

UNIVERSITY OF RWANDA
FACULTY OF SCIENCE
MASTER'S IN BIODIVERSITY CONSERVATION

**THE IMPACT OF REGULATIONS, LEGAL AND
INSTITUTIONAL FRAMEWORK ON
MANAGEMENT AND PROTECTION OF GREEN
SPACES IN KIGALI CITY, RWANDA:
CASE OF KACYIRU SECTOR, GASABO DISTRICT**

A Thesis submitted in partial fulfilment of
the requirements for the Award of **the
Degree of Masters of Science in
Biodiversity Conservation**

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Huye, June 2014

STATEMENT OF ORIGINALITY

I, Christophe HABIMANA, do hereby declare that this thesis is my original work and has never been submitted or examined in any university as an academic requirement for any award.

Signature:

Date:

Christophe HABIMANA

CERTIFICATION

I, Dr. Théophile NIYONZIMA, do hereby confirm that this dissertation entitled “*The impact of Regulations, Legal and Institutional Framework on Management and Protection of Green Spaces in Kigali City, Rwanda: Case of Kacyiru Sector, Gasabo District*” has been carried out and submitted by Mr. Christophe HABIMANA under my supervision.

Signature:

Date:

Dr. Théophile NIYONZIMA

DEDICATION

To

Germaine ISHIMWE

My little sister

This work is dedicated.

ACKNOWLEDGEMENTS

I would firstly like to thank the Almighty God, my saviour, for his blessing and grace, for keeping me alive, and for helping me during my studies from the beginning until now.

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Christophe HABIMANA

ABSTRACT

Urban green spaces (UGS) have to be well managed and protected by legal and institutional framework. In Kigali City, UGS have experienced dramatic losses and damages due to rapid urban population growth, poor urban planning, degradation and poor consideration of environment. The legal and institutional framework helps to achieve the safeguard and sustainable management of trees, forests, wetlands, and gardens in Kigali City. This study under the title *“The Impact of Regulations, Legal and Institutional Framework on Management and Protection of Green Spaces in Kigali City, Rwanda: case of Kacyiru Sector in Gasabo District”* aimed at determining and analysing the policies, regulations, legal and institutional framework, their implementation, their impacts, constraints, and possible solutions to enhance and enforce their relevance and effectiveness on UGS in Kigali City. It was hypothesised that the good implementation, enforcement and enhancement of regulations and laws can increase and improve the management and protection of UGS in Kigali City. The researcher used documentary and descriptive research design with analytical focus and he used both qualitative and quantitative approaches in data analysis and interpretation. Secondary data were used through documentation review, and primary data were collected through interviews with officers in charge of greening and urban green spaces in Kigali City. The questionnaire was addressed to local community in Kacyiru Sector with sample size of 156 people. The findings of the study revealed that poor environment consideration, poor monitoring and follow up, lack of participatory approach and budget, corruption, and illegal usage of UGS etc. are challenges in implementation of related legal framework. However they revealed that the increase of UGS, UGS mainstreaming, kitchen gardens, and buildings removal in wetlands etc. are among the positive impacts of legal framework on UGS in Kacyiru Sector. The findings suggested that public awareness, participatory approach, budget and compensation, implementation of Kigali City Master Plan (KCMP), legal review and update, and fair planning and monitoring etc. are possible solutions enhancing the relevance and effectiveness of legal and institutional framework in improving, preserving and maintaining UGS in Kacyiru Sector.

Key words: green spaces, policies, regulations, legal and institutional framework, Kacyiru Sector, Kigali City, Rwanda

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LIST OF ABBREVIATIONS

CKDP	City of Kigali Development Plan
CoK	City of Kigali
DDP	District Development Plan
DLUP	District Land Use Plan
GS	Green Spaces
Ha	Hectares
Inhab	Inhabitants
KCMP	Kigali City Master Plan
Km²	Kilometre square
m²	Metre square
MINAGRI	Ministry of Agriculture and Animal Husbandry
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINIFOM	Ministry of Forests and Mines
MINIJUST	Ministry of Justice
MININFRA	Ministry of Infrastructure
MINIRENA	Ministry of Natural Resources
MINISANTE	Ministry of Health
MoU	Memorandum of Understanding
MTN	Mobile Telephone Network
NGO	Non Governmental Organisation
NISR	National Institute of Statistics of Rwanda
NLUDMP	National Land Use and Development Master Plan
NUR	National University of Rwanda
OGRR	Official Gazette of the Republic of Rwanda
RDB	Rwanda Development Board
REMA	Rwanda Environment Management Authority
RHA	Rwanda Housing Authority

RNP	Rwanda National Police
RNRA	Rwanda Natural Resources Authority
Rwf	Rwandan francs. N.B: USD 1= Rwf 690
UGS	Urban green spaces
UPKC	Urban Part of Kigali City
UR	University of Rwanda
US	United States
USD	United States Dollars

CHAPTER ONE: GENERAL INTRODUCTION

1.1. Background information

There is no single definition of green spaces and their meaning has been continuously developing depending on authors, countries and the development of the city theory. “*Green space means any vegetated land or water within or adjoining an urban area. It includes: natural green spaces, natural and semi-natural habitats, green corridors, amenity grassland, parks and gardens, outdoor sports facilities, playing fields, allotments, derelict and vacant land, ...*” (Greenspace Scotland, 2008: p. 2). Green spaces refer to those land uses that are covered with natural or man-made vegetation in the built-up areas and planning areas (Wu, 1983).

Urban green spaces (UGS) play an important role in keeping cities cool. They act as natural filters and noise absorbers, improve microclimates, conserve biodiversity as they provide habitats for a variety of animals, protect and improve the quality of natural resources, including soil, water, vegetation and wildlife (Newton, 2007 and Linda, 2008). They play roles on social, economic, cultural and environmental aspects, including biodiversity conservation (Atiqul, 2011) and reduce urban heat island effect (Sheikh, et al., 2009; Young and Long core, 2000). UGS also play important role for healthy, liveable and sustainable cities (Mahdieh, et al., 2010), and contribute significantly to the aesthetic appeal of cities and thereby helping to maintain the psychological health of their inhabitants. UGS are also used as recreational land (Gaoyuan, 1983; Jia, 2001).

Kigali City, the capital of Rwanda, the land of a thousand hills, encompasses different UGS including the wide range of wetlands and other spaces such as agro-forests, public and private gardens, airport and road side gardens, roundabout gardens, and playgrounds. According to Mukanyandwi (2012), the Urban Part of Kigali City (UPKC) contains a complex system of wetlands present along the low-lying valleys adjacent to the rivers. These wetlands constitute 15.8% of the total area of UPKC and cover approximately 62.6% of the UPKC green spaces. UPKC also contains 530 ha of public gardens representing 12.4% of its green spaces covering approximately 3.1% of the total area of UPKC. Forests cover 1,077.5 ha representing 25% of all green spaces of UPKC and those forests cover approximately 6.3% of total area of UPKC.

These UGS in Kigali city support highly and undeniably a great diversity of life and they are essential for human well-being. Green spaces help to calm patients, improve clinical outcomes, reduce pain, and shorten hospital stays (Ulrich, 2002). There is a positive relationship between green spaces and health. A study conducted in England found that, in general, neighbourhoods with a greater proportion of green spaces were associated with better health (Mitchell and Popham, 2007).

However, despite their undeniable benefits to human health and for biodiversity conservation, green spaces are facing a wide range of problems. Even though the public demand for green spaces is becoming higher, hence requiring more aesthetic enjoyment, recreation, and access to clean air or quiet environments (Liu, Z. et al, 2007), anthropogenic activities have changed the species and diversity of urban plant communities (Smart, et al, 2005), and the high human impact in urban areas reduces conservation success with respect to species diversity (Knapp et al, 2008).

The increasing urbanization in conjunction with human population growth undergoes a rapid acceleration with resulting negative impacts and these impacts have resulted in significant loss of habitats in the urban environment (Mckinney, 2002 and Sandstorm, 2005) accompanied by many environmental problems, such as reduction of green spaces and ecosystem deterioration (Lee et al, 2005). Habitats and green spaces within cities have become fragmented, modified, and degraded resulting in deep changes (Sukopp, 1998; Kuhn and Klotz, 2006) and the reduction of green and natural spaces within urban areas increases the decline in ecosystem services and goods that are vital for sustainable living within towns and cities (Pyle, 2003; Cheisure, 2004).

It is very crucial to conserve, maintain, preserve even restore green spaces and biodiversity in urban areas for sustainable living in order to fulfil environmental quality goals and attain a liveable urban area that is environmentally, economically and socially sustainable (Rotenberg, 2008). Thus it is necessary to have strategies, plans, initiatives and regulations regarding urban environmental management, taking into account the UGS management as well.

1.2. Problem statement, significance and justification of the study

Taking into account the importance, services and functions of green space ecosystems, it is very crucial to establish the strategies for sustainable management of these UGS so that we can

improve, maintain, preserve their quality and quantity and conserve their biodiversity. For instance the functions that Rwandans benefit from wetlands include biodiversity reservoirs, climate change mitigation, nutrient cycling, hydrological functions, maintenance of water quality, erosion reduction, sediment and pollution retention, flood mitigation, groundwater recharge, agriculture production, peat reserve, leisure and tourism, and cultural value (REMA, 2006 and MINAGRI, 2008). Therefore it is very important to maintain and regulate the use of these wetlands because they have been degraded for long time.

However, the increasing urbanization in conjunction with human population growth undergoes a rapid acceleration with resulting negative impacts and these impacts have resulted in significant loss of habitats in the urban environment (Mckinney, 2002 and Sandstorm, 2005) accompanied by many environmental problems, such as reduction of green spaces and ecosystem deterioration (Lee et al, 2005). A recent study has shown that more than half of the global population is found in urban areas (Moeller and Blaschke, 2006). The urban population high rate will be particularly notable in Africa and Asia where the urban population will double between 2000 and 2030 and the towns and cities of the developing world will make up to 80% of urban humanity by 2030 (UNFPA, 2007). Developing countries have particularly experienced higher rate of urban growth in the last 50 years and its effects to the UGS have been recognized (Montgomery and Hewett, 2005) as studies proved that increasing population and rapid urbanization in African countries are increasingly converting soft green spaces into impermeable hard concrete surfaces (Jat et al., 2008).

Rwanda is one of the developing countries located in Sub-Saharan Africa and in the African Great Lakes Region, and lies in the Western part of the Albertine Rift Valley, one of the most biologically diverse regions in Africa. Kigali is the capital of Rwanda, the largest city and the most important business centre that has experienced the rapid population growth, as Kigali had from a population of approximately 6,000 at the independence in 1962 (REMA, 2013) to a population of 1,135,428 in 2012 (NISR, 2012).

Rwanda has currently invested many efforts in response to informal urbanization and there is a governmental commitment to have well organized and clean cities and provide citizens with a good environment. However people have been moving to cities especially Kigali in search of

better social and security conditions and facilities, better life alternatives and options, employment opportunities, housing and other urban services. These resulted in many environment problems such as inefficiency in land use, inefficiency in the use of limited resources, and other negative impacts on environmental assets, hence exaggerating the problem of environmental management in Kigali City (CoK, 2002; Musahara & Huggins, 2005), and these have affected Kigali UGS. For example REMA states that by 2006, only 24 per cent of Kigali's original wetland areas remained (REMA, 2006).

Barredo and Demicheli (2003) mention that in order to respond to the idea of sustainability, urban areas have to maintain an internal equilibrium balance between socio-economic and environmental conditions in such a way that the urban system and its dynamics evolve in harmony, internally limiting, as much as possible, the impacts of natural environment. Therefore the lack of an improved "Policy, Regulations and Institutional Framework" has long been a constraint in implementing environmental protection in many developing countries (Anand, 2006).

In Rwanda, there are some guidelines on UGS plans in documents such as the National Land Policy, the National Forestry Policy, KCMP, City of Kigali Development Plan (CKDP), District Development Plans (DDP) in Kigali City, and Detailed Urban District Physical Plans.

Rwanda urban development master plans provide for urban space zoning by determining the exact location of urban facilities and important activities. However, even if town planners make provision for green spaces where houses and community facilities are forbidden, squatter areas have prevailed over planned settlements. Therefore land use master plans have not at all been respected to the point that our towns suffer seriously from lack of green spaces (Ministry of Lands, Environment, Forests, Water and Mines, 2004).

Some UGS in Kigali City have been converted into other land uses and this may cause some serious environment risks such as the increase of temperature within the city, loss of important species, increase of pollution, increase in evapotranspiration, increase in floods, climate change, etc. All these changes have a negative effect on the ecological environment, on human life and well being (Mukanyandwi, 2012). Therefore, for long term planning of the socio-economic requirements of the city, there is a need for information, strategies, efficient administrative

procedures, policy planning and implementation in all spheres of the development process (CoK, 2002) as well as institutions and regulations enforcement.

It is necessary to know whether now, the existing regulations, legal and institutional framework are relevant and effective for managing, improving, maintaining and preserving the green spaces in Kigali City. This study will therefore help to analyse and assess the impact of existing policies, legal and institutional framework in relation to UGS in Kigali City, their challenges, constraints and solutions in their implementation.

1.3. Objectives

The main objective of this study is to determine and analyze the impact and relevance, challenges and constraints of existing policies, regulations, legal and institutional framework on UGS in Kigali City with following specific objectives:

- (i) to analyse the existing regulations, legal and institutional framework related to green spaces management in Kigali City;
- (ii) to investigate how the institutional framework and the implementation of existing regulations and legal framework related to green spaces impact on them in Kacyiru Sector;
- (iii) to determine the constraints and challenges of implementing these regulations and legal framework in relation to the management of green spaces in Kacyiru Sector;
- (iv) to provide recommendations to enhance the relevance and effectiveness of regulations, legal and institutional framework in improving, preserving and maintaining green spaces in Kacyiru Sector.

1.4. Hypotheses

In this study, it is hypothesized that:

- (i) there are constraints in implementing the existing regulations and legal framework regarding UGS in Kacyiru Sector;
- (ii) the effective implementation, enhancement and enforcement of policies, regulations and legal framework regarding the UGS can increase and improve the management of the latter in Kacyiru sector.

1.5. Research question

This study aims at finding answers to the following question: are existing policies, regulations, legal and institutional framework and their implementation effective and relevant for managing, improving, maintaining and preserving the UGS in Kigali City?

1.6. Scope of the Study

The topic was about the impact of regulations, legal and institutional framework on UGS in Kigali City. In this research, regulations, legal and institutional framework related to UGS that are applicable in the whole Kigali City were analysed. However, since I was self-sponsored, the limited funds did not allow me to investigate on implementation of UGS legal framework in the entire Kigali City as I had wished. Therefore the area of investigation was limited to the Kacyiru Sector in Gasabo District. In this framework, I investigated people of Kacyiru Sector on UGS legal and institutional framework, their implementation, their impacts, their challenges and solutions in Kigali City.

1.7. Organisation of the Study

Chapter One is the General Introduction which provides a background information on UGS, the problem statement and justification of the study, the research objectives and research question that the study seeks to answer, the hypotheses that guided the study and the scope of the study. Chapter Two outlines the Research methodology used to complete the study. It also describes in details the data type and information sources, target population, sample and data collection methods.

Chapter Three is Documentary Review of UGS policy, legal and institutional frameworks in Kigali City. It analyses various policies and programmes, legal and institutional frameworks directly or indirectly related to UGS in Kigali City. Chapter Four contains analysis, presentation and interpretation of data and findings while Chapter Five provides conclusion and recommendations.

CHAPTER TWO: MATERIALS AND METHODS

This chapter provides an overview of scientific methods that were used during the study and explains the research design, sample size determination methods and sampling techniques, target population, sampling procedures, data collection methods and instruments. The chapter further explains how the data were processed and analyzed.

2.1. Study area

The study area is Kacyiru Sector in Gasabo District, Kigali City. As the City of Kigali has urban sectors and rural sectors, Kacyiru sector is one of the urban sectors with the highest density (6,380 inhab/Km²) in Gasabo District with 9,017 households and the population of 36,898 (NISR, 2012).

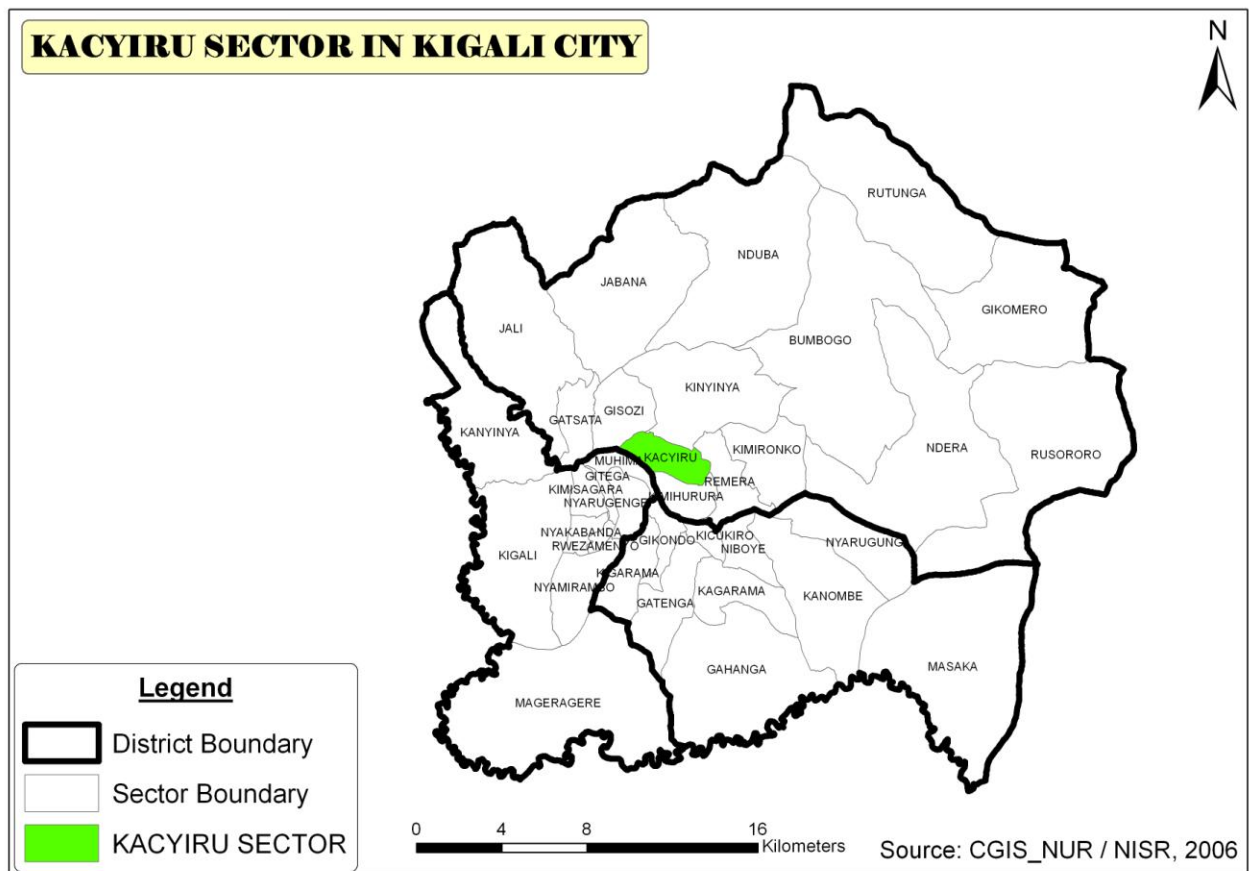


Figure 1. Location of the study area

(Adapted and visualisation by the researcher. January, 2014)

The geographical coordinates of Kacyiru sector are 1° 57'45" S and 30° 06'20" E (www.maplandia.com). Kacyiru Sector is divided into three Cells namely Kibaza, Kamutwa and Kamatamu. Kacyiru sector is surrounded by four sectors of Gasabo District namely Gisozi, Kinyinya, Remera and Kimihurura, and one sector of Nyarugenge District namely Muhima. The selected sector, hereupon Kacyiru, has 13.6% of all gardens, 4% of all forests and 8.1% of all wetlands located in the Urban Part of Kigali City (Mukanyandwi, 2012).

2.2. Data collection

In this study, both primary data and secondary data were used and existing non spatial and spatial data were exploited. I used the documentation review as secondary data in order to get information on UGS, on data and review of existing policies, regulations, legal and institutional framework on UGS, especially in Kigali City. I also got the overview of UGS in Kigali City through different documents such as theses and books, different plans like KCMP, DDP, DLUPs, CKDP, Detailed Urban District Physical Plans and in other current related documents.

The sources of information above are different libraries, internet, and documents of the Government of Rwanda, ministries like the Office of the Prime Minister, MINIRENA, MINAGRI, MININFRA and MINALOC. the documents of different agencies and organisations like REMA, RHA, RNRA, NISR, NUR, UR, CGIS, NGOs, the documents of the City of Kigali and urban districts.

I used primary data as well. I carried out field surveys and observations in order to investigate the impacts of existing policies, regulations, legal and institutional framework on UGS and how they are implemented in Kigali City. The field survey helped me to explore physical aspects and interaction of phenomena related to UGS in Kigali City. Through field information, I got information on constraints and challenges in implementing policies and legal framework, and suggestions for improvement and enhancing the effectiveness of policy, legal and institutional framework on UGS in Kigali City. For ethical consideration, I first explained the objectives of the research to the respondents and assured them high confidentiality on the information provided. After obtaining the consent from the respondents, I collected data from them.

The table **1** below summarizes the data collected and used, information and their sources.

Table 1: Data type and information sources

Data type	Information	Source
Secondary data: documentation review	General information on UGS, data and review of existing policies, plans, programmes, regulations, legal and institutional framework on UGS, especially in Kigali City.	Libraries, Internet and document (books, theses, reports,...) by the Government of Rwanda, Ministries (MINIRENA, MINAGRI, MININFRA, The Office of the Prime Minister, and MINALOC), Agencies and Organisations (REMA, RHA, RNRA, NISR, NUR, UR, CGIS, NGOs), City of Kigali and Districts of Kigali City.
Primary data: field information, observations, surveys and interviews	<ul style="list-style-type: none"> • Exploration of physical aspects, interaction of phenomena related to UGS in Kigali City. • Investigation on impacts of existing policies, regulations, legal and institutional framework on UGS in Kigali City. • Constraints and challenges in implementing regulations and legal framework on UGS in Kigali City. • Suggestions for improvement of regulations, legal and institutional framework in regard to sustainable management of UGS in Kigali City. 	Local community in Kigali City (Kacyiru Sector), Government of Rwanda staff at central and local levels, and other professionals and experts in charge and concerned with environment management, greening and green spaces management in Kigali City.

2.2.1. Sample design and administration of the questionnaire

The sample size was determined purposively within Kacyiru Sector. By the Slovin formula the researcher determined the population sample.

The formula is $S = \frac{N}{1+Ne^2}$ where:

S = Size of the sample, N = Total population, e = margin error (Error tolerance). I used a 92 percent confidence level which corresponds to 0.08 margin error and he obtained

$$S = \frac{36,898}{1+36,898 \times 0.08^2} = 155.5 \text{ and I rounded to 156 people as sample size.}$$

I went on field, used and addressed questionnaires randomly and in some cases purposively to 156 people of sample size and I focused on people in households who have at least 18 years old and who mostly live around main gardens, wetlands and forests in Kacyiru Sector. I went into all three Cells of Kacyiru sector namely Kibaza, Kamutwa and Kamatamu .I took four different days (a day per each Cell) in weekends with target to get about 40 respondents per day, and on the fourth day I went on the site where I met people who were in ‘community work’ (known as *Umuganda*) in Kamatamu Cell. Within a Cell I chose different three to four streets where I went randomly in different houses along a street with target to get about 10 respondents at every street. On other hand, I addressed questionnaire to about 10 respondents of my friends and colleagues who live in Kacyiru Sector.

The respondents gave information on how regulations and legal framework on UGS are implemented, their impacts, challenges and constraints in implementing them, and possible solutions so that the legal and institutional framework on UGS in Kigali City would be more relevant and effective. I had to assist the respondents in filling in the questionnaire; otherwise some of the respondents would not report them timely.

2.2.2. Interviews

Apart from the questionnaire, I interviewed purposively targeted people in order to get additional and concise information about policies, laws, orders, instructions, institutions, regulations, initiatives, plans, strategies, suggestions, implementation, recommendations, solutions and

partners in regard to sustainable management and protection of UGS in Kigali City. Those targeted people are authorities, senior managers, policy makers, experts and professionals at central and local government in charge and concerned with greening and UGS management from different related institutions such as MINIRENA, MININFRA, RHA, REMA, RNRA, City of Kigali, Gasabo District, and Kacyiru Sector.

2.3. Data analysis and interpretation

After collecting data, both qualitative and quantitative data were analysed. SPSS and Microsoft Excel were the main tools for data analysis in our study. The primary data were analysed using graphs, tables and other descriptive methods by classifying and categorizing within the context of findings interpretation and in order to make them meaningful to the user in a quantified and summarized form. I also analysed different policies, programmes, legal and institutional framework on UGS in Kigali City. After the analysing of data, I checked the adequacy of findings and consistency with hypotheses.

CHAPTER THREE: DOCUMENTARY REVIEW ON UGS POLICY, LEGAL AND INSTITUTIONAL FRAMEWORKS IN KIGALI CITY

In this chapter the research identified and analysed the policies and programmes, regulations, laws, orders, instructions and institutions regarding UGS in Kigali City. Those policy, legal and institutional frameworks are mainly those in regard to the management of the environment, wetlands, and greening in Rwanda. However, before their analysis, the researcher gives an overview of different UGS in Kigali City.

3.1. Overview of existing green spaces in Kigali City

UGS in Kigali City specifically in the UPKC are mainly wetlands, forests, agro-forests and different gardens that include roadsides gardens, roundabout gardens, playground, etc. By referring to the findings of Mukanyandwi, (2012) it is observed that the UPKC is about 17,100 ha, hence representing about a quarter of the total area of Kigali City, the latter has 730 Km² (Mukanyandwi, 2012 and CoK, 2013a).



Figure 2. Residential houses with GS
Source: Rema, 2013



Figure 3. Garden in Gikondo wetland
Source: Field Survey. June, 2013

The figure 2 shows different home green spaces (GS) and the figure 3 shows garden developed in Gikondo wetland near Kanogo, all in Kigali City.

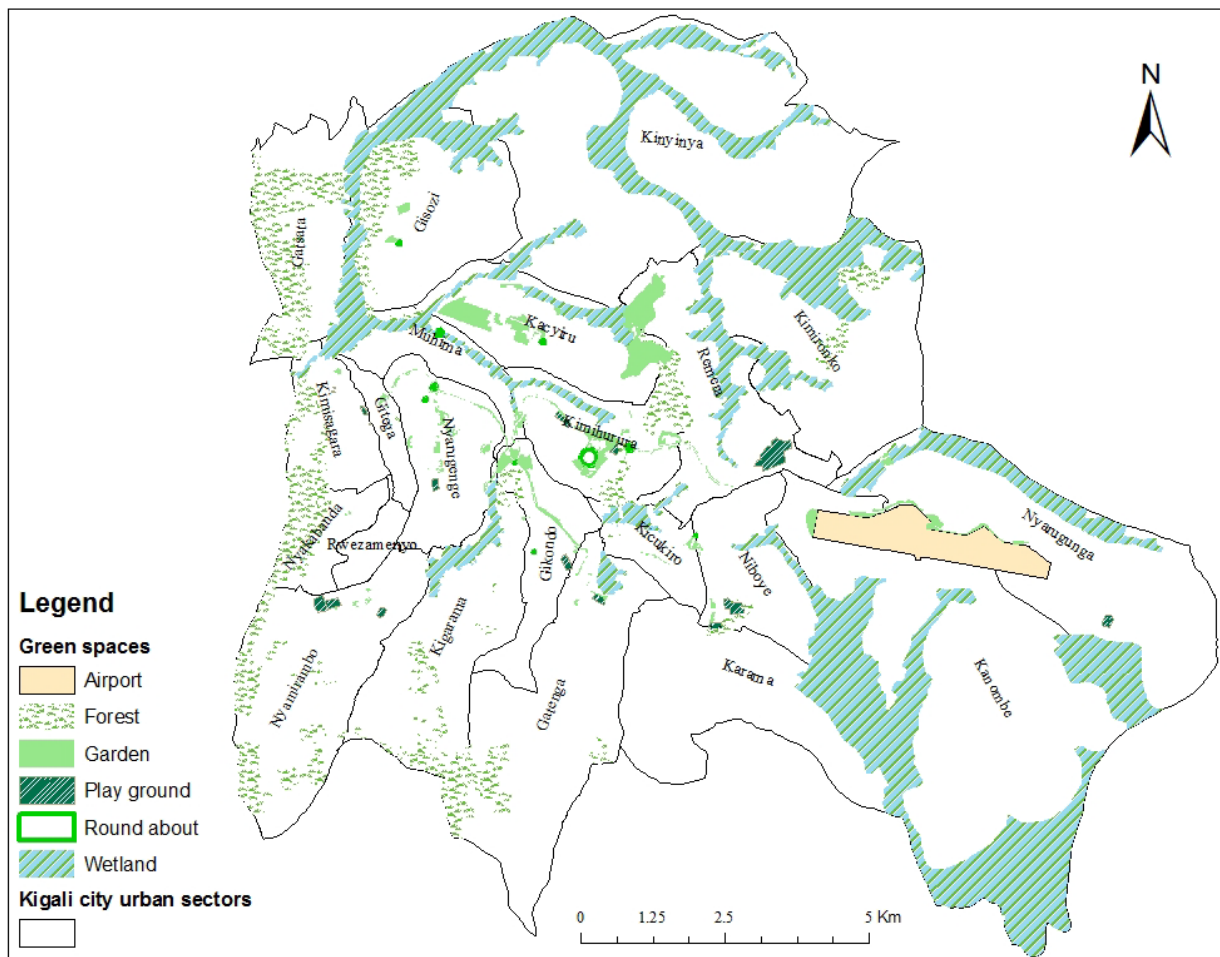


Figure 4. Location of Green Spaces types in Urban Part of Kigali

Source: Mukanyandwi, 2012

Table 2: Distribution of GS in UPKC

Green spaces (GS)	Green Spaces area (ha)	Percentage of total GS area	Percentage of total UPKC area.
Forests	1,077.5	25	6.3
Wetlands	2693	62.6	15.8
Public and private gardens	530	12.4	3.1
Total	4,300.5	100	25.2

Source: Mukanyandwi, 2012; visualisation by the researcher

The table below shows that the UGS cover 4,330.5 ha , hence representing more than a quarter (25.2%) of the UPKC total area. The main UGS in the UPKC are wetlands with 2,693 ha representing 62.6% total UGS in UPKC and 15.8% of the UPKC total area. Then forests with 1,077.5 ha, represent 25% of UGS and 6.3% of UPKC, and public and private gardens gardens with 530 ha, representing 12.4% of total UGS and 3.1% of the UPKC area.

However, UGS in the UPKC are more than 4, 300.5 ha mentioned here above in table because the data in table do not include the homes, individual and house gardens. Moreover, in addition to forests indicated in table 2 that cover more than 0.5 ha , there are also other forests with an area of less than 0.5 ha and other trees scattered outside forests, generally referred as agro-forests (Mukanyandwi, 2013) and kitchen gardens.

3.2. International programmes and regulations framework

Some of the policy and legal frameworks on UGS in Kigali City stem from international general frameworks and conventions such as Millennium Development Goals (MDGs) through its seventh goal to ensure environmental sustainability, the World Bank Environmental and Safeguard Policies, EAC Protocol on Environment, and other international conventions ratified by the Government of Rwanda such as:

- Convention on Biological Diversity (1995);
- United Nations Framework Convention on Climatic Changes (1998);
- United Nations Convention on Desertification (1998);
- Stockholm Convention on Persistent Organic Polluting Agents (2002);
- Ramsar Convention on Wetlands (2003);
- Convention on the Prior Informed Procedure for certain hazardous chemicals and pesticides in international trade (2003);
- Basel Convention on control of transboundary movements of hazardous wastes and their disposal;

3.3. Policy and legal framework related to green spaces

As described above, Kigali City encompasses different kind of green spaces including different gardens, forests and wetlands. In this section the researcher presented and analysed the national

policies and programmes, laws, orders and instructions mostly regarding the environment, wetlands, forests and greening in Rwanda. Green spaces management and safeguard follow from different laws, national policies and programmes like the Constitution of Rwanda, Vision 2020, EDPRS, Seven (7) years Government Programme 2010-2017, Environment Policy and Law, Land Policy and Law, Forestry Policy and Law, National Biodiversity Strategy and Action Plan, National Biodiversity Policy, National Environment Health Policy, National Urban Housing Policy, National Water Resources Management Policy, Water and Sanitation Policy, National Wetlands Conservation Program, etc.

3.3.1. The Constitution of the Republic of Rwanda

The Rwandan Constitution adopted in 2003 emphasises on environment protection where it stipulates in its article 49 that each citizen has the right to healthy and satisfying environment. It also states that each person has the right to protect, conserve and promote the environment; that the government will take care of the environment protection, and that an Act defines the procedures of protecting, conserving and promoting environment. In article 30, it states that the private property of soil and other real rights putting a strain to the soil granted by the government (State) and that an Act determines the acquisition, transfer and exploitation means. Article 32 stipulates that each person is requested to respect the public properties (Official Gazette of the Republic of Rwanda - OGRR, 2003). In this context, the public green spaces must be well respected as well. In Kigali City most of green spaces are public gardens, playgrounds, wetlands and forests.

3.3.2. Vision 2020 and EDPRS

Vision 2020 is a long-term policy, programme and initiative adopted in 2000 that maps out the Rwandan Government's aims for future development. Vision 2020 aims at transforming Rwanda into a middle income country (MINECOFIN, 2000). Environmental protection is one of its main pillars. The Economic Development and Poverty Reduction Strategy (EDPRS) is the Rwanda five years medium-term strategic for achieving its long-term development aspirations established in 2008 (EDPRS I) and revised in 2013 (EDPRS II). Although the title implies only to address issues related to economic and poverty, environment and climate change are outlined in the EDPRS (MINECOFIN, 2013 and REMA, 2013).

The EDPRS is an implementation strategy of Vision 2020 and the revised targets of this latter have guided the EDPRS II for 2013-2018. These targets reiterate the forest land cover from 22.4% in 2013 up to 30% in 2020 of the national total area and that land area will be protected to maintain biodiversity. According to EDPRS, the number of households using wood as a source of energy will reduce from 86.3% in 2013 to 50% in 2020. These programmes embrace Kigali City for instance to increase vegetated areas.

3.3.3. National Strategy and Action Plan for the Conservation of Biodiversity

In the “National Strategy and Action Plan for the Conservation of Biodiversity” adopted in 2003, it is recognized that Rwanda ratified the International Convention on Biological Diversity, and this national strategy aims, among others, at improving the protected areas and wetlands, the latter being among the green spaces found in Kigali City.

Apart from wetlands and protected areas, the national strategy advocates the sustainable use of the biodiversity of other natural ecosystems and agro-ecosystems such as forests, grazing land and cultivated areas. It states that in order to realise all its strategies, it is important to develop and strengthen the related policy, legal, institutional and human resource frameworks.

3.3.4. Land Policy and Law

This National Land Policy was adopted in 2004 and is very consistent and significant in terms of land management and rational and planned land use in Rwanda. One of its general principles states that existing fragile zones should be protected (wetlands included). The “protection of green areas and other spaces of public interest” under the use and management of urban land is the one of the National Land Policy Guidelines which is very relevant to UGS management. According to this policy guidelines:

- Green spaces as well as valleys (wetlands, marshlands) will be protected;
- Parks for tourist attraction will be created in towns;
- Existing wooded areas in urban zones should be protected as should be reserves which are to accommodate community facilities;
- Existing valleys in urban areas should be considered as green spaces;

- In residential areas, green spaces will be developed and protected against uncontrolled urbanization, especially on hilly sites to avoid soil erosion.

The land policy guidelines also provides legal and institutional framework for its effective implementation through establishment, elaboration and implementation of land, environment and human settlements laws and related institutions as well. It is in this framework that we have in Rwanda the land and environment laws and institutions like REMA established by the Law N° 16/2006 of 03/04/2006, the National Land Centre – NLC (established by the law n° 20/2009 of 29/07/2009) becoming later the Land and Mapping Department within the Rwanda Natural Resources Authority – RNRA), and the Rwanda Housing Authority – RHA. The green spaces promotion and management are also following from these guidelines and institutions.

Rwanda has also the Law N° 43/2013 of 16/06/2013 governing land in Rwanda, adopted after review of the organic law n° 08/2005 of 14/07/2005 determining the use and management of land in Rwanda. Article three states that the land is part of the common heritage of all the Rwandan people: the ancestors, present and future generations. The State is the sole authority to accord rights of occupation and use of land, and the State also has the right to order expropriation in the public interest. Article 19 stipulates that swamp land (wetland or marsh) belongs to the State. Wetlands shall not definitively be allocated to individuals and no person can use the ground of holding them for a long time to justify the definitive takeover of the land, however, the swamp land may be lent to a person based on agreement.

In this framework, UGS are taken into account in land policy and law. For instance wetlands and their buffer zones in Kigali City are expected to be well managed and protected by the State; otherwise the local community would use them untidily and in inappropriate manner.

3.3.5. Environment Policy and Law

Rwanda has the National Environment Policy. This policy set out overall and specific objectives as well as fundamental principles for improved management of the environment. Therefore, depending on its implementation, UGS have benefited from this policy. This policy introduced the establishment of district or town committees in charge of environment protection and REMA

which was entrusted for its implementation. However the district or town committees in charge of environmental protection are not generally enough dynamic or operational.

The policy contains objectives, policy statements and strategic options as well as the necessary arrangements for its implementation including among others:

- To integrate environmental aspects into all the development policies, in planning and in all activities carried out at the national and local level, with the full participation of the population;
- To strengthen human and institutional capacities in the field of environment;
- To conserve, preserve and restore ecosystems and maintain ecological and systems functioning, which are life supports, particularly the conservation of national biological diversity;
- To develop or update master plans and special plans for land-use in urban areas;
- To develop a policy, regulations, master plan for the development and conservation of wetlands, monitoring and evaluation of their state;
- To maintain all the marshes as public and private property of the State and entrust their management to the Government;
- To regulate exploitation of mineral resources so as to protect the environment;
- To include environmental studies in school curricula at the primary, secondary and tertiary level.

The government of Rwanda also enacted an organic law No 04/2005 of 08/04/2005, determining the modalities of protection, conservation and promotion of environment in Rwanda, and this organic law is in favor of UGS in Kigali City. This organic law aims among others at conserving the environment, people and their habitats, setting up strategies of protecting and reducing negative effects on the environment. It reiterates that every person has the duty to protect, conserve and promote environment and that the State has a responsibility of protecting, conserving and promoting the environment.

One of its principles is the polluter-pays principle where every person who demonstrates behavior or activities that cause or may cause adverse effects on environment is punished or is

ordered to make restitution, and rehabilitate it where possible. This law also stipulates the incentives to persons that conserve the environment as well.

The following are prohibited in this organic law: dumping or disposal of wastes in wetlands, stream, river, lake and in their surroundings; to immerse burn or eliminate waste in wetlands without respecting rules applied in Rwanda; destroy flora. Articles 85 to 87 provide that it is prohibited any pastoral or agricultural activities within a distance of ten (10) metres away from the banks of streams and rivers and fifty (50) metres away from the banks of lakes except activities related to protection and conservation of streams, rivers and lakes. It is also prohibited to construct houses in wetlands, all buildings shall be constructed in a distance of at least twenty (20) metres away from the bank of the swamp.

This organic law also provides punitive sanctions. For example the article 110 states that anyone who contravenes provisions of article 85, 86 and 87 (described in above paragraph) is punished by demolition of his or her building and a punishment ranging from an imprisonment of six (6) months to two (2) years and a fine ranging from two hundred thousand (200,000) to five million Rwf (5,000,000) or one of those penalties. In case of recidivism, such a penalty is doubled. The offender may also be required to remove the waste and rehabilitate the damaged area.

3.3.6. Forestry Policy and Law

The Rwanda forestry policy was put in place in 2010 after amendment, reviewing and updating the first national forestry policy, put in place in 2004 in order to accommodate the national targets in the framework of Vision 2020 and EDPRS 2008 – 2012 (Ministry of Forestry and Mines – MINIFOM, 2010). The “urban and peri-urban forests development” is one of its preferred strategic options. In this case the policy states that urban forests are not a luxury; they constitute an important component of urban environment for the livelihood of urban population, hence urban forestry must then be developed more than before, using following strategies:

- Promoting the creation of mandatory boulevards in all trading centres, towns, municipalities and cities;
- Including urban forestry in urban planning;
- Identifying potential urban forestry service providers and agreeing on roles and responsibilities;

- Developing guidelines for urban and peri-urban tree planting;
- Developing a programme for urban forestry based on improved understanding of needs, institutional roles and capacities and best practices to support service delivery;
- Creating awareness on value of urban and peri-urban trees;
- Supporting urban authorities with technical support on tree nurseries and tree husbandry and in locating and developing sites in urban and peri-urban areas for tree growing;
- Involving the private sector in managing urban and peri-urban forests for leisure and recreation purposes.

Rwanda has also the forestry law. This law N°47bis/2013 of 28/06/2013 is adopted after reviewing the law n° 47/1988 of 05/12/1988 relating to the organization of the forest management system in Rwanda. This law provides the way of forests management, harvesting, protection and exploitation.

Article 18 is very clear in terms of the increase and promotion of UGS as it states that *“Trees shall be planted in urban areas and on roadsides for protection and beautification purposes. The authority shall determine tree species to be planted in urban areas and on roadsides and determine modalities for their planting and harvesting”* (OGRR, 2013: p. 24). The law stipulates that institutions (public, private and NGOs) shall collaborate in protecting forest and that the responsibility to conserve and protect forest shall rest with any person who is in Rwanda.

3.3.7. Law No 18/2007 of 19/04/2007 related to expropriation in public interest

This law determines the procedures relating to expropriation in the public interest. The article four states that *“every project, at any level, which intends to carry out acts of expropriation in public interest, shall provide funds for inventory of assets of the person to be expropriated and for just compensation on its budget”*. The article five explains the acts of public interest, among others, the activities to implement master plans of the management and organisation of cities and the national land in general.

It is in this context that people located in wetlands and their buffer zones and in green spaces planned areas will be expropriated their land, relocated and removed in favour of UGS management in Kigali City. The problem is to get budget for compensation as requested in

article four above of this law. The researcher will discuss this issue further in challenges and constraints section.

3.3.8. National Urban Housing Policy

The “National Urban Housing Policy” adopted in 2008, is based on the national objectives contained in the Vision 2020 and the Economic Development and Poverty Reduction Strategy – EDPRS (described under subsection 3.3.2). The policy aims at achieving sustainable urbanization of the country by better planning and rational management of land and urban areas with due regard to the environment. The main objective of this policy is to contribute towards improving the conditions of living of the urban population through controlled and harmonized development of urban areas. Some of its guiding principles also emphasize on environment protection: - the process of urbanization must be accomplished while reducing any negative environmental impacts, - the process integrates environmental aspects and will be based on rational management of land resources, - the spatial planning of urban areas with clear demarcation of residential, industrial commercial and public areas will safeguard the environment.

The National Urban Housing Policy aims at upgrading unplanned settlements and halting the development of slums (Utujagari). In this regard this policy is very beneficial to the increase, promotion and management of green spaces in Kigali City as it aims at upgrading the unplanned settlements. The policy is relevant to UGS as it also aims at planning for new housing, and following from this, every housing parcel must bear a certain percentage of green spaces.

3.3.9. Seven Years Government Programme 2010-2017

This is the Government of Rwanda programme of seven years 2010-2017 presented by the Prime Minister to the Parliament. This programme advocates the increasing UGS as it states the following: to plant trees on road sides and lakeshores, and wherever possible to maintain all natural and planted forests owned by Government as well as those owned by individuals; to re-forest all suitable areas to the extent that within three years, at least 30% of the national land will be covered with trees; to include environment protection programmes in all institutions; to decrease and replace the use of wood, grass and charcoal as energy source with other modern

energy sources; and as far as environment protection is concerned, to facilitate acquisition of affordable materials and equipment which are environment friendly (Republic of Rwanda, 2010). In this regards, we cannot forget the strategy of “kitchen gardens” (*Akarima k’igikoni*) mentioned in this programme where every household must have a kitchen garden. This can increase green spaces in Kigali City as well. Furthermore, forests and trees in Kigali City will be safeguarded.

3.3.10. Order determining the shores transferred to public property

The ministerial order No 007/16.01 of 15/07/2010 aims at determining the size of land on shores of lakes and rivers affected in the public domain for environmental protection. This order states that the following land are of public domain and shall be the protected areas: the land within a distance of fifty (50) meters from the lakeshore, the land within a distance of ten (10) and five (5) meters from the shore of big rivers and small rivers respectively, and the land of two (2) meters length from their shores for any other rivers not listed in this order. The order also states that the mentioned land above is reserved as natural vegetation. However, artificial vegetation can be grown on this land in case of restoring the damaged land or if that vegetation is responsible for protecting the environment.

The implementation of this order will increase and enhance the green spaces protection in Kigali City as this latter touches lake Muhazi, the main river in Rwanda namely Nyabarongo, Nyabugogo river and others small rivers. In addition, this order sets penalties to any person who violates the provisions of the order that, he/she shall be punished accordingly by law.

3.3.11. Instructions regulating and governing the hygiene in the City of Kigali

These instructions are adopted and gazetted in the No 52 of 26/12/2011 after reviewing the instructions of 2006 regulating the hygiene in the City of Kigali. In terms of UGS management, they are the best legal tools for Kigali City as they emphasize on increasing gardens, their protection and management for the greening and beautification of the City.

These instructions urge and oblige the following in Kigali City: every citizen must garden his or her home; plant grasses, flowers or trees for beautification between his or her home and roads and protect and manage them; every commercial housing must have trees or flowers; every road must have gardens well protected up to six (6) metres from roadsides; planting grasses around in

order to prevent soil from falling down roads. It is prohibited to step on or trample gardens around roadsides and to carry out any activity in public gardens without permission by the competent authority.

These instructions also provide sanctions to anyone, wickedly or accidentally, damages or destroys trees and gardens in Kigali City. For example, anyone who damages the public gardens shall pay Rwf 30,000 per square metre (m²) of damaged garden area, and shall pay Rwf 1,000,000 for every damaged palm tree along the roadsides.

3.3.12. Other Policies, Programmes, laws and orders.

Apart from the above policy and legal frameworks which are very relevant and effective to UGS, there are others that have indirect impact on the green spaces management in Rwanda. Those are for instance the National Biodiversity Policy, National Wetlands Conservation Program, Water and Sanitation Policy, National Water Resources Management Policy, Agricultural Policy, Mining Policy, National Land Use and Development Master Plan (NLUDMP), Disaster management Policy, National Strategy for Climate Change and Low Carbon Development (NSCCLCD) and National Environment Health Policy.

There is also another range of regulations and laws that may facilitate indirectly the management of green spaces and stop their degradation. For example we can mention the law N°57/2008 of 10/09/2008 relating to the prohibition of manufacturing, importation, use and sale of polythene bags in Rwanda; the ministerial order establishing the list of wetlands, their limits and regulating their management and use; the law governing biodiversity in Rwanda; the orders and instructions regulated to housing, land use and spatial plans in Rwanda especially in Kigali City; the environmental impact assessment regulations, and laws establishing institutions such as RNRA, RHA, etc.

3.4. Institutional framework and arrangements on green spaces in Kigali City

In Rwanda, the implementation of environment and natural resources management policies and regulations encompasses the policies and regulations relating to UGS management. The implementation process involves several stakeholders and partners, including government institutions, NGOs and donors, civil society, private sector, and decentralized entities.

3.4.1. Institutional arrangement to implement policies and laws

In Rwanda, there is an institutional arrangement to implement the preceding policy and legal frameworks related to environment and natural resources management, hence relating to UGS management as well. The central government has to make policy, to mobilise resources to local government, and to monitor and follow up the implementation of the previous related legal framework. It is in this framework that the Government of Rwanda ratified related international conventions and elaborates related policies and laws, and provides related budget for implementation and monitoring. The researcher describes related ministries and national public institutions at central level in the following sub section.

As for the local government, thus the City of Kigali and its structure system, implement the policy and legal frameworks. This needs legal tools, financial resources and budget. Local government uses the legal tools mentioned in the legal and policy framework, and if necessary, the local government can complete them by their own instructions in order facilitate a task of implementation. The local government gets budget from central government and donors. It also follows up the implementation at local level. However, partners and private sector support the policy implementation.

3.4.2. Central government

There are key ministries, boards and authorities at central level that advocate for UGS management. Those are for example Prime Minister's Office, MINIRENA, MININFRA, MINAGRI, MINALOC, MINISANTE, MINICOFIN, REMA, RNRA, RHA, RDB, MINIJUST, MINEDUC, and Rwanda National Police (RNP).

These institutions are specifically in charge of policy making, policy monitoring and follow up, and resources mobilisation. These responsibilities are executed in the framework of government programmes (Prime Minister's Office), environment management and natural resources management (MINIRENA, REMA, RNRA), urban housing, settlement and urban plan (MININFRA,RHA), land use management (MINIRENA, MINAGRI, RNRA), administration system (MINALOC), budgeting, planning and funding related projects and activities (MINECOFIN, Donors, NGOs and private sectors). These responsibilities are also executed in

terms of advising in formulation of laws and regulations (MINIJUST), promoting tourism for urban parks and UGS (RDB), developing curricula and programmes regarding environmental management such as for flora and biodiversity (MINEDUC), hygiene and sanitation (MINISANTE). Regarding the implementation of national policies, laws and regulations, and technical advice in terms of environment, forest, wetlands, green spaces, and urban planning we have REMA, RHA, and RNRA. For instance the Rwanda National Police (RNP) assists in arresting and pursuing people that are destroying the UGS and sensitizing people to comply with related laws and regulations.

3.4.3. Local government

The City of Kigali and its administrative structure including Districts, Sectors, and Cells implement, monitor and follow up the management and protection of UGS in Kigali City. The same task is also done by the Committees in charge of conservation and protection of environment, as stipulated by article 66 of the organic law on the environment in Rwanda.

3.4.4. Private institutions

The City of Kigali in collaboration with different partners and private institutions are actively promoting, managing, increasing and protecting UGS through the signature of different memoranda of understanding (MOUs). They actively ensure the maintenance and protection of different public urban gardens and parks accorded to them.

It is the case of the public garden at Kacyiru roundabout near the Gasabo District Office, managed by the United States embassy at Kigali, the public garden of roundabout at the central City now managed by TIGO (a telecommunication company in Rwanda). The public garden near the National Airport at Kabeza-Kanombe is managed by Association des Motards “*Bikers Association*”, the public gardens at Kanogo- Kacyiru wetland is now managed by The Adventist of Seven Day Church. Different banks like Banque Commerciale du Rwanda (BCR), telecommunication companies (MTN, AIRTEL) and some individuals have been accorded different public gardens by The City of Kigali for their proper management. There are youth cooperatives that participate in greening, cleaning and beautification of the City. Further the

health centres, schools, hospitals, public and private building offices have their own gardens well protected.

3.4.5. Academic institutions

Academic institutions are indirectly promoting the environmental management, forestry, biodiversity conservation, urban planning, and UGS management as well. In this regard, related curricula have been established and followed in different academic institutions from the primary school up to different universities like the University of Rwanda, the Kitabi College of Conservation and Environmental Management (KCCEM) and other private universities. This has led to qualifications of professionals in environmental and natural resources management.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

This chapter presents the findings from the data information obtained from the respondents in Kacyiru Sector and staff involved in UGS management in Kigali City. It portrays the researcher's analysis and interpretation of the data. It presents the findings of the study on impacts of legal and institutional framework on UGS in Kigali City, specifically in Kacyiru Sector, Gasabo District. It also presents the challenges and constraints in implementing related UGS legal framework. Finally, this chapter gives solutions to identified challenges for the effectiveness and relevance of legal and institutional framework on UGS.

4.1. Impacts of policies, regulatory, legal and institutional frameworks on UGS

“The impact of related policies, regulatory, legal and institutional frameworks regarding environment specifically UGS in Kigali City is very significant and effective”, responded the staff in charge of City Greening and Beautification in Kigali City. Also, the respondents from Kacyiru Sector confirmed this and gave different impacts of legal and institutional framework on UGS in Kigali City, specifically in their Sector. It is well observed that UGS in Kacyiru Sector are increasing and they are being enforced and promoted in urban management of Kigali City.

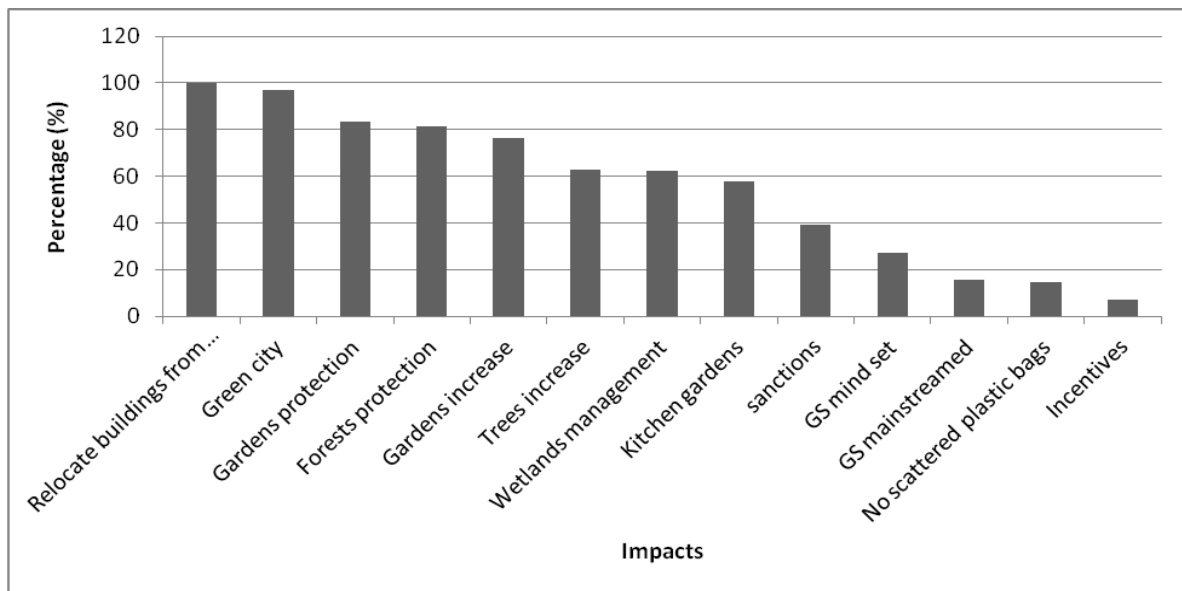


Figure 5. Impacts of legal and institutional framework on UGS

Source: Field Survey, May 2014.

These impacts are characterised by increased greening and UGS areas; by maintaining the existing ones and greening the planned ones; by tree planting around houses and along roadsides; by gardening homes and their surroundings. UGS in Kacyiru Sector also increase following the removal of buildings, management and restoration of wetlands and their buffer zones. UGS increase as well by increasing public gardens areas and kitchen gardens, by raising the mind-set and awareness of UGS, and by incentives and punitive sanctions in the protection and management of them. This context of taking into consideration the environment management starts from about 2000 with Vision 2020 which most of policy and legal frameworks originated, as results, green spaces are increasing.

4.1.1. Green and clean City

As "green and clean city" is the objective of the City of Kigali and its administrative structure, the figure 5 shows that 151 out of 156 respondents (97%) estimated that Kacyiru Sector becomes very green as a result of policies, regulations, legal and institutional framework on UGS. They affirm that this is the case for the whole Kigali City becoming very green and clean. This was also confirmed by the staff in charge of hygiene and beautification in the City of Kigali and in Gasabo District where Kacyiru Sector is located. Furthermore 15% of respondents revealed another reason for the increasing cleanliness of Kacyiru Sector, they argue that there are no longer scattered plastic bags dumped in UGS. These latter are nowadays forbidden to be used. This is a result following the implementation of the law N°57/2008 of 10/09/2008 related to the prohibition of manufacturing, importation, use and sale of polythene bags in Rwanda. The effect is the beautification of city as the plastic bags were a burden to the hygiene of gardens where they were dumped and scattered.

4.1.2. Increasing of gardens areas, their management and protection

The number of gardens in Kacyiru Sector is increasing and they are managed. They are made up with different grasses, kitchen gardens, flowers and trees at home, around houses, between houses and roads as it is stipulated and recommended in instructions regulating the hygiene in Kigali City. People are in charge of the management and protection of those home gardens and these are increasing. Gardens around roadsides and between houses and roads are observed in Kacyiru Sector. *“The process of gardening and greening roadsides is continuous up to cover all*

roads, not only in Kacyiru Sector but also in the whole Gasabo District” said the staff in charge of health environment and greening in Gasabo District. In addition the City of Kigali is making green all roadsides and retaining walls along the roads. Kacyiru Sector has also public gardens that are well managed, like the gardens now managed by the US Embassy that are near US Embassy, Kacyiru roundabout and Gasabo District offices. “*The US Embassy manages Kacyiru roundabout gardens accordingly and following the MoU signed with the City of Kigali*”, said the staff in charge of greening and beautification in the City of Kigali.

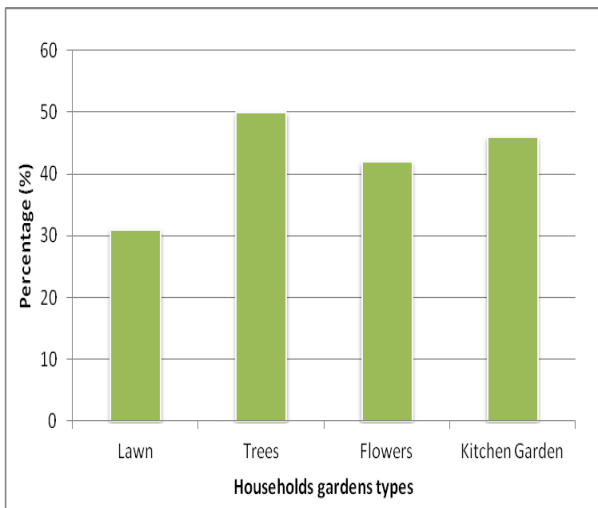


Figure 6. Households gardens

Source: Field Survey, May 2014



Figure 7. Part of Kacyiru roundabout gardens

Source: Field Survey, June 2014

The figure 6 shows that 31% of respondents have gardens, 50% have trees, 42% have flowers, 46% have kitchen gardens at their homes. Kitchen garden “*AKARIMA K'IGIKONT'*” is advocated in the Seven Years Government Programme (2010-2017) and contributes to more distribution of UGS. On the other hand, the figure 7 shows that 90 out of 156 representing 58% of respondents revealed that these kinds of gardens are effect of legal and institutional framework on GS in Kacyiru Sector.

Spatial plans like KCMP provides GS in Kacyiru Sector, and this latter with Gasabo District have to respect those UGS planned areas during different urban and settlements. The officer in charge of greening and UGS in the City of Kigali told the researcher that there are projects to establish parks and recreational areas, and irrigate existing gardens within the year 2014 and the greening and landscaping master plan studies will be carried out. These projects should increase

gardens in Kacyiru Sector as they will be irrigated. UGS should benefit from the greening and landscaping master plan studies that will enhance the KCMP in regard to UGS protection and management. Various institutions in have gardens such as all schools and health centres in Kacyiru Sector. About 119 respondents out of 156 representing 76% said that gardens are increasing and 73% admit that the latter are protected in Kacyiru Sector due to the related legal and institutional framework implementation.

4.1.3. Wetlands management and restoration

The land and environment policies advocate for the management and restoration of wetlands. They also state that urban wetlands belong to the State, and in urban areas, wetlands should be considered as UGS. It is in this framework that so far, many projects for relocating, removing people and buildings from wetlands and their buffer zones of 20 metres, and restoring wetlands are currently and actually being implemented. It is the case of wetlands like Kimicanga, Kinamba, Kanogo, Nyabugogo, Nyabarongo, Gikondo, etc. For some wetlands the exercise has been finished and for others, the exercise will take place until its completion.



Figure 8. Kimicanga wetland management and restoration

Source: Field Survey, June 2014.

This figure 8 shows the part of Kimicanga wetland and its buffer zone where people have been removed so that the area can be well managed and restored. All respondents (100%) told the researcher that there are wetlands like Kimicanga bordered by Kacyiru Sector, where people and

buildings have been removed for better wetland management. Also, 97 out of 156 hence 62% of respondents agree that wetlands are now managed. Further there are restricted regulations to hold and use accordingly wetlands and their buffer zones.

4.1.4. Forests and trees increase

Through different projects, programmes, the community work (*Umuganda*) in Kacyiru Sector, people plant trees along roadsides and establish different agro-forests at their homes. These trees are also well observed in Kigali City and they offer a nice view from airplane. The professional in charge of greening and beautification in Kigali City said that the City of Kigali wants to establish by this year the nurseries and sectors will benefit them. Those nurseries will complete the existing individual and private ones. About 81% and 63% of respondents respectively agree that forests are protected and trees are increasing in Kacyiru Sector.



Figure 9. Roadsides trees

Source: Field Survey, June 2014.



Figure 10. Trees in residential areas.

Source: Field Survey, June 2014.

4.1.5. Raised mind-set on urban green space

About 27% of the respondents, revealed that one of the impacts of legal and institutional framework on UGS is that these latter are rising in local community mind-set. These respondents supported their response that citizens have the mind set of gardening and greening every space

available because they are proud of green city. They are also proud of the beautification of city and its cleanness, and they agree with the continued promotion and management of UGS.

4.1.6. UGS mainstreamed into different action and spatial plans

Many action and spatial plans in Kigali City took into consideration the greening and UGS aspects. It is the same in Gasabo district and in Kacyiru Sector. It is in this context that increase of UGS, their management and promotion are mentioned in performance contracts (*IMIHIGO*) of the City of Kigali and of its administrative structure, hence including Kacyiru sector as well, and these performances contracts are fully evaluated. The plans such as the National Land Use and Development Master Plan (NLUDMP), DLUPs, DDPs, CKDP, KCMP, the District (Nyarugenge, Kicukiro, Gasabo) Master Plans provide the management existing UGS and of the planned ones. These plans are being implemented and strongly respected in Kacyiru Sector urban and settlement management process. The figure 5 shows that 15% of respondents mentioned that UGS are mainstreamed, as effect of legal and institutional framework on UGS in Kacyiru Sector, and in Kigali city in general.

The 2014-2015 fiscal year priorities for the City of Kigali indicates among others, ten (10) ha planned for creation of a public park located in a wetland with estimated cost of Rwf 50,000,000. Informal settlements are expected to be upgraded and redeveloped with estimated cost of Rwf 1,000,000,000. There is also a planned modern irrigation system for city gardens. This fiscal year also indicates as a priority to relocate people and buildings within Kanogo-Nyabugogo (this one is bordered by Kacyiru Sector) with estimated cost of Rwf 200,000,000, and Nyabugogo wetland demarcation with estimated cost of Rwf 200,000,000 (CoK, 2013c).

Not only the public UGS but also the individual and private gardens will increase through the process of upgrading the slums and unplanned settlements in Kacyiru Sector, and for the planning for new housing as currently the construction permit is given upon provision of a certain percentage of plot or parcel for green spaces.

4.1.7. Incentives and punitive sanctions in the management of green spaces

In the framework of different policies, laws and regulations, the government has provided incentives and punitive sanctions regarding UGS management. The practice has contributed to

increase, safeguard and management of UGS in Kacyiru sector. The incentives and sanctions are mentioned by respectively by 7% and 39% of respondents as having an effect in the framework on UGS management. For example there are established incentives to the best competent units (Cells, Sectors ...) in environmental management. However, as stipulated in the instructions of the City of Kigali regulating the hygiene, anyone, wickedly or accidentally, damages or destroys the public gardens shall pay Rwf 30,000 per m² of damaged garden area, and shall pay Rwf 1,000,000 for every damaged palm trees along the roadsides. It is in this framework that The City of Kigali with the RNP and insurance societies have dossiers of many vehicles that struck palm trees along roadsides. This led to drivers to take much care of UGS along the roadsides.

4.2. Challenges and constraints in implementing regulatory and legal frameworks

Even though there are so many appropriate policies, laws, regulations and instructions that are helping to manage UGS in Kacyiru Sector, there are still challenges and constraints in implementing them. The researcher identified and sorted out the challenges and constraints that mostly concern the management of gardens, forests and wetlands in Kacyiru Sector, and should be the same in Kigali City as well.

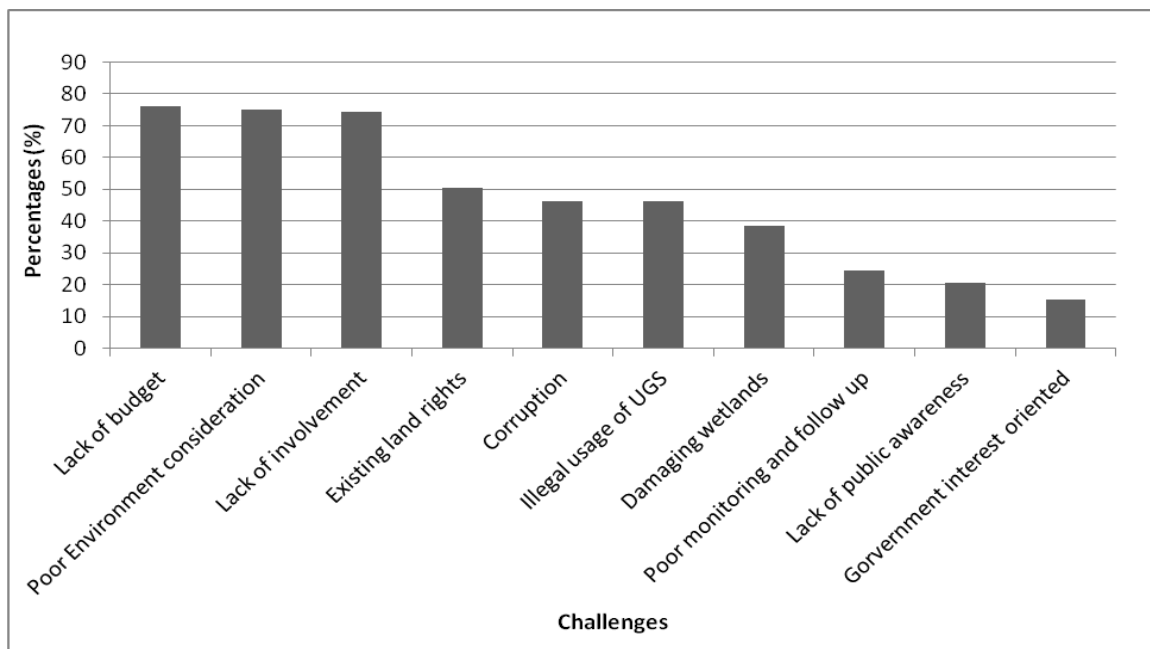


Figure 11. Constraints in implementing legal framework on UGS

Source: Field Survey, May 2014

Those challenges are among others: poor consideration of environment, improper urban planning, poor monitoring and follow up of urban settlement and housing, budget and financial issues for compensation of expropriated people. There are also the corruption in implementing related UGS legal framework and sometimes the lack of local community participation and lack of public awareness as well. In addition, illegal use of UGS is observed in Kacyiru Sector specifically in wetlands as challenges of their management. For instance the respondents stated that the anarchical agriculture and buildings in wetlands and waste deposit in wetlands as well. People also step on gardens. The findings from the interview with the staff in charge of environment, greening and beautification in the City of Kigali confirmed those challenges and added that they are even extended and applicable in the whole City of Kigali. Also, the staff in charge of environment in REMA at Gasabo District and the staff in charge of hygiene and greening in Gasabo District confirmed that these kind of challenges are not only in Kacyiru Sector but also in others sectors of Gasabo District.

4.2.1. Poor consideration of Environment and improper urban planning

Many policies and related laws and regulations emphasising on urban planning, environment management and natural resources in Rwanda have mostly been established, adopted and reviewed from 2000s. However there are people who still ignore the environmental aspects. The staff in charge of environment in the City of Kigali also stated that the poor recognition of environment some people is a big challenge of environment management in Kigali city. As results of such poor consideration of environment in Kigali City, people have settled in inadequate areas such as steep slopes, flooding zones, and high risk zones. People have also built in wetlands; it is the case of Kimicanga wetland in Kacyiru Sector where we see La Colombière School and former buildings of the Kigali Independent University (ULK) building, shown in the figure 12 below in subsection 4.2.5. We can also mention the industrial zone in the Gikondo wetland.

There have been established slums, unplanned and uncontrolled settlements preventing the planning of UGS. Therefore, not only Kacyiru Sector but also the City of Kigali is experiencing a burden to comply with the new legal tools that solve these previous issues due to the poor environment consideration. For instance there is an issue of people resettlement and buildings

relocation from wetlands and their buffer zones. Three quarters of respondents said that the poor consideration of environment is a challenge, and 14% of respondents said that the improper urban planning is also a challenge to implement the legal framework on UGS in Kacyiru Sector. However the poor environment recognition and improper urban planning mentioned by respondents have been taken place in the past, otherwise since 2000s the urban settlement is taking into account the environmental management and effective spatial planning.

4.2.2. Existing land tenure rights

There are people who have already their land tenure rights and testimonials like land titles, leases, or other rights legally recognized of their buildings and land. However, the big challenge is that those parcels and lands must be given up by their owners for UGS management in order to comply with the new legal framework. It is the case of people who have buildings in wetlands and their buffer zones. So far, policies, laws and regulations have been updated, reviewed and adopted and sometimes they are incompatible with those previously existing. The researcher can give as example the case of La Colombière School and the former Kigali Independent University (ULK) legally located in the Kimicanga wetland. The owners will have to be expropriated and compensated in order to relocate those buildings. The respondents (51%) assured that to handle the case of these existing land rights is a challenge in implementing the mentioned policy and legal framework.

4.2.3. Poor monitoring and follow up of urban settlement and housing

Although people have been accorded documents and rights to settle some zones described above like wetlands, there is another challenge for people who settled, occupied and built these zones through squatting, without land rights and construction permits. Those people are being relocated and removed without any compensation. These constraints are results of the previous poor follow up and monitoring of urban housing and settlement. People without related permits should have been controlled and stopped earlier from settling and building. The planned settlements have not been respected accordingly. About a quarter (24%) of respondents said that the poor monitoring and follow up of legal and institutional framework on UGS is the challenge in implementing them.

4.2.4. Corruption

About 46% of respondents told the researcher that some local leaders (local government) who are corrupted use UGS in their interest without complying with related laws. The professional in charge of urban housing in RHA and the professional in charge of environment in REMA at Gasabo district confirmed this issue of corruption. For example people who are using wetlands and their buffer zones illegally by quarrying and building in those areas giving bribe to local leaders. Therefore the latter avoid to arrest those people who are not complying with regulations and legal framework on UGS.

4.2.5. Budget and financial issues for compensation of expropriated people

As recommended by law, land and other property of people must be expropriated for public interest respecting appropriate and right compensation. However, the local government and central Government as well have not on the spot the adequate and sufficient land, budget and financial resources in order to compensate people who have to be resettled and relocated from wetlands.



Figure 12. Remaining buildings in Kimicanga wetland

Source: Field Survey, June 2014

The figure 12 shows in its background near the foreground the buildings that are still in Kimicanga wetland. On the left side there are former buildings of the Kigali Independent University (ULK) and at right there is La Colombière School. These buildings wait for expropriation and right compensation so that they can be removed from wetland in order to comply with wetland management regulations. The foreground of this figure shows where people and buildings have already been removed from Kimicanga wetland in order to be restored and well managed.

Three quarters (76%) of respondents mentioned that the lack of budget for right compensation is a challenge of institutions in implementing legal framework on UGS in Kacyiru Sector. The discussions with officers in charge of environment and UGS in the City of Kigali and in Gasabo District also confirmed the existence of this problem. Furthermore, it requires a huge budget in order to implement the KCMP, other DLUPs, and greening and gardening projects. These spatial plans provide the establishment of new UGS such as corridors, forests areas, gardens, wetlands restoration and parks.

4.2.6. Government interest oriented, lack of participatory approach and public awareness

About 116 out of 156 respondents, representing 74% said that the lack of participatory approach and involvement of local community in establishing and validating legal framework is a challenge to its implementation. Also 15% of respondents revealed that the Government interest oriented is another challenge to implement policy and legal framework on UGS. Therefore 21% of respondents highlighted the lack of public awareness of legal framework as a challenge. People complain that even though the related policies, regulations and legal framework may be effective and relevant, but the lack of participatory approach and involvement of local community in establishing, updating and validating them is a burden and challenge to local community in complying with them. People also think that most of laws and regulations are more government interest oriented than local community interest, and they think it is the reason why they are not involved. For example, people are mostly complaining about the law and process of expropriation for public interest. They also complain regarding the process of buildings removal from wetlands and their buffer zones.

4.2.7. Illegal use of UGS

The figures below show that UGS are illegally used.

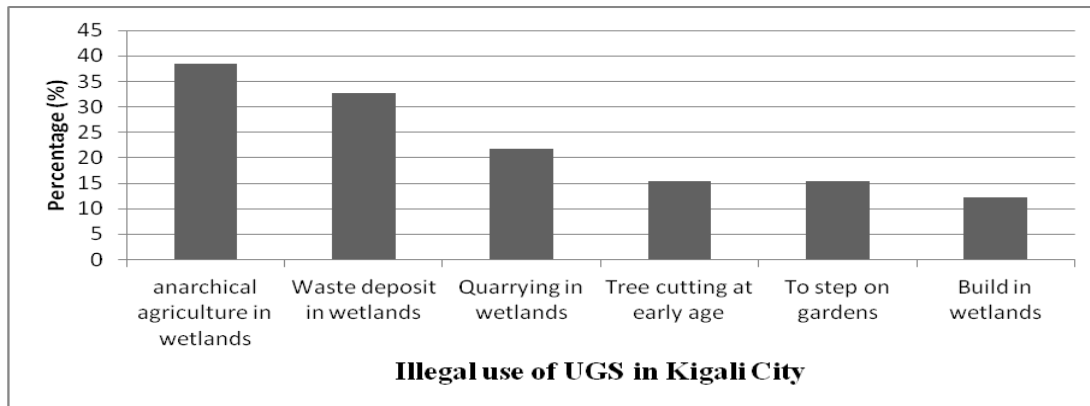


Figure 13. Illegal use of UGS in Kigali City

Source: Field Survey, May 2014



Figure 14. Improper use of wetland at Kinamba

Source: Field Survey, June 2014

For instance the figure 14 above illustrates the use of wetland at Kinamba. The flame on figure indicates that people are burning in wetlands and we there is in the figure 14 a building that is still in wetland near the bank of stream while the building near the streams and in wetlands are prohibited. The colour of water shows that this wetland is inappropriately exploited, and the banks of steam are not protected from agricultural activities as well.

The respondents mentioned the misuse of UGS in Kigali City as a challenge to implement the related legal framework and a challenge to related institutions as well. About 46% of respondents told the researcher that UGS are illegally used in Kacyiru, 15% said that people illegally cut young trees at early age, 38% said that wetlands are experiencing anarchical agriculture, 22% said that people quarry in wetlands. About 12% of respondents revealed that people still build in wetlands specifically in their buffer zones. 33% of respondents said that wastes are dumped in wetlands and 15% agreed that people step on gardens hence damaging them.

4.3. Solutions for the effectiveness and relevance of legal and institutional framework on UGS

The following are possible solutions so that policies, laws, regulations and institutions on UGS in Kigali can be more effective and relevant.

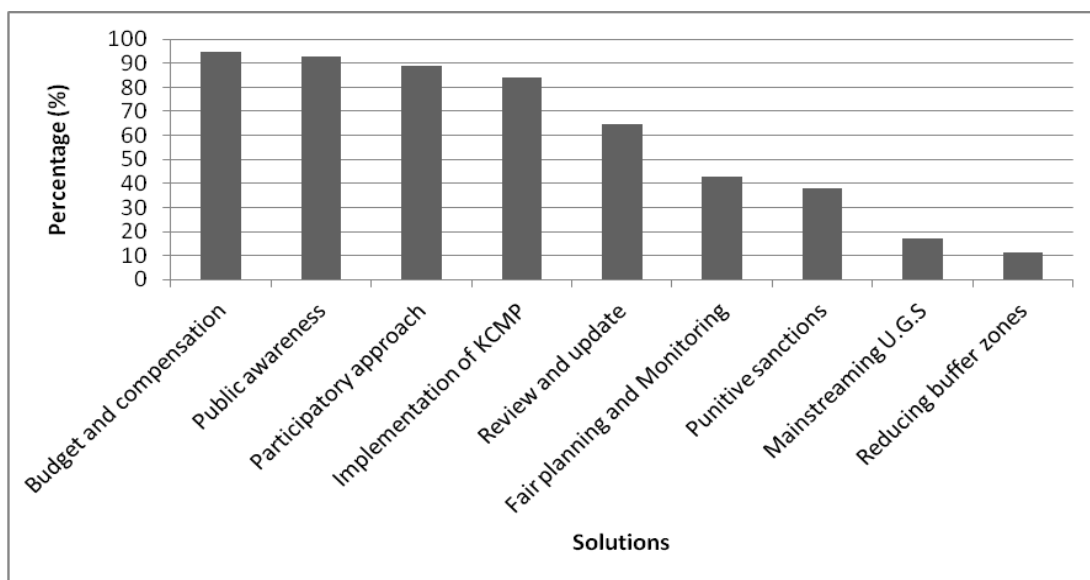


Figure 15. Solutions to enhance legal and institutional framework on UGS

Source: Field Survey, May 2014

4.3.1. Public awareness and participatory approach

Normally and most of time, policies, laws and regulations have been established, reviewed and updated by a certain task team of managers, professionals and experts, and during their validation they invited the latter from different stakeholders. However local community who are also concerned with policies, regulations and legal framework to comply with them are not often invited.

It should be better if local community and the public are aware, sensitised and involved in policies, laws and regulations on UGS so that they should know what to be complied with. Following that lack of public awareness and of local community participation are challenge to implement legal framework on UGS, 145 out of 156 respondents representing 93% of respondents suggested that the public awareness of legal framework on UGS is a good solution to enhance legal and institutional framework on the latter in Kacyiru. They argued that the public awareness should be increased through media and other communication tools and by facilitating local community to get information. For example the dissemination of the information should reach the population on affordable price, and to all levels of local government. About 89% of respondents also suggested that there should be involvement and participatory approach, not only with related experts but also with local community during validation of related legal framework. It is better to sensitize public specifically local community in order to raise their awareness.

4.3.2. Fair planning, monitoring and follow up

There should be the fair planning, monitoring and follow up of described policies, regulations, legal and institutional framework in order to enforce and enhance their effectiveness and relevance in regard to the UGS increasing, promotion, protection and management. In this framework, within the urban planning and development in Kacyiru, there should be the planned UGS, the protection and management of forests, gardens and wetlands, and monitoring and follow up their implementation as well.

As the households without any green space are mostly those ones in slums and unplanned settlements (*utujagali*), there should provide UGS areas such as gardens during the upgrading these *utujagali*. In addition the fair planning, follow up and monitoring will help and facilitate

the implementers at different levels to implement the policies, regulations and legal framework on UGS in Kacyiru Sector. In this regard, the related institutions must be more enforced in order to be able to monitor, follow up and evaluate all related projects, initiatives and strategies on UGS. The fair planning, monitoring and follow up as solution to enhance the relevance and effectiveness of legal and institutional framework on UGS were suggested by 43% of respondents. Moreover, fair monitoring and follow up will help to eradicate related corruption.

4.3.3. Providing budget and compensation

In order to gain more UGS like gardens, forests and wetlands, it is crucial and necessary to provide budget to compensate people that must be expropriated for public interest, for instance to compensate people whom their buildings must be relocated and removed from wetlands and their buffer zones, from forests and gardens planned areas. In addition it requires financial resources in order to implement the spatial city plans such as the KCMP and DLUPs as they provide UGS too. The budget and financial resources will also help to restore the wetlands and their buffer zones after removal of buildings from the former areas. This involves not only the government and public institutions but also the private sector, stakeholders, partners, and donors. The researcher mentioned above that people are complaining about the unfair compensation due to the lack of budget, therefore in response almost all the respondents (95%) suggested the fair and right compensation and providing budget as well as solutions to enhance and enforce the legal and institutional framework on UGS.

4.3.4. Review and update of existing legal and institutional framework

Due to the development of the UPKC, and taking into account variations and modernisation of urban activities and housing aspects, policies, regulations, legal and institutional framework on UGS must be reviewed and updated in order to enhance their relevance and effectiveness. 65% of respondents suggested this idea, to review and update the existing policies, laws and regulations on UGS in Kigali City.

Furthermore 12% of respondents complained and suggested for instance the review of the organic law No 04/2005 of 08/04/2005, determining the modalities of protection, conservation and promotion of environment in Rwanda especially its articles 85 up to 87. These articles

prohibit any pastoral or agricultural activities and buildings within a certain distance away from the banks of streams, rivers and lakes except activities related to protection and conservation of streams, rivers and lakes.. The respondents argued that they are experiencing the land scarcity for agricultural, pastoral and building activities due to the over and extraordinary density in the UPKC, and therefore, that the distance mentioned above should be reduced. A study on this issue should be carried out in order to examine the effectiveness of reducing wetlands buffer zones as suggested by people in Kacyiru sector.

4.3.5. Mainstreaming UGS promotion and management

Even if UGS are indicated in different spatial programmes and plans, the UGS promotion and management must be mainstreamed in all plans and activities following the related legal and institutional framework on UGS. As suggested by 17% of respondents, the mainstreaming of UGS can enhance and enforce the effectiveness and relevance of legal and institutional framework on UGS Kacyiru Sector and in Kigali City as well

4.3.6. Punitive sanctions

It should be better to provide continued punitive sanctions during the implementation of legal framework on UGS in Kacyiru as suggested by 38% of respondents so that legal framework on UGS can be well implemented. Therefore the punitive measures should be fair in any time, any case and for any one. In the case, punitive sanctions should be applied not only to local community but also to the related authorities who are unaccountable or corrupted.

4.3.7. Strict implementation of KCMP

Following different and related plans, programmes, strategic actions, legal and institutional framework, different and related development plans were established and spatial plans like DDPs, DLUPs, CKDP, and specifically the KCMP that provided the green spaces increase, protection and management. The strict implementation of KCMP was suggested by 84% of respondents as solution to enforce legal and institutional framework on UGS management in Kacyiru and in Kigali City. Even if it will require a huge budget and financial resources, not only the implementations of KCMP but also of others spatial plans that provide UGS can also enhance the legal and institutional framework on UGS.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

Urban green spaces (UGS) play an important role on recreational, cultural, socio-economic, aesthetic and ecological benefits to the urban dwellers in Kacyiru Sector, and in Kigali City as well. However, they have experienced dramatic losses and damages due to rapid urban population growth, poor urban planning, degradation and poor consideration of environment. Therefore, in order to reach the management of UGS, the latter are protected by legal and institutional framework. This study aimed at determining and analysing the policies, regulations, legal and institutional framework, their impacts, their implementation, constraints, and possible solutions to enhance and enforce their relevance and effectiveness on UGS in Kigali City.

Based on the findings, the present study reached its specific objectives. The first based on an analysis of policy, legal and institutional frameworks on UGS in Kigali City. Findings show the range of policies, programmes, laws, orders, and instructions regarding UGS management in Kigali City. An overview of UGS in Kigali City was given; they are wetlands, forests and gardens. However, even though the policy, legal and institutional frameworks have a good impact on UGS management, there are still challenges to implement them in Kacyiru Sector. Among these impacts, the researcher mention that the city becomes very green, gardens and trees increase, wetlands and forests are being well managed and protected. Also, kitchen gardens increase, and incentives in managing UGS are provided. The challenges are illegal usage of UGS for instance quarrying, building and dumping wastes in wetlands. The challenges are also the lack of budget and financial resources to implement actions and strategies regarding UGS management. Other constraints in implementing legal and institutional framework on UGS are corruption, lack of participatory approach and of local community involvement, poor environment consideration and poor monitoring and follow up, etc.

Therefore, the following are recommendations in order to enforce and enhance the relevance and effectiveness of legal and institutional framework on UGS in Kacyiru sector or in Kigali City. The participatory approach and public awareness in terms of policy and legal framework, fair urban planning, monitoring and compensation, sanctions, legal review and update, and providing sufficient budget and financial resources. Other recommendations are strict implementation of existing KCMP and other related spatial plans, and mainstreaming UGS in action plans. The

researcher also recommends the achievement and implementation of Landscaping and Greening Master Plans Studies in Kigali City. These recommendations should be executed by central government especially by MINIRENA, MININFRA, MINECOFIN, REMA, RHA, and RNRA. The local government should also execute these recommendations, specifically the City of Kigali and its administrative structure including districts, sectors and cells. Donors and private sectors should be involved as well.

As final point, the researcher recommends to future researchers the following suggestions: a study on the cost effectiveness in implementing the KCMP (as this latter provides green areas), and a study on the cost effectiveness of relocation of existing buildings in wetlands and their buffer zones in Kigali City.

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APPENDIXES

THE INTERVIEW PROTOCOL ADDRESSED TO RELATED POLICY MAKERS, SENIOR MANAGERS AND EXPERTS IN DIFFERENT INSTITUTIONS WITH REGARD TO URBAN GREEN SPACES (UGS) IN KIGALI CITY.

The purpose of this study is to determine and analyze the impact of existing regulations, legal and institutional framework on green spaces in Kigali City.

1. Institution and Position:
.....
2. What are policies concerning and relating to UGS promotion and management in Kigali City?
3. What are laws concerning and relating to UGS promotion and management in Kigali City?
4. What orders concerning and relating to UGS promotion and management in Kigali City?
5. What are instructions concerning and relating to UGS promotion and management in Kigali City?
6. What are plans and strategies concerning and relating to UGS promotion and management in Kigali City?
7. What are the policies, laws, orders, instructions, regulations, plans and strategies concerning and relating to UGS promotion and management in Kigali City?
8. What are institutions concerning and relating to UGS promotion and management in Kigali City?
9. What are the roles and responsibilities of your institution regarding improvement of quality and quantity, and in management of UGS in Kigali City?
10. What kind of green spaces taken care of and where are they located?
11. What institutions (stakeholders and partners) that concern and deal with UGS management and promotion in Kigali City?

12. What are roles of institutions above regarding UGS management and promotion in Kigali City and their roles?
13. How do you judge the effectiveness and relevance of above regulations, policies, legal and institutional framework in managing, improving, maintaining and preserving the UGS and biodiversity conservation (in Kigali City)?

	Very effective	Effective	Less effective	Not effective
Regulatory and legal framework				
Institutional framework				

14. If you have them, what are projects in your institution regarding and concerning the management and improvement of UGS (in Kigali City)?
15. What are impacts of related legal and institutional framework on green spaces protection and management in Kigali City?
16. What are constraints and challenges in implementing the legal and institutional framework regarding UGS management in Kigali City?
17. Are there things or issues showing you that sometimes and somewhere local community are not respecting or complying with these regulations and legal framework concerning the UGS management in Kigali City? If yes Which ones?
18. What should be possible solutions of above challenges?
19. What should be done in terms of legal and institutional framework in order to improve and promote the sustainable management of UGS in Kigali City?

THANK-YOU VERY MUCH FOR YOUR TIME AND PARTICIPATION!

QUESTIONNAIRE ADDRESSED TO LOCAL COMMUNITY OF KIGALI CITY

IBIBAZO BIGENEWE ABATURAGE BATUYE MU MUJYI WA KIGALI

Intangiriro:

Ubu bushakashatsi bugamije kumenya **uruhare rw'amabwiriza, amategeko n'urw'inzego ziyubahiriza zikanayashyira mu bikorwa** mu gucunga neza, kwita no kubungabunga **Urban Green spaces** (= “**Ahantu ho mu mujyi hatubatse usanga hari ibimera bitandukanye**”) mu Mujyi wa Kigali.

Green spaces (**cg Ahantu ho mu mujyi hatubatse usanga hari ibimera**) mu mujyi wa Kigali hagizwe ahanini na: **ubusitani butandukanye** (bwaba rusange, bwihariye, bunini, buto, ku mihanda, ku bibuga, ku mazu n'ahandi), **amashyamba n'ibiti, ibishanga n'imibande n'ahakorera ubuhinzi butandukanye (mu mujyi wa Kigali)**. **Mwene aha hantu** kandi haba hafatiye runini hanafitiye umumaro munini cyane abatuye mu mujyi (Umujyi wa Kigali).

1. Aho mutuye/muba/mucumbitse hari Green spaces zihari? Yego Hoya
Niba ari Yego ni izihe:

Green spaces	Yego cg Hoya
Ubusitani	
Ibiti	
Indabyo	
Akarima k'igikoni	
Amashyamba	
Ibishanga	
Imirima	
Izindi (zivuge):	

2. Musanzwe muzi niba hariho mwene ayo mategeko n'amabwiriza ajyanye no kwita, kubungabunga, gucunga no gufata neza **Green spaces** (mwene aho hantu twavuze)?
Yego Hoya

Niba ari Yego ni ayahe:

3. Ayo mabwiriza, amategeko n'inzego mubona hari umumaro byagize mu buryo bwo kubungabunga no gucunga neza Green spaces (mwene aho hantu twavuze) mu mujyi wa Kigali? Yego Hoya

4. Ni uwuhe mumaro mubona aya mategeko n'inzege byagize mu buryo bwo kubungabunga, kwita no gucunga neza Green spaces mu mujyi wa Kigali?

No	Umunaro	Yego	Hoya
A	Ubona umujyi ari icyatsi kibisi (Green city)		
B	Ubusitani bwariyongereye (garden increase)		
C	Ibiti byariyongereye (trees increase)		
D	Ingo zifite uturima tw'igikoni (Kitchen garden)		
E	Usanga abantu baha agaciro cyane kandi batekereza Green spaces mu mitwe yabo (Green spaces mind set)		
F	Ibishanga bicunzwe neza (wetland management)		
G	Inyubako zimuwe mu bishanga		
H	Amashyamba ararinzwe		
I	Ibindi:		

5. Hari abantu mujya mubona mu mujyi wa Kigali bagituye mu bishanga no mu mbago zabyo? Yego Hoya
6. Hari abantu mujya mubona mu mujyi wa Kigali bacyubaka mwene aho hantu (Urugero ahagenewe ubusitani, amashyamba, ibishanga n'imbago zabyo cg ahandi nk'aho)? Yego Hoya
7. Aya mabwiriza n'amategeko n'inzege mubona byorohera abagomba kwimuka aho hantu kubabonera ahandi batuzwa? Yego Hoya

Niba ari yego sobanura:

8. Hari abantu mubona mu mujyi wa Kigali bonona Green spaces? Yego bya

Niba ari yego sobanura:

9. Mubona mu Mujyi abantu bitabira bate mu gucunga neza no kubungabunga Green spaces?

Urugero	Cyane	Buhoro	Ntibabyitabira
Kubungabunga amashyamba n'ibiti			
Kubungabunga ubusitani			
Kubungabunga ibishanga			
Tanga izindi ngero z'ibintu bikorwa mu rwego rwo kwita kuri Green spaces mu muji wa Kigali:			

10. Hari imbogamizi n'inzitizi ku baturage mubona baterwa n'aya mabwiriza n'amategeko mu kuyubahiriza no kuyashyira mu bikorwa mu muji wa Kigali? Yego Hoya
11. Niba ari Yego mubona izo nzitizi n'imbogamizi ku baturage mu kuyashyira mu bikorwa no kuyubahiriza ari izihe?

No	Imbogamizi/inzitizi	Yego	Hoya
a	Aragoranye kuyakurikiza		
b	Hari aho bidashoboka kuyubahiriza		
c	Bisaba ubushobozi burenze bw'abaturage		
Izindi nzitizi n'imbogamizi ku baturage mu kuyubahiriza:			

12. Hari ingorane cg inzitizi zituma inzego, amabwiriza n'amategeko kuri green spaces bidakurikizwa uko bikwiriye mu muji wa Kigali? Yego Hoya
- Niba ari yego ni izihe?

No	Ingorane n'inzitizi mu kubahiriza amategeko n'inzego kuri green spaces mu muji wa Kigali	Yego	Hoya
A	Kutita ku bidukikije (Poor environment consideration)		
B	Kuba imicungire n'imukurikiranire by'ingamba ziteza imbere green spaces bidakorwa neza (Poor monitoring and follow up)		
C	Ruswa (corruption)		
D	Imikoreshereze mibi ya green spaces		
E	Kuba abaturage batagira uruhare mu itegurwa ry'aya mategeko		
F	Kuba hari abantu baba bagomba kwamburwa ubutaka ngo bufatwe		

	nka green spaces kandi baba basanganywe ibyangombwa byabwo (existing land tenure rights)		
G	Kubura amafaranga yo gushyira mu bikorwa ingamba zijyanye no kwita kuri green spaces (budget and financial issues)		
H	Izindi:		
I	Ubundi busobanuro ku byavuzwe hejuru muri iyi mbonerahamwe:		

13. Ni izihe ngamba ubona zafatwa kugira ngo inzego, amabwiriza n'amategeko kuri green spaces birushaho kubahirizwa no gushyirwa mu bikorwa mu mujyi wa Kigali?

No	Ingamba zafatwa	Yego	Hoya
A	Kuyamenyesha abaturage bose (Public awareness)		
B	Kuyavugurura (review and update)		
C	Abaturage bagomba gufatanya no kugira uruhare mu kuyategura (participatory approach)		
D	Gushyira amafaranga yo kwishyura ababa bagomba kwimurwa ahagenewe green spaces		
E	Gukaza ibihano kubayica		
F	Gushyira mu bikorwa no kubahiriza ibishushanyo mbonera mu mujyi wa Kigali		
G	Gukurikirana neza no kugenzura ingamba ziteza imbere green spaces (Fair monitoring and follow up)		
I	Izindi:		
J	Ubundi busobanuro ku byavuzwe hejuru muri iyi mbonerahamwe:		

MURAKOZE CYANE!