provided

Restaurants and club houses

One car parking lot for every five seats plus for the patron

Community centre and places of worship

One parking lot for every 10 seats or five parking lots for 100sq. meters of floor area should be provided

Hospitals

One car parking lot for every 10 beds with a minimum of 10 parking spaces and provision made for staff.

Truck parking, loading and off loading

1. Truck parking, loading and off loading facilities should be provided for within the premises of industries, warehouses, and commercial establishments
2. Curb or on street parking facilities should be accepted only as parking requirement for visiting customers

The standard size of a (car parking lot) should be 3.0m in width and 5.5 to 6.0m in length

6.5.8 ENVIRONMENT

Destruction of the environment has been identified as one of the major problems in Masaka whereby waste that is discharged ends up in Lake Victoria. It is thus strongly recommended that all activities that result in environmental degradation should be addressed. As for all new developments Environmental Impact Assessment studies must be carried out. In addition to this the following must be done:

- Ensure proper disposal of petroleum waste through functional interceptors
- All petrol stations and motor garages must have oil interceptors constructed and maintained. The Municipal authority must ensure compliance with this requirement.
- Timely emptying of refuse collection skips so the garbage does not rot in them.
- Identification of a new appropriate site to be developed into a landfill with refuse treatment facilities.

IMPLEMENTING STRATEGIES

The planning proposals made in this report and accompanying documents give rise to a number of issues which should be pursued in order to develop the municipality to the desired aspirations of the residents:

7.1 RESOURCE ANALYSIS

Implementation of projects depends upon the resources available to the municipal authority. Therefore a resource analysis for the municipal authority is necessary if a realistic implementation strategy is to be identified.

The expected annual income for Masaka Municipality is UGS 3.9 billion (USD 2 million) of which UGS 604 million (USD 318,000) is local revenue while central government and donors contribute UGS3 billion (USD 1.6 million) and UGS 126 million (USD 66,700) respectively.

The central government funds are meant for salaries, school facilitation grants for school buildings constructions, Universal primary education and Primary Health Care for immunization and drugs. The donor grants are for specific development projects.

Given the above situation, Masaka Municipal Council has only UGS 604 million which can be spent on the recurrent budget expenditures.

7.2 CAPACITY ANALYSIS

Human Resource Analysis for Masaka reveals inadequate technical staffing in all the departments. Out of 137 technical positions in the municipality, only 51 positions are filled. In the engineering department which is responsible for supervision of projects, there is only one engineer, two assistants and one physical planner.

Given the current budgetary constraints, not all proposals in this study can or should be implemented immediately or together.

Certain priorities do exist which if developed can result into critical mass effect which would accelerate the attainment of the desired vision of the people for the municipality.

As a result of the above, the implementation strategies for this plan aim at identification of these priorities followed by actual implementation. Given the fact that stakeholder participation was a key factor in the preparation of the plan, identification of the priorities has been done in accordance with their priorities. The priorities for the first five years are outlined below:



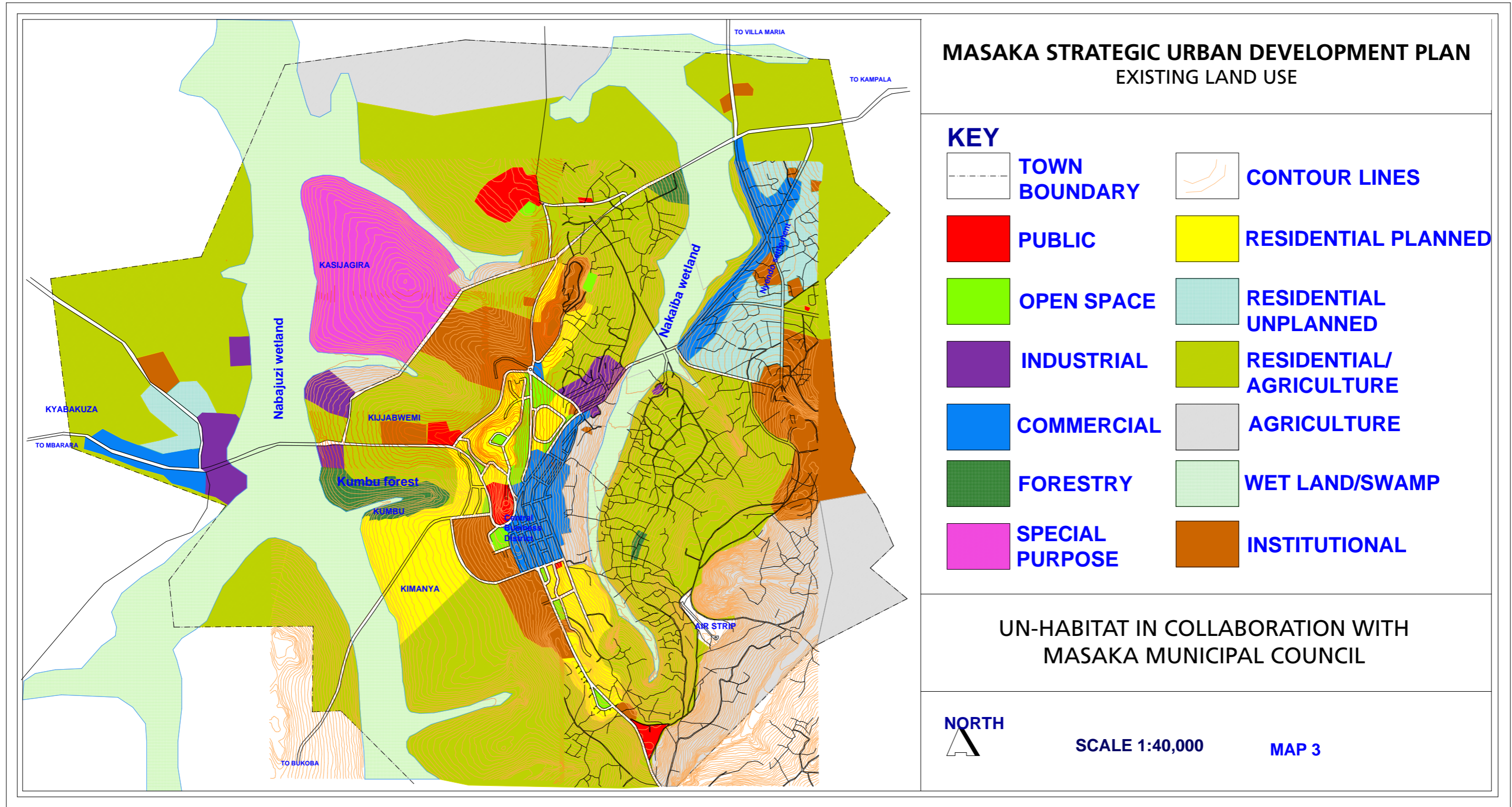
Ground breaking day celebration of a new poultry house in Masaka © UN-HABITAT

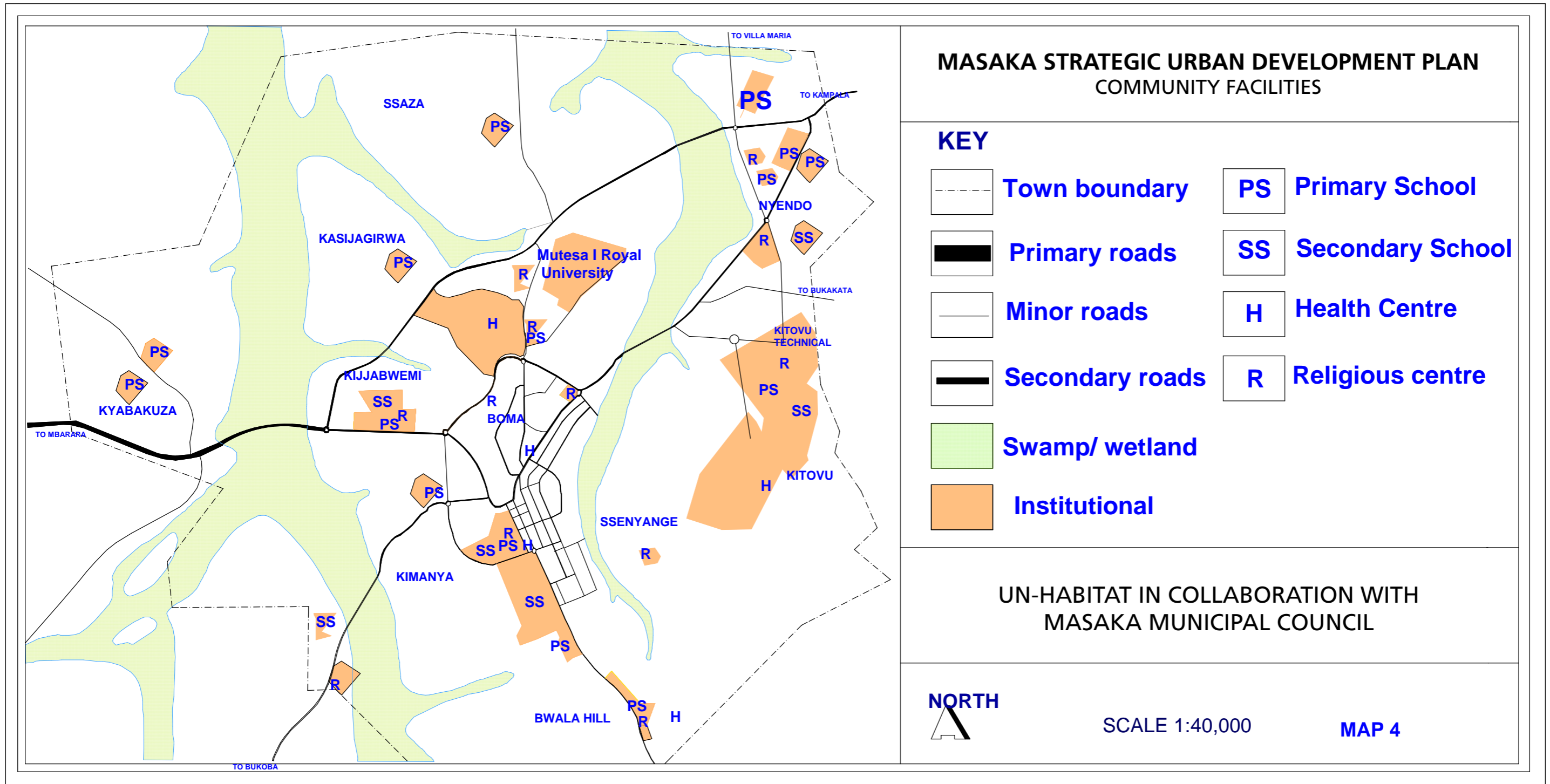
7.3 ACTION PLANS

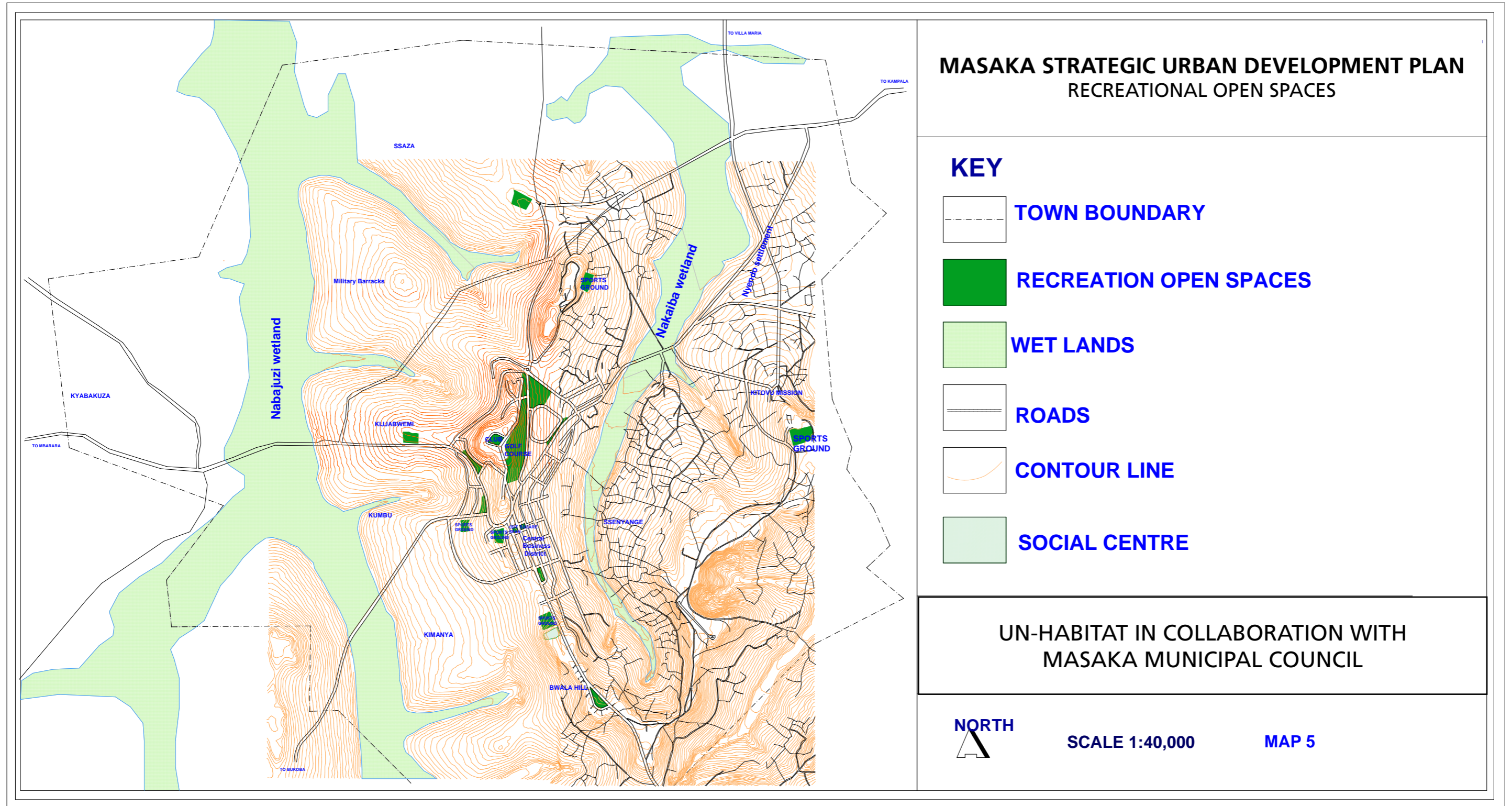
TABLE 34: ACTION PLANS

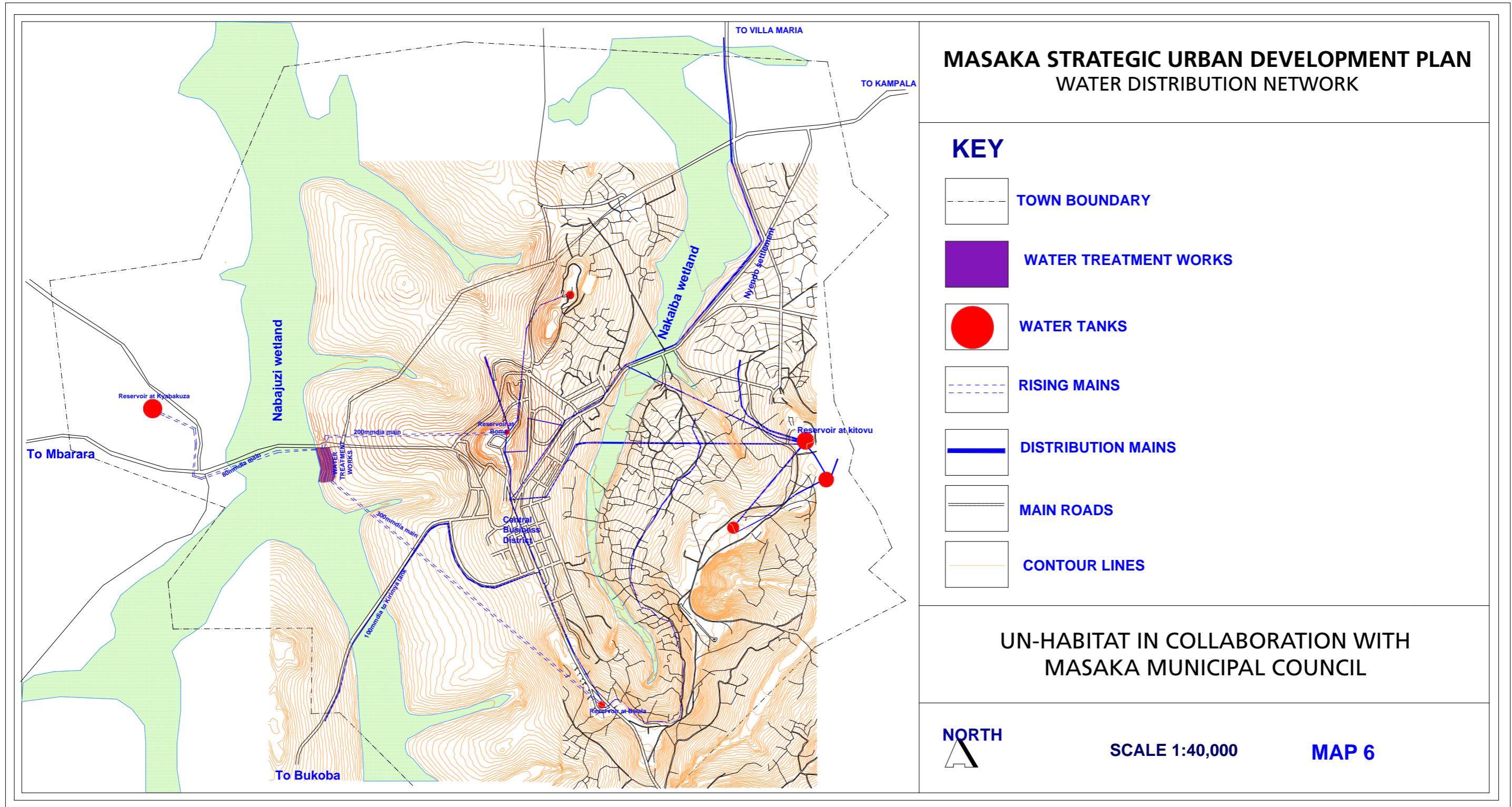
ACTIVITY	OUTPUT	BUDGET In millions UGS	TIME FRAME
PUBLIC UTILITIES			
Rehabilitation of Roads			
Tarmac roads	36.6 KM	8,418	2009-2010
Gravel/Earth roads	105.0 KM	7,875	
Sanitary lanes	45.0 KM	2,250	
Construction of New roads in			
Industrial Areas	10KM	2,500	2009-2013
Residential Areas (Soweto, Kimanya, Kijabwemi)	50KM	12,500	
Commercial Areas	10KM	2,500	
Repair of storm water Drains in the central area	All run down drains	380	2009
Construction of storm water drains in the residential areas, industrial areas, new commercial extension	70KM	6,650	2009-2012
Water Supply			
Protection of 20 spring wells and 30 shallow wells	20 spring wells and 30 shallow wells	150	2009
Extend water to Industrial areas and new residential areas	All areas	240	2009-2013
		4800	
Electricity Supply			
Develop Solar power for street lighting	All the streets and open spaces.	2400	2009-2010
Repair street lighting for all streets.	All streets	250	2009
Extend street lights to streets and open spaces	Streets with no lights.	470	2009-2012
Extend power supply to industrial areas.	Kirumba and Kijabwemi industrial areas	900	2009-2013
Refuse Disposal			
Acquire and develop landfill	Landfill with refuse treatment facilities.	600	2009
Privatize refuse collection and disposal	Private refuse collection firms	50	2009

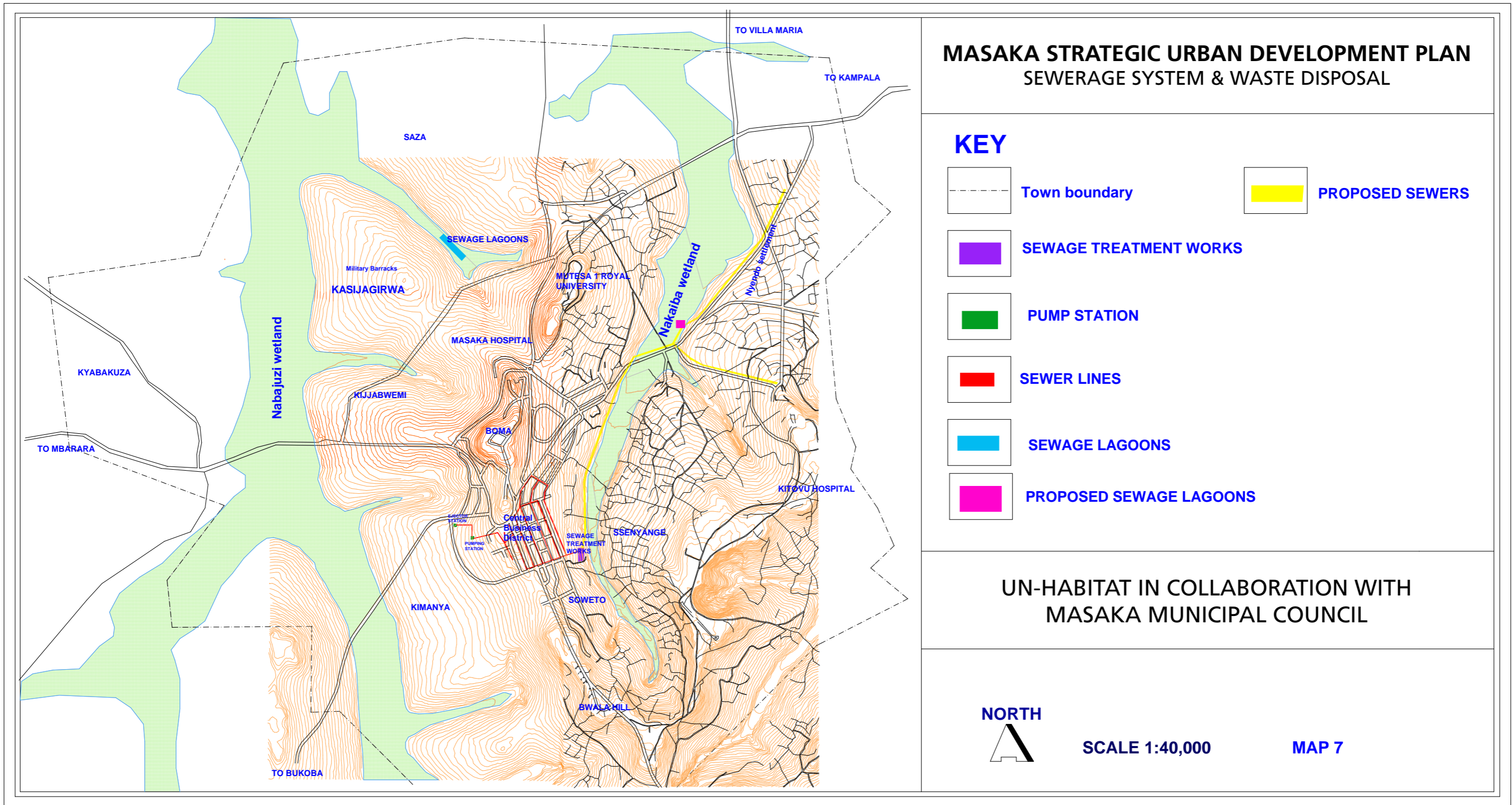
ACTIVITY	OUTPUT	BUDGET In millions UGS	TIME FRAME
Sewage Disposal			
Rehabilitation of sewage treatment works, Extension sewers and construction of sewage lagoons at Nyendo Construction of low cost sanitary facilities in peri urban areas Construction of communal sanitary facilities in Nyendo	Treatment works repaired Sewers laid 7KM All households with toilet.	200 1120	2009 2010-2013 2009
COMMUNITY FACILITIES			
Education			
Enlarge private owned primary and secondary schools and provide missing facilities Construct new primary schools (3 stream) Construct new secondary schools	All private schools enlarged and provided with the necessary facilities. Three new primary schools One secondary school.	Costs to depend on needs and facilities needed. 3,150 1,600	2009-2011 2010-2013 2011-2013
Health			
Enlarge and up grade health centre two Development and beautification of recreational open spaces Construct new stadium along by pass road Employment and Income Making available serviced, encumbrance free industrial plots Construction of industrial estates Construct a new market and repair existing markets Organize small scale traders, and <i>boda boda</i> cyclists Organize urban farmers and establish fish farms	Three health centres up graded to level three. Planned and developed public open spaces. New modern stadium. All plots in Kirumba and Kijabwemi 2000Square meters One new market and katwe, Kimanya, Kyabakuza and Nyendo markets Boda bodas and traders trained. Stages established. Horticulture farms and fish farms made in Nakaiba	4,800 790 8000 50 400 3,800 150 90	2010-2013 2009-2010 2012- 2009-2012 2010-2013 2009-2011 2009 2009
Housing			
Upgrading of Nyendo high density unplanned settlement Establishment of housing projects Planning and Development Control Preparation detailed layout plans for all local areas	Upgraded Nyendo settlement. One housing project at Kimanya All new neighborhoods.	3,500 800 70	2009-2013 2009-2012 2009
Fire Station	1 Fire station	1,600	2009
Abattoir	1 Abattoir	1,200	2009
Social Halls	5 Social halls	4,760	2009
Lorry Park	10,000 sq metre Lorry park	985	2009

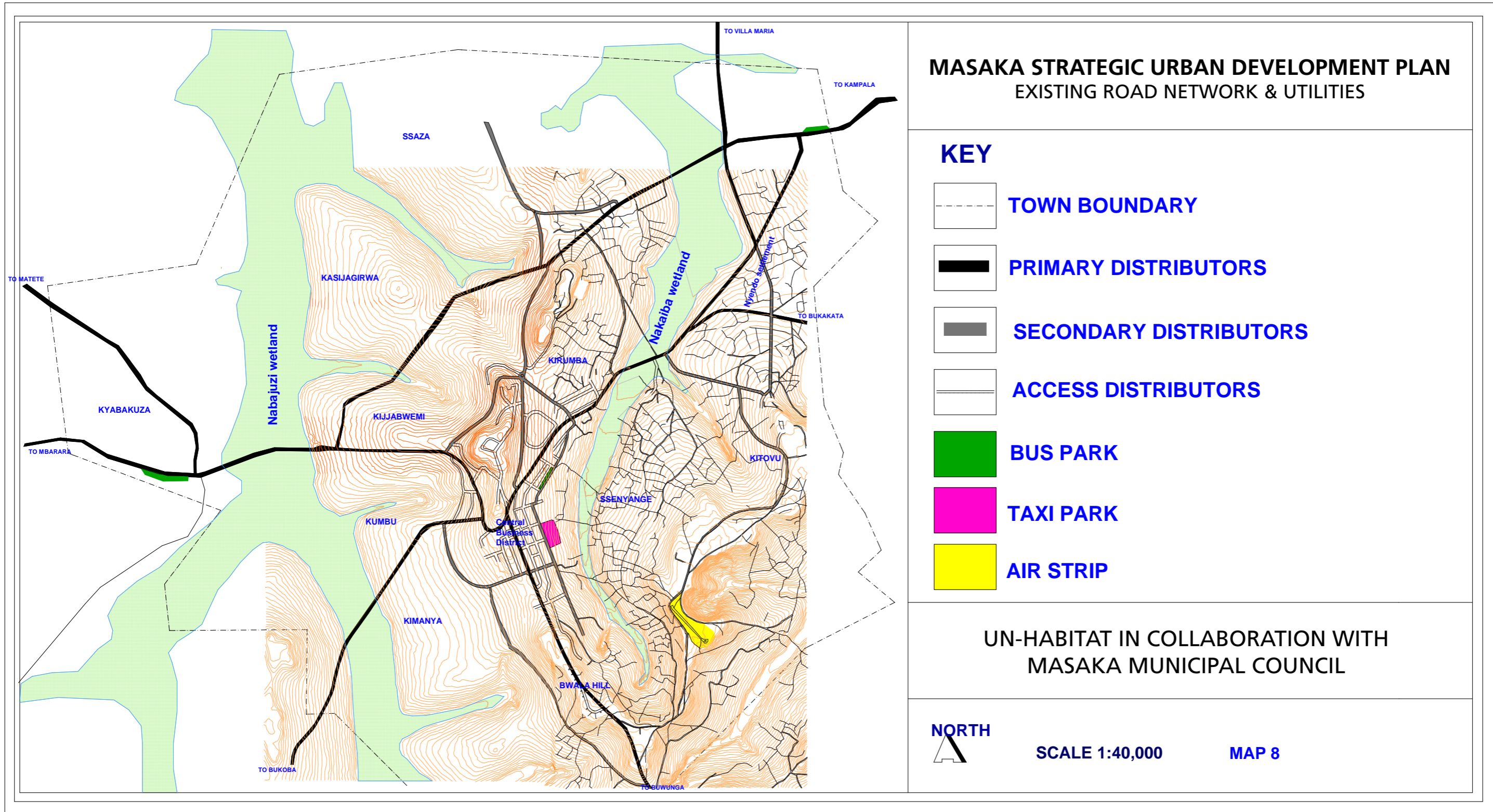


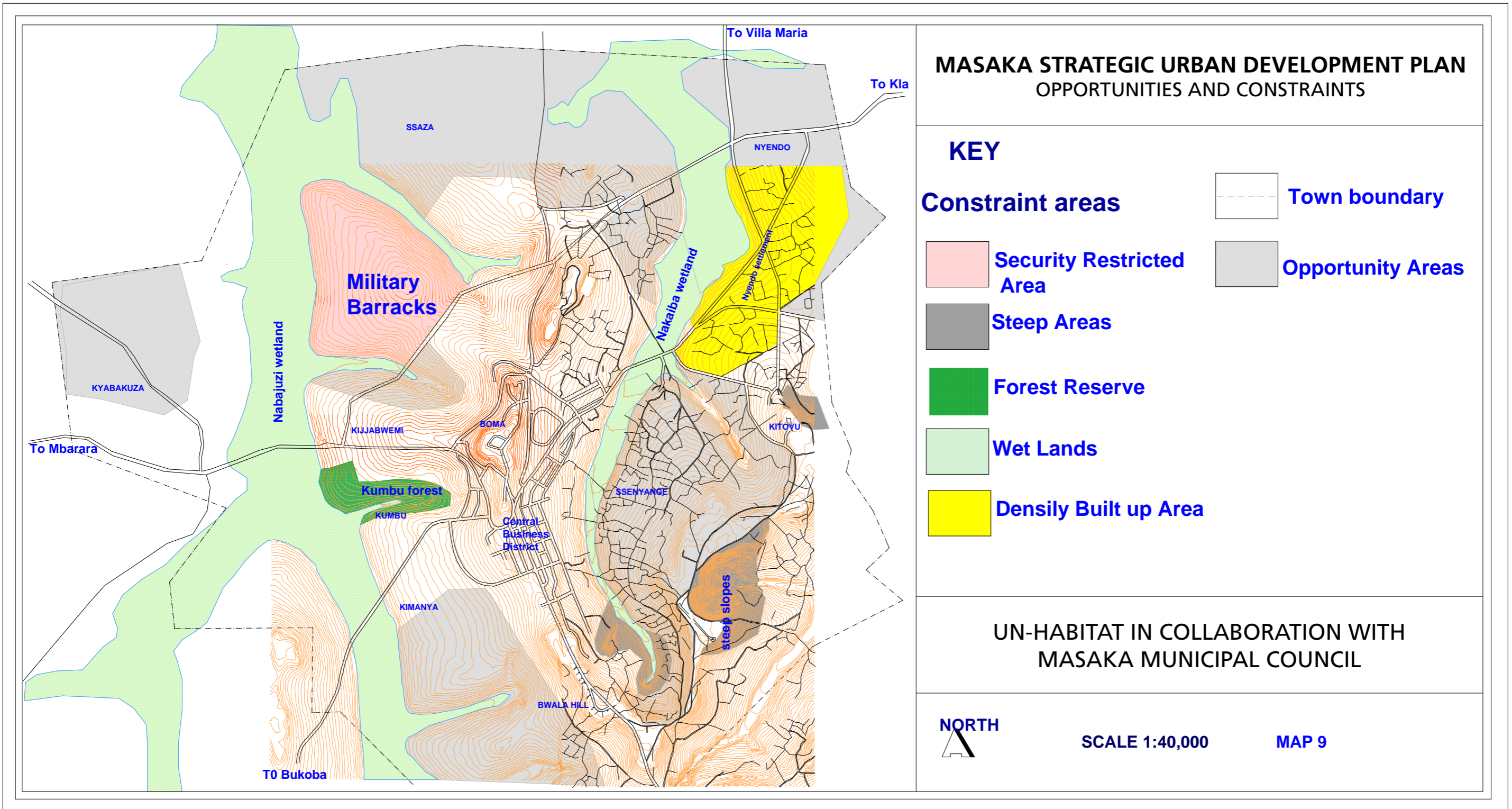


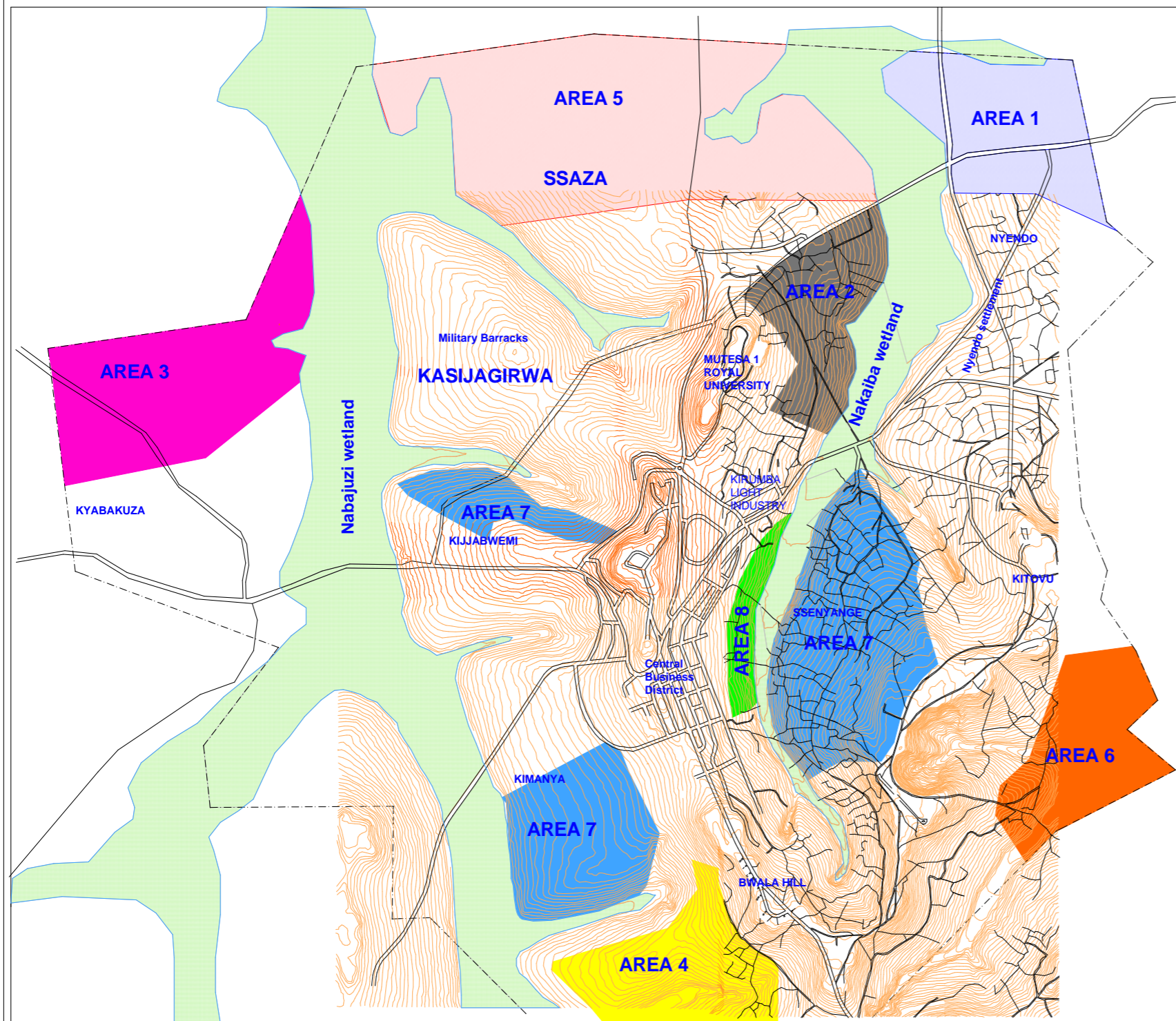












MASAKA STRATEGIC URBAN DEVELOPMENT PLAN
POSSIBLE AREAS FOR DEVELOPMENT

KEY

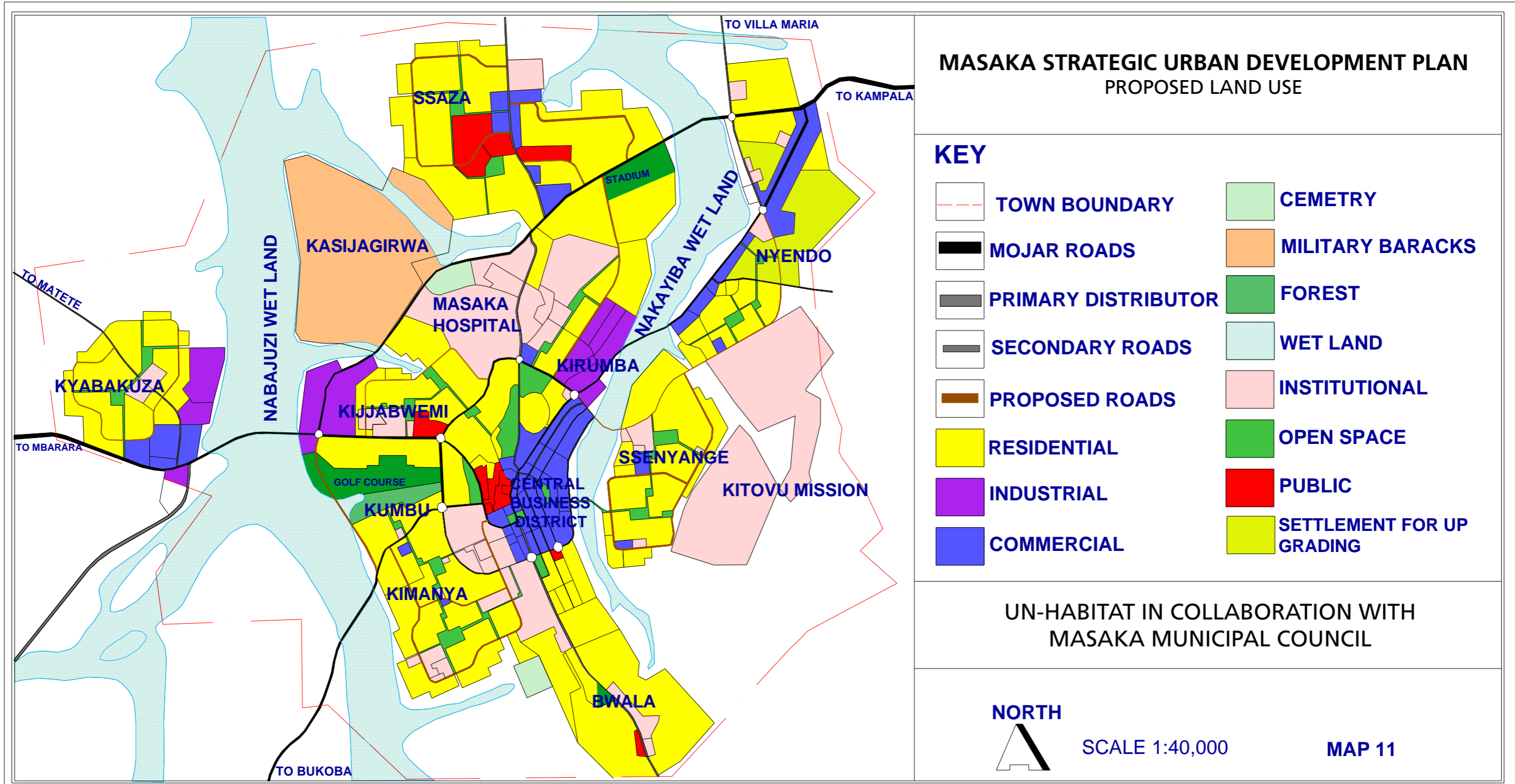
- | | | | |
|--|---------------|--|--------|
| | TOWN BOUNDARY | | AREA 6 |
| | AREA 1 | | AREA 7 |
| | AREA 2 | | AREA 8 |
| | AREA 3 | | |
| | AREA 4 | | |
| | AREA 5 | | |

UN-HABITAT IN COLLABORATION WITH
MASAKA MUNICIPAL COUNCIL



SCALE 1:40,000

MAP 10



STRATEGIC URBAN DEVELOPMENT PLAN FOR MASAKA MUNICIPALITY

Masaka Strategic Urban Development Plan has been prepared by the UN-HABITAT in collaboration with the Municipality of Masaka. It is one in a series of six plans developed under phase I of the UN-HABITAT Urban Planning programme in the Lake Victoria region. UN-HABITAT has supported this initiative with two main objectives: a) to provide an up-to-date spatial framework to guide its various programmes in a number of secondary towns in the Lake Victoria region - all geared towards promoting environmental sustainability and poverty reduction; b) to demonstrate the strength of participatory approaches in making urban planning more inclusive and effective. This objective is underpinned by Focus Area 2 of the UN-HABITAT Medium Term Strategic and Institutional Plan (2008-11), which emphasizes promoting participatory planning, management and governance as an integral part in its mission to achieve sustainable urbanization around the world.

HS/161/10

ISBN (Series): 978-92-1-132031-2

ISBN (Volume): 978-92-1-132273-6

UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME

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