Tradition and Modernity in the Domestic Urban Kitchen Design in Uganda

A case of Kampala

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Abstract

This thesis studies the design of modern domestic urban kitchens in Uganda. The research took place in Kampala, which is the capital city of Uganda. The cultural make up of Kampala residents is diverse; people come from all over the country of Uganda, as well as beyond. The fieldwork involved investigating daily practices taking place in the domestic urban kitchens of the middle income group. This has been done in order to find out the problems found in using the kitchens so that better designs may be suggested. The thesis addresses mostly, professionals such as architects, who are involved with planning and designing housing, specifically kitchens within them. This work can as well be useful to another country with a similar context to Uganda. It is worth mentioning that kitchen studies started to take place in developed countries about one hundred years ago, yet, they have never been initiated in Uganda, until this moment. The thesis indicates that a kitchen is an important part in a home, which is a busy area, thus demanding a lot of attention in order to be able to get the needed design requirements. While the findings of the thesis are based on the contemporary urban life in Uganda, it is not known what the future will hold; so suggestions are made to benefit contemporary needs.

Practices in the urban kitchen have been investigated within the conceptual framework of tradition, modernity, culture and identity in connection with the kitchen designs in place. The research has been motivated by contradictions appearing to take place between modern kitchen designs and the actual practices taking place in them. Generally, the evolution of the kitchen design in some of the developed nations followed the trend parallel to developments in lifestyles, industrialization or women’s emancipation. Kitchen studies made in developing nations have investigated the particular contexts within those nations. So this thesis fills the knowledge gap which exists, as such studies are nonexistent within the Ugandan context.

The study is qualitative by engaging the case study methodology. Here, the case is the interaction between the household, the kitchen design, the activities in the kitchen and the house type in place. Interviews have been conducted with household members in the studied cases, as well as with key informants. The main areas of study have been the way food is prepared, cooked and stored in an urban kitchen, and how these activities take place in a mixed situation of tradition and modernity. Seven cases in total have been investigated. The results indicate disharmony between the designs in place and the activities that take place in them. People have to negotiate and reinterpret spaces in their kitchens and around them in order to meet their needs.

Some of the most important outcomes from this research is not to let modernity be disruptive but rather to allow the change from tradition be gradual. The thesis endeavors to blend the two phenomena of tradition and modernity so as to create a balance in design and end with better functioning kitchens. One example of such is shown for a one family house on a plot.

Key words: tradition, modernity, culture, identity, domestic urban kitchen design
Preface

This thesis has brought to light one of the areas in our homes in Uganda, which is often neglected in research and design. The kitchen has been an interesting place to investigate, because it touches on many vital issues which seem to have been taken for granted. This study has initiated kitchen studies in Uganda, bringing to attention the actual everyday practices which take place in a household’s kitchen. Concepts of tradition, modernity and culture have provided the theoretical background for this thesis. Discussions on culture and identity seem to be complex as their definitions tend to vary, depending on which perspective is taken. It is my hope that through this thesis the concerned professionals, especially architects will reconsider the principles of planning and design for urban kitchens in Uganda.

I wish to acknowledge, with thanks, everyone who has contributed in one way or another to the success of this thesis. It may be impossible to mention all by name, nevertheless, let me mention but a few individuals who have brought this work to this point.

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Salome Kweyunga

Stockholm, December, 2013
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List of Acronyms

CEDAT-College of Engineering, Design, Art and Technology
CREEC - Centre for Research in Energy and Energy Conservation
GTZ - German Technical Cooperation
MoLHUD-Ministry of Lands, Housing and Urban Development
UBOS-Uganda Bureau of Statistics
UNESCO-United Nations Educational, Scientific and Cultural Organization
UN-HABITAT- United Nations Centre for Human Settlements
NW&SC National Water and Sewerage Corporation
1. Introduction

The background to the study is introduced, describing the current situation in the country of Uganda. It is based on the author’s observations, experience and literature review. It also focuses on the nature of the research which is undertaken. The research problem is stated, followed by the aim of the research. With that in view, the research questions which guided the study are presented, followed by the significance of undertaking this study. Delimitations of the research are outlined before the chapter ends with presenting the structure of the whole thesis.

1.1 Background

The word “kitchen” brings to one’s mind a place for preparing and cooking food, for washing up and storing cooking utensils, and for accommodating other activities associated with food and eating. The kitchen is an important space in the home because of the significance in connection with food and eating in a household, together with the social economic lifestyles involved in such activities. According to Lawrence (1982), Bullock (1988) and Nyström (1994) the kitchen, one can say, is one of the busiest areas in a home.

The general functions of a kitchen basically define what it is. A domestic urban kitchen design, on which this thesis focuses, refers to the cooking spaces in an urban home. The general approach to design of buildings in Uganda, and in domestic kitchens in particular mostly looks at the general functions of the physical space, considering the building elements, but hardly taking into account of the socio-economic and cultural factors of the context. Do designers access very important information needed in design? What issues encompass a well-designed kitchen in its specific context? What are the demands and most important characteristics of a well-functioning kitchen? Basic needs of a good kitchen, plus other issues which are not so basic, vary from one context to the other. In order to give precise answers for the above posed questions the approach to the domestic urban kitchen design would need to address socio-economic, cultural and political issues, thus touching upon policy making, political governance, professional guidance, managerial skills, and institutional training. However, I cannot engage in all these topics within the scope of my licentiate, so this research is focusing on the roles of tradition and modernity in the design of the present day urban kitchen. With that in view I move on to briefly draw attention to my experience as an architect in relation to the research problem and aim of this study.

In early 1990’s the Ugandan national economy was slowly picking up after a lapse during the period of political instability in the country from the beginning of 1970’s to 1980’s. The public started purchasing land and getting building plans of residential houses drawn out for the authority’s approval at an unprecedented rate. At that time I worked as architect of the Kampala City Council, so I had the opportunity to observe the numerous building plans for individual housing which were being submitted for the council’s approval. House designs were mainly done using a similar approach, and that was simply producing a house plan with all the required rooms including the kitchen, without paying much or no attention at all to the detailed design of the
kitchen. By detailed kitchen design I mean including planning and apportioning corresponding spaces for cooking food, using the various fuel and cooker types, food preparation and storage, besides washing up and storage of utensils and other kitchen items. In my experience I have watched many house plans being drawn out, then built and finished without much thought or attention to real design in the professional sense. In the meantime I worked as a registered architect, practicing architecture, and for many years, I have been involved in the production of residential house designs for many individuals in Kampala. I often notice that in producing a residential house for an average developer the brief or the program hardly prioritize a detailed kitchen design as a space for cooking and for other activities going on there, at the design stage.

To many people, architecture may mean drawing lines in space to end with a desired form. The space ‘kitchen’ is then allocated on the plan to an “electric” kitchen and nothing much more is done in detail. An “electric” kitchen refers to a kitchen where electricity is installed as an option for cooking purposes. It is up to the developer to decide how he or she is going to use the kitchen and how the finishes or furnishings are chosen for it. This is in spite of the fact that the kitchen space is the busiest room in the house with a number of activities taking place there. I observed many submitted house plans over the years and the trend was the same all over. However there may be exceptions of few architects to my observations, as very few developers may be willing to pay the architects’ services fees resulting in their benefitting from the extra professional work. Besides, to my observations, customers do not ask for the extra professional services. On average detailed kitchen design has not been part of residential house design. Some segments of the urban population hire non-professional services for designing housing plans with “modern kitchens” which are not really modern per se as they lack a number of good architectural attributes. In addition, current building regulations are out of date and not adapted for the current socio-economic conditions in Uganda (Mukibi, 2008).

I have singled out the domestic urban kitchen design for this study because of the importance of such a busy space in a home, and the fact that its study and design has been overlooked in developing countries (Nyström, 1994), (see also literature review in chapter 3.2.1.). This particular study is located in Kampala, the capital city of Uganda. The unresolved issues in the kitchen design stem from the involved stakeholders having their priorities elsewhere while not giving the design the attention it deserves. At the same time there is lack of knowledge in what people really do, practically, in the kitchens. Studies on domestic kitchens in developing countries have been carried out, exemplified by those done in Vietnam (Nyström, 1988; Tran Hoai Anh, 1993; Nyström, 1994; Nyström 2003). The studies done by these authors indicate the lack of knowledge in the kitchen design as partly due to the assumed low status of the kitchen in developing countries, thereby not worth much attention. Nyström (1994) argues that the concerned professionals, including architects and engineers hardly engage themselves in kitchen studies. Another factor causing the contemporary backwardness in urban kitchen design in Uganda is the historical nature of the colonial past influencing the evolution of such designs in the country. According to Atkinson (Atkinson, 1950) colonial kitchens for the African people
could be built at a distance from the main houses because of the type of fuel which was in use for them; or kitchens for several African households could be grouped together for probably economic reasons. On the other hand, apartments could be built with the kitchens attached to the dwelling, but that type of housing was not common with the African housing of the day. Present day urban kitchen designs in Uganda seem to be inherited from the kitchen designs of the colonial period, which were designed for the population from the colonial nation. Social-cultural and economic factors will have an impact on urban kitchen design. Thus the context for kitchen design of Uganda today is still multicultural.

Cooking in Uganda
Charcoal is still the main type of fuel, used by 75% of households in Kampala (UBOS¹, 2009/10). In comparison with charcoal, only about 3% of the population in Kampala alone use electricity as the major means in cooking. (UBOS, 2009/10). The percentage of the population in Kampala who used firewood as a means of cooking went up (from 2.4% to 5.8%) between the year 2005/06 and 2009/10, while those who used electricity decreased (from 3.4% to 1.4%). An increase of the use in firewood in cooking, and a decline in the use of electricity is probably attributed to the high cost of the electrical power plus its unpredictability due to frequent power cuts. About 70% of the whole population in Uganda still use the traditional three-stone stove or fireplace as a means of cooking; whereas 19% use the metallic charcoal stove known as the “sigiri”; only 9% of the population use the improved types of charcoal or firewood stoves(UBOS, 2009/10) Apart from the use of three stone stoves, open or improved charcoal stoves, or paraffin stoves, other means of cooking is done on electric plates, gas stoves or saw dust stoves (ibid).

Figure 1.1 A Ugandan woman cooking with an improved firewood stove².

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¹ UBOS means Ugandan Bureau Of Statistics
² Source:
accessed on 25th Feb 2013
Uganda is endowed with a rich diversity in resources of all nature. Some research has already been done in Food Science in Uganda suggesting ways of improving diet and adding value to the raw Ugandan foodstuff, while eradicating disease, ignorance and poverty (Muranga et al, 2010). Cook stoves have been improved in developing countries at large, with the aim of saving on energy consumption (Sarin, Winblad, 1989, Nystrom, 1988, Nystrom, 1994, Nystrom 2003). Evidence show that several projects on cooking stove improvement have also been carried out in Uganda, (Luganda, 2013; Uganda Carbon Bureau, 2011), and the knowledge disseminated, as well, although proper domestic kitchen studies, to my knowledge have been missing, especially from the architectural point of view. Nyström (1994, 2003) writes that kitchen studies had been done in Vietnam; therefore she hoped that other countries in the developing world would follow. Having said that, research on kitchens is now required in Uganda concerning the architectural attributes of a modern domestic urban kitchen which incorporates the local conditions.

1.2 The research problem
The Ugandan cuisine is diverse and like elsewhere in the world, has been influenced, mostly in urban areas, by various national and international culinary practices, which are intertwined with social economic and cultural practices. By taking a general over view over contextual aspects of cooking, issues arise which indicate an interplay of cultures, exemplified by mixing tradition and modernity. In this thesis I address the knowledge gap that exists in urban kitchen studies where such studies lack for Uganda. In Uganda contextual conditions are different from those in countries where kitchen studies have been done. No such studies have been undertaken in

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3 GTZ Kampala
accessed on 25th Feb 2013
Uganda, under its specific social economic and cultural conditions. Studies already done in Europe and elsewhere in other developed nations are different from those which are needed to be done in African countries, but such studies are in some respects of help for studies of similar research problems in Uganda, see section 3.1. The urban kitchens in Uganda are not designed in detail, taking into consideration, for instance, fuel used in cooking, amongst many other issues. Kitchen lay outs suggest electricity use in cooking, yet people use charcoal as the statistics indicate. The causes for such poor domestic urban kitchens are diverse and multifaceted, being environmental, historical, socio-economic or cultural. The concepts of tradition, modernity, and culture are thus important in this investigation. The focus of my research is the functionality of domestic urban kitchens in Kampala today. I aim to capture the perspectives of the users of domestic urban kitchens for the purpose of getting ways in which the kitchens could work better.

The traditional kitchens had fireplaces where people could gather and tell stories to each other, and that suited their way of life then. It can be argued, nevertheless, that culture has evolved and such story telling may be irrelevant today. Although this kind of life may not be reflected in today’s urban lifestyles, these contemporary lifestyles need to be addressed. In Uganda some of the kitchen layout designs from the developed nations are locally used in construction because of their “modern” appeals, without any adaptation to the local conditions.

The research problem in this study is in the design of the urban domestic kitchens, addressing the discrepancy existing between the types of food prepared and consumed, the types of fuel used and all the activities involved in the process, versus the kitchen layout designs that are in existence, as well as those which are in the making.

The stakeholders involved in providing the urban housing stock, both public and private housing look as though they are not aware of the issue at hand. Such stakeholders include the professionals, local artisans, parastatal bodies such as the National Housing and Construction Cooperation, NGOs, and private companies who plan, build and supply housing. This study aims at helping with that.

1.3 Research objectives
The major objective of this research is to contribute to the knowledge base towards designing well-functioning kitchens for urban dwellers in Uganda. This study is done by investigating the functionality of the contemporary urban kitchens in Uganda, thus gathering knowledge on how kitchen design could be developed taking into account both tradition and modernity. This involves finding out the nature of traditional foods consumed by the Ugandan society, focusing on what it is and how it is prepared, cooked, and served; and how that affects, and is included in the cuisine of the urban dwellers. Social cultural aspects such as cultural values, and habits are noted, as well as spatial attributes. The aim of looking at traditional ways is to shed light on ways in which the spaces of modern urban kitchens are interpreted and renegotiated by users because of the influence of different lifestyles; and how the users’ expressions are shown through spatial conscious or unconscious reorganization of the kitchen space.
The information gained through this study is mainly aimed at improving the standard of the domestic urban kitchen design. This is done by evaluating modern Ugandan kitchens in the present day ways of living, aiming at achieving better health and comfort. Such suggestions will address the social economic challenges at hand, be market oriented, as well as being adapted to the local context. The purpose is to address the crucial issues which may probably affect more than one group of income. The conclusions and recommendations are aimed at adding knowledge on designing improved urban kitchens which are flexible in application to the urban dwellers of middle socio-economic status.

1.4 Research questions
The main research questions of this study are the following
- How appropriately are current urban kitchens designed for preparation of food?
- How do these kitchens work in a situation of mixed traditional and modern lifestyles?

The subsequent questions are posed as follows:

1. What kind of food is prepared, cooked, served and stored in urban Uganda?
2. How and where do urban dwellers prepare, cook, serve and store food?
3. What are the most important issues for the design of improved domestic urban kitchens?
4. How can a balance be created between tradition and modernity in the designs of domestic urban kitchens, for urban dwellers in Uganda?

1.5 Relevance of the research
The most significant reason for this study is that this area has been generally neglected worldwide in the developing nations, yet it constitutes an important section of a household or a home. Specific kitchen studies have been rare in studies on housing in the developing countries whereas the situation is quite different for the developed nations. This research thesis is, therefore, addressing the existing gap in knowledge in Uganda, because housing design may probably be taking quite a number of issues for granted without digging deep into the pros and cons of what a design should be or do. Existing models of design, specifically kitchen design, are discussed in this study while weaknesses are exposed with the purpose of contributing to the knowledge base in design.

For the first time in this country, the physical environment of domestic urban kitchen is thus investigated closely. The everyday life of an urban household’s activities in the kitchen is taken into consideration in this study and that is aimed at improving the lives of those who spend long hours in the kitchens to keep all members of a household alive and well. The study significantly addresses key sections of society such as the researchers, architects, planners, engineers, and environmentalists in developing countries, particularly in Uganda. Policy makers will benefit the communities they purportedly represent or serve, having gained knowledge generated from this study. Last but not least the housewives and all other people who are involved in the food preparation, cooking and the other kitchen related activities will offer better services. This will contribute significantly to the welfare of women to the extent where they can afford good
working environments for the everyday cooking and other kitchen functions, and discussing where the most important improvements are needed.

1.6 Delimitations
This study is the first of its kind in Uganda and thus I have drawn information from the experiences of the researches done in developed nations and from those of developing nations of other continents of the world. There has not been any information in print for this subject in Uganda, which makes this a first attempt at a holistic study of kitchen design in urban Uganda. The study focuses on the practices and use of existing kitchens, to give a broad picture of what is needed in architectural design of urban kitchens. It will not address specific technologies for bettering of stoves and energy usage, water and sewage nor ventilation.

1.7 The thesis structure
The thesis is presented in six chapters. The first chapter introduces the topic of study, giving the background. The problem, the aim and research questions of this thesis are also presented. The introduction continues in the second chapter showing the context within which the research is carried out. The third chapter addresses the kitchen studies that have been realized before. Chapter four presents the methodology employed in this study. Chapter five is about the empirical findings from the study cases which are presented together with the analysis of the cases. The thesis ends with chapter six in which the discussion of the results is carried out and an attempt on recommendations is made. A brief conclusion ends the discourse.

1.8 Concluding remarks
This backdrop to the study helps to bring out into focus the key issues which call attention to the problem, the aim and the research questions of this discourse. An attempt has been made to mention a few hints on the existing approach to the housing and the kitchen design in Uganda. This information paves the way to the following chapter in which the introduction to this study is continued by presenting the context in which it takes place.
2. The context of the study

The introduction to the study is continued in this chapter from the preceding chapter by providing
the context in which the study takes place. This chapter is based on literature review which
indicates that considerable study has already been done in the area of urbanization and housing,
which is a context in itself for the study of domestic urban kitchens design. The chapter ends with
the conceptual framework which informs this thesis.

2.1 Urbanization of Uganda

The study is situated in Uganda, a developing country on the African continent. When
urbanization is investigated and observed together with economic growth, the urbanization
process in Uganda, like elsewhere in the developing nations has followed the same trend of
increasing very fast in spite of low levels of development and economic growth. In the
developed nations urbanization and economic growth have been coupled where one has increased
with the other (Nyakana et al, 2007). It is important to note that the traditional modernization
theory of urbanization for developed nations does not apply in Africa, particularly not in the sub-
Saharan countries-where Uganda is situated (UN-HABITAT, 2006/2007). According to the
UBOS, (2009/10), 85% of the population was estimated to live in the rural area, while about 15%
were urban residents. With an annual population growth rate of 3.2%, Uganda’s total population
was projected at 34.1 million for the year 2012 (Population secretariat of Uganda, 2012)

Amongst the good attributes of urban growth there is an increase of job opportunities and better
living conditions, however, with the increase in urban population comes shortages in shelter
provision, inadequate urban infrastructure, environmental degradation, as well as other associated
social ills. According to Nyakana et al (2007) urbanization in Uganda, compared to the
neighboring countries of Kenya and Tanzania, is relatively younger. The towns in Uganda came
into being as a result of trade and administration, and their conception is traced to the time when
the Europeans first came to Uganda in 1890’s. The building of the Kenya- Uganda railway
helped, as well, to establish and bring growth to some of these urban centers in early 1900’s.
Today, Uganda has experienced an economic growth in the years 1990’s to 2000’s which has led
to the rapid growth of towns, urban centers and formation of smaller trading centers in the
country side.

2.2 Urbanization of Kampala, the study area

To provide a brief backdrop for the urbanization trend in Kampala one needs to have a glimpse
on what has been happening within the context of Africa and the sub-Saharan countries. Kampala
follows the same pattern of very fast urbanization as recorded in recent times in the sub-Saharan
region and Africa on the whole (Nyakana, et al, 2007). On the other hand urbanization was
rather unstable during the colonial era as most Africans retained their rural homes where they left
their families to come to towns for labor.
Kampala City is the largest urban agglomeration in Uganda. According to Mukwaya et al, (2010). Kampala municipality (excluding the larger metropolitan area) holds about 34% of the total urban population of Uganda, estimated to a population of almost 1.6 million people in 2010. According to the Local government of Uganda, Kampala is gazetted as a city, amidst all the other urban centers in Uganda. For the second half of the post-independence years (the last 25 years) Kampala has experienced, as a sign of modernization, fast growth in various sectors such as trade, commerce, education, industry, telecommunications, and many others due to the relatively stable political environment (Mukwaya et al, 2011; UN HABITAT, 2012). Kampala today absorbs about 40% of all the urban population of Uganda (ibid).

Kampala city had been originally surrounded by an agricultural area but now the urban sprawl is said to be spreading over these rural areas (Nyakana et al, 2007). Urbanization of the Kampala metropolitan area which is covering about 386 sq kms., is rapidly taking over the former satellite towns within a radius of about 30 kilometers from the city center (Nyakana, et al, 2007). Like most of other cities in Africa urbanization of Kampala city followed a certain trend laid out by the Europeans of the colonial era. Their ideology, lifestyle and beliefs formed the ideals for how the city ought to be planned. True, that Kampala existed as a royal capital of the king of Buganda before the onset of the Europeans but the urban aspect of it agglomerated in the nineteenth century as a result of the various activities mainly of trade, missionary, and administrative work of the Europeans. The Kampala urban space reflects such an approach as mentioned above, of segregating between various races-locating the prime areas of the city to be residential spaces for whites and the rest to be allocated to other races with the Africans on the periphery further away from the center (Omolo et al, 2010; Lwasa, 2011; Epstein A.L., 1967; Gugler, 1968). Certain housing estates were later on particularly built for the immigrant workers, while the first grade residential area of Kololo, Nakasero, and Mbuya accommodated civil servants who were mainly expatriate staff (Mukwaya, 2004).

While Kampala’s urban population growth is fast it does not keep pace with the economical or industrial growth, which is rather poor. Unemployment occurs and the haphazard, unplanned development of the informal sector caused by the rapid population growth continues. The causes for such a high urban population growth of Kampala are attributed to high fertility, natural increase, and decline in mortality, and internal and international migrations. Most of the population in Kampala is employed in the informal sector.

As Kampala occupies the central economic and political position in Uganda it attracts many immigrants from the all corners of the country who are in search of employment and better livelihood (Nkurunzinza, 2007). Lwasa (2011) argues that the acceleration of the urbanization growth of Kampala has been due to migration from the country side which has been caused by, among others, civil unrest, natural population growth or environmental hazards. Informal land acquisition and development forms a big part of Kampala city. Kampala has been observed to have temporary migrants who only come to the city during the day for their various social-economic activities such as trade; while there are permanent migrants who reside in the city. This
causes the population in the city to be almost half during night time as compared to day time (Nyakana, et al (2007)). Nyakana, et al writes that the development of Kampala has virtually been showing on the ground as it has physically expanded, judging from the boom in housing development and increase in industries. When observed from a broader scope, (in relation to the roles and functions cities have on the global scene) such a fast rate of urbanization can bring with it challenges as well as opportunities to urban planners, policy makers, and the community at large (Mukwaya, 2004).

2.3 Housing conditions in Kampala

Taking a brief look at the historical background of Kampala’s development, the old urban housing was conceptualized during the colonial rule. Urban housing was often built specifically for Africans in towns designed for the laborers, who were expected to leave their families behind in the rural areas and only come to town to work. The provision of African urban housing in Kampala was also linked to taking measures in safe guarding health in the town. Two roomed houses with outside sanitary facilities were built for single men. The houses were built during the colonial government for their own employees, and gradually the types were improved to cater for employees to live in towns with their families (Atkinson, 1950). For the period before the Second World War the colonial housing policy was based on racial segregation which, as mentioned above, led to creating and allocating separate physical residential areas in towns according to the different races. (Omolo et al, 2010). The legacy of this housing policy continued to be adhered to, but as time went by this type of planning was unsustainable and did not alleviate the national housing problems. Instead formation of uncontrolled illegal housing settlements and slums took place.

There had been various policies in Uganda since 1950’s and throughout the following decades which aimed at improving housing conditions. However, national political instabilities of 1970’s and part of 1980’s hampered meaningful progress and implementation of such efforts (Mukibi, 2008). Housing policies have been changing in Uganda with no institutionalized one in place, depending on the government of the day (Mukibi, 2008). Anyway, the government of Uganda had to take a strategic step towards changing the trend by adopting enabling policies. According to MoLHUD, (Un published document in draft form on the Housing policy in Uganda, from the Ministry of Lands, Housing and Urban development dated 2012), a constraint within the design and provision of housing in Kampala is the building laws which were not well suited for the local conditions. To date the revision of these bylaws together with the national housing policy have not been fully completed to be in place for operation.

Housing is considered to be one of the basic needs of humanity, and as such it has been reaffirmed as a human right to be entitled to housing by a number of international declarations such as the Agenda 21 of 1992, the Istanbul Declaration and Habitat Agenda of 1996, and the Millennium Development goals of 2000, to name but a few (MoLHUD, 2012). A person’s standard of living or place in society is correlated to his or her housing situation. In Kampala the housing demand is more than the government and city authorities can handle or solve, so it is up
to the households to find ways of solving the problem of creating home. The financial institutions have, of late, started loan schemes to enable people get smaller amounts of loans based on their monthly income and other benefits. However in order to get a substantial loan amount for home purchasing one should be having enough collateral to meet that, and that creates problems to households of low income. Nyakana et al (2009) writing on Housing Developments in Kampala notes that Uganda subscribes to the Istanbul Declaration and Millennium Development Goal 7 target 11 which emphasize the need to improve human settlements making them “healthier, safer and more livable, sustainable, equitable and productive.” Nsambu (2006) underscores that it is important that urban dwellers get decent housing in spite of a number of obstacles existing in solving urban housing issues.

Much needed amenities, and housing in particular, has not been readily available in proportion to the growing masses of people. Many existing housing units are dilapidated and there is overcrowding. According to the UN-HABITAT (2012) in 1999, 60% of Kampala city dwellers lived in slums, and the situation has not improved to date. A study by UNHABITAT on poverty which had been carried out in Kampala District indicated that 61 % of the interviewed 120 lived “below the absolute poverty line” (UN HABITAT, 2012:40).

The unplanned settlements and slums have continued to spring up and they continue to house the majority of the urban population in Kampala (Nsambu, 2006). Other causal factors for inadequate urban housing include lack of secure land tenure and unaffordable land costs. Most of the urban housing is not provided by formal means but rather is acquired through irregular means by the people themselves. Mitchell (1992), writing on the same phenomenon calls it an existence of a formal and informal city within one city. This lack of housing provision highlights the need of a shift of paradigm towards recognition of the enabling strategies and allowing participatory approaches to form part of housing policies. (Nawangwe et al, 2005).

Kampala has a shortage of housing units. It is documented that in 2006, Kampala had 251,780 existing housing units, and it needed 302,136 more, while 25,178 needed replacement and still around 50,000 were estimated to be in need of renovations (Nsambu, 2006). On a positive note, Nyakana (2007) writes of the steps the government has taken in improving the housing sector. There is the National Housing and Construction Company ltd, which sold many of its existing houses and apartments to the public as well as continuing to construct a number of housing estates. There are other existing well established private housing companies who purchase big acreages of land, plan and design, construct and sell houses to different income levels of the public. On the other hand there are hundreds of individuals who develop smaller sizes of land into residential houses for sale or rent. Over the last twenty five years or so, there has been a relatively big increase in the city housing stock probably due to the arguably more stable economy. The many hills of Kampala have been transformed from being bush to being covered by a number of residential houses of all styles shapes and sizes. The planning issues put aside, the erection of these houses has contributed to reduction of the acute housing demand, though homelessness still exist in Kampala.
2.4 The Ugandan context—History and Culture

In consideration of Uganda’s political history the British colonial power has had substantial influence in different spheres of life, such as in the local culture and in the national economic and political development. Uganda has its own indigenous cultural groups which are diverse, nevertheless, have interacted with one another over the period of time and seem to be unified under the umbrella of one nation. This background suggests that questions of culture, tradition and modernity are of importance to this study. Aspects of culture and identity, together with those of tradition and modernity are important factors for the research problem and research questions of this study.

Culture, tradition and modernity

The concepts of culture and identity are intertwined and complex to define. Morris (2002) argues that cultures have always interacted with each other and there is no pure culture as all cultures are multicultural. Although this may be true to some extent I tend to agree with Noble (2008) that one culture can monopolize the others thus creating a hegemony. Culture is both a powerful concept as well as a heterogeneous one, which is not easy to define. People use it in different ways as a term to mean what they suppose or assume, or what they do and why (Rapoport, 2005). Rapoport writes on how culture is complex in that it includes many aspects of man’s social attributes such as beliefs, customs or knowledge. To define culture in regard to this study would mean the behaviors or the way of life shown by the group of people under this study. One aspect of culture is that it is not static as it evolves with time. Gupta and Fergusson (1992) suggest that cultures cannot be wholly ascribed to a particular geographical area or society as they overlap nation states. That culture cannot adhere to one particular location as people are constantly on the move. While I tend to agree with Gupta et al, I dwell more, in this study, on those structural identities of a culture, which remain resilient and are not lost. I also bring to the attention of the reader that there is the dominant western culture as far as urbanism; architectural design and development are concerned.

The concept of identity affects this research in that it is important to note how the people perceive themselves, what kind of persons they are, and to what group/s of people they want to belong. The culture of a people can form an identity for them and as their culture changes; their identity forms fresh identities. Architecture is one of the media through which people identify themselves. As far as this study is concerned it is worth finding out ways in which the designs of domestic urban kitchens may be influenced by the cultural identity of the users.

Tradition is neither fixed nor tangible; rather society has a tendency of referring to the practices of the past as tradition. According to Gusfield, (1967) the word tradition is varied in definition and the meaning depends on the use within the given context. In this study I have used the word tradition to mean the ongoing common practices, the accepted ways of going about the everyday life. Focusing on this particular study of the urban kitchens the practices have come to be basically habitual depending on the socio economic factors that have brought them into practice. Tradition in this sense includes the cultural aspect of the ways of life, where it includes the
meaning to customs that have been handed down from generation to generation. As this study focuses on practices in domestic urban kitchens, the word tradition in this sense may not necessarily have the same meaning as when it stands alone. In this context it is not in opposition to the word modernity, thus its meaning has to be understood in relation to the meaning of the word “modernity.” The two do not have to be polar opposites but rather complement each other in social change. The use of these terms in the social scientific terms is arguably diverse, so in a simpler approach, I have attempted, in this study, to look at tradition standing with modernity as a complimentary concept. This approach gives rise to a quest of a healthy balance of the two concepts. I am inclined towards the view which Gusfield holds, that, sometimes these terms are used to the extent that there seems to be a conflict between them but neither modernity nor tradition is static. Society is in transit, and this is exemplified by developing nations, moving from traditional societies towards modernization, or from a traditional past to a modernized future. Tradition does not have to pose obstacles to modernization (Gusfield, 1967).

Modernity is complex in meaning, and its definition depends on how it is used in a given context. I imagine that the definition of modernity and modernization should not, include already preconceived ideas, as this approach would jeopardize brainstorming the possible inputs to its definition; but instead it should be open to new thoughts and suggestions. Biggerstaff (1966) argues that the concept of modernity requires interdisciplinary studies to define it; and the definition should not depend on one culture; but rather it should involve other cultures (Biggerstaff, 1966). In this study modernization implies the process of being modern. At times modernization has been used interchangeably with the word westernization. The two terms do not mean the same thing, as modernization may occur without having to be westernized. I support Biggerstaff’s view that the word modernization used in the context of non-western countries is neutral, selective and it allows adaptability to the local conditions and context; and without the locality having to be western. Bobberstaff argues that in order for a nation to be “westernized” it would imply application of western models and ideals. I concede with what he suggests that what seems to take place in non-western countries is that some western ideas and systems are selectively adapted to the local contexts, to their intrinsic acceptable ways, and that is different from saying that such countries are “westernized”. One may also look at modernization as an integral part of the industrialization process which a society experiences. Modernization is also closely associated with other social-economic phenomena such as development, growth or change (Irvin, 1975; Ingelhart and Baker, 2000).

In this study modernity and modernization applies to the process of social economic development and advancement as the main outcome of industrialization. As mentioned above, modernity taken side by side with tradition does not necessarily mean that both phenomena are on opposite poles- but rather one fuses into another and complements the other.

There is an element of negotiation and interpretation of space, be it in building a home or using space in a home. Where obstacles occur in implementation of laid down regulations or uses of spaces, people have a tendency to find out the best way of solving their spatial needs. Pader
(1993) writes “spatial relations are continually reproduced and reinterpreted in their use. If spatiality were to remain stagnant, which is hardly the case, social life itself would be inconceivable” (Pader, 1993:115). Pader bases her observations on an analysis of the social spatial-relations in the United States homes of Americans and those of Mexican-Americans while she investigates those of Mexicans in Mexico homes and those of Mexicans who live in Mexico with American cultural experiences. She argues that people renegotiate and reinterpret domestic spaces when they experience and live in them. On principles which relate to the design of a home and its domestic space use, Pader argues how negotiation, interpretation and apportioning space play big roles. She writes on how space is socially negotiated or reinterpreted depending on the habitant of that space. She says that the place from which the habitant came or the individual’s cultural background matters in this case. Even the change from a rural area to an urban one brings a change in attitude of an individual and how such an individual regards and uses space. Pader argues “socially constructed attitudes towards interactions are both created and played out in the routinized negotiation of spaces” (Pader, 1993:121). In support of that argument Mavunga (2008) writes that a person who comes to live in an urban area adapts to the urban lifestyle. It follows that here space has to be renegotiated and reinterpreted regardless what it had been originally designed for.

Pradhan (2008) argues that ordinary people negotiate their ways to fulfill their needs and wants. This may stem from the fact that there are several social forces at play, such as tradition and modernity. Since modernity is closely connected with development, Pradhan writes that these two phenomena in the developing countries tend to be looked upon as synonymous with westernization. Giving an example of India, she mentions how the colonial power used their own spatial order of their own home environments to organize the Indian environment which they perceived to be “chaotic” and “disorganized”; as they created a political hegemony in India, their colony at that time (Pradhan, 2008:7). This argument may be applied to the Ugandan situation where a similar pattern of colonial governance took place. Some spaces are negotiated in a home because there is hardly any other alternative choice for the users to make. The shortage in provision of housing units for the Kampala urban residents is high, according to Nyakana (2007) and other sources, referred to in section 2.3. This kind of housing scenario leaves people with limited choices for housing. Giving an example of India, Pradhan suggests that the world view of the stakeholders in housing provision such as architects, planners, and policy makers tend to have a western perspective. This kind of view is not always helpful for a local context such as the Ugandan.

2.5 Summarizing Remarks
The processes of urbanization of Uganda and of Kampala, including the housing situation in the city affect resultant developments which take place within such context. The issues of shortages of housing units and the high costs of land acquisition in the city, and in the country at large cannot be over emphasized. It is assumed that the mentioned constraints in the context of
undertaking the kitchen studies in such an environment may help to shed more light in the attempt to bridge the gap found in knowledge of designing well-functioning urban kitchens. The conceptual framework shows the complexity of the phenomena under this study and brings to light the issues under investigation. As a result of that an attempt is made in the following chapter to investigate what is contained in the existing kitchen studies in with the aim of finding out how they may relate with the environment in the Ugandan context.
3. Kitchen Studies

This chapter presents existing kitchen studies, which are discussed by, first, briefly mentioning the kitchen design development in developed countries, matters relating to the kitchen and food, and the evolution of the kitchen design development in those nations. Factors which effected the progressive kitchen design development are highlighted. This is followed by presenting the existing kitchen studies in the developing nations. Crucial issues on the kitchen design, functions and use are presented as themes.

3.1 Kitchen Design Development in developed countries

3.1.1 Sociological research in housing

The kitchen design changes that took place in the developed nations came about as transformations in housing types took place over time. This is exemplified by a study by Belcher et al, (1972), who write that the early European houses had no fixed functional rooms like those of today, which have designated functions of eating, cooking, laundering, sleeping or even sanitation. It was necessary for concerned stakeholders to study sociological aspects in the society in order to bring about improvements in housing layouts, and consequently in the kitchen designs. This took place in Sweden, for example, where sociological research in housing involved cooperation between architects and sociologists. Bullock (1988) writes about sociological research in housing that took place in Germany where it formed a major part in the development of the kitchen design. He writes that a number of writers, architects, and reformers in the housing sector contributed to those ideas in the 1920’s. This resulted in the redesigning of the new dwelling by considering what was relevant in the everyday home life by looking at the new attitudes and habits in a home, what equipment was old fashioned and irrelevant, and how to get rid of unwanted clutter in a home (Bullock, 1988). This kind of research was carried out for formulation of requirements which were important in determining and planning for a home. Kitchen studies were done as an integral part of the research in housing, describing new habits, not respecting traditional ones (Riemer, 1941; Riemer and Demerath, 1952).

Family life has got a lot to do with planning a home. Activities in which a family is involved at home do impact the type of house design, which includes the kitchen design. General housing requirements which are normally followed in design such as minimum room sizes and other characteristics proved not to be enough unless they got reinforced with thorough investigations into family lifestyles and patterns. The lifestyle of a household ought to be reflected in the house type and also in the house plan for the home. The household was, and is still the fundamental unit of any society, which is important to the public and to the nation. So the household life requirements and activities are vital in determining planning of a home (Riemer and Demerath, 1952; Belcher and Vazquez-Calcerrada, 1972). In regard to habits in a home, the relationship between a physical spatial structure and social practice is complex, and not easily understood.
The connection between a family and a society within which it exists is both intricate and intense to the extent that changes in one affect the other (Robben, 1989).

In Europe, specifically in Sweden, housing research was already taking place in the 1930’s (Riemer, 1941). For instance, housing research in Sweden was then carried out in apartments in Stockholm to evaluate how a family performed their activities at home, in relation to the physical architectural design of that home. Social change affects spatiality, and vice versa, therefore, sociological research on home planning was meant to enable architects not to plan merely in “functional” terms. The sociological research was being carried out mainly for the purpose of making physical requirements of a home to comply and conform to the social reality which was taking place. (Riemer, 1941; Belcher et al 1972). Another link between family life and the layout of a home suggested that the level of income of a family was proportional to the number of functional rooms a family home had (Belcher et al, 1972). In support of that view one roomed multipurpose homes housed earlier European working class populations before 1700’s, before the onset of industrialization. Lawrence (1982) mentions how the earlier dwellings of early settlers in Australia, prior 1800’s, comprised of one big multipurpose room where all activities in the home involving living, sleeping, cooking, eating and washing took place. This form of dwelling was necessitated by societal and economic conditions of that time. It cannot be overlooked that climate and nature of the construction materials also make an impact on the built form. Lawrence and Low (1990) argue that as society evolves with time, new lifestyles may be acquired so the new functions also get incorporated in house designs. Economic and technical development is fundamental for design and construction of buildings. History, political power and social institutions implicitly contribute to the built environment forms.

3.1.2 Evolution of the kitchen design

Food is very important to people of every culture, although its nature in regard to preparation, cooking and eating varies according to social economic and cultural differences. (Lawrence, 1982). The social economic status of the user determines the kind of space where food is cooked, prepared or consumed. The meaning, the use and the values attached to such domestic spaces do not necessarily conform to the designed naming of rooms or the physical characteristics (ibid). The spaces in which such activities take place play a crucial role when it comes to aspirations in housing and acquisition of a home (Belcher et al, 1972). I concede with Lawrence (1982) that those spaces in a home where food is prepared, cooked or eaten reflect the susceptibility of the users. The social-economic and cultural values and gender roles are most expressed and evident in the spaces where food is prepared, cooked, stored or eaten (ibid).

Attributes of the space today known as the domestic kitchen slowly evolved over time with the economic changes, along with other foundational social, political and cultural factors. The kitchen and the stove seem to be inseparable. Long before the word “kitchen”, or the space in a home as we know it today as a kitchen came into being, man simply had fire at his disposal, and that represents a prehistoric technology when man lived in caves. Fire became useful for food preparation and preservation around 100,000 BC (Westholff, 1995). The fireplace evolved into a
hearth where food could be heated, and preserved. As time went by the hearth had to be sheltered from natural elements just as man developed a shelter for himself.

In the seventeenth century in England cooking was not necessarily done in the space later known as the kitchen; but rather it took place in a hall way, parlor or buttery, while servants or apprentices could sleep in the “kitchen” (Brown, 1986). The space where cooking was carried out indicated a good accessibility to the outside area, and that implied a constant and continuous flow of activities between those spaces Changes in room names, uses, and locations continued to take place over the centuries. For instance the buttery space in England had long been used for storage of various items prior to the seventeenth century, but later on a buttery was used as a space for cooling drinks (Brown, 1986). As time passed and societal behavior changed spaces in the home started being specified for different functions. Pader (1993) writes of similar changes in spatial functions in US homes as the kitchen as we know it today was developing. There were functions which were preferred in a home to be out of sight, back stage at the back of the house; and those which were designed to be in the “front stage” at the entrance to a home. This differentiation suggested rooms which could be accessible to family, friends or guests. Kitchen facilities had to be in the “backstage” section of the home, and this was related to the gender roles in a home (Pader, 1993).

It was not until the 1800’s that the early European houses had separate rooms with fixed functions like those of today: of eating, cooking, laundering, sleeping or even sanitation (Belcher et al, 1972; Lawrence, 1982; Brown, 1986; Robben, 1989; Westhoff, 1995). This came about during the industrial revolution in Europe when development of the cooking stove underwent changes to give birth to the modern day cooker (Westoff, 1995). Due to the fact that most developing countries have inherited the built forms from the former colonizing countries it is worth noting this historical nature of evolution of the kitchen space: the layout, the meaning and the use. As colonization took place house designs were exported to the colonies and used without much adaptation to the local conditions. Such an approach was adopted in Uganda, as a British colony.

In Germany during the years from late nineteenth century to early 1920’s kitchen studies were enhanced through teaching domestic science as a course for housekeeping so as to improve the lives of working class women in managing homes (Bullock, 1988). The kitchen, being the centre of activity in a house, had its design closely related to the changes in domestic activities. The gradual development of the kitchen design evolved through reorganization of housework as well as through the industrial revolution in Europe. The reorganization of housework was through rearranging the kitchen fittings and equipment to ensure a smooth and sequential activity flow and to maximize efficiency and reduce time spent in the cooking.

The kitchen, as a spatial subdivision of a building is counted as an element of the built environment, thus what entails the built environment affects the kitchen, as well. According to Lawrence and Low, (1990) there is a relationship between an individual and the built
environment form. Lawrence et al suggests more attention is needed to find out more on the topic on the relationship which exists between spatial dimensions and human behavior. This is exemplified by the differences in the built forms of say, shelters, for different peoples. Behavioral changes in society through historical, political, institutional, etc factors all contribute towards the built form production. During the 1920’s, collaboration was taking place in Germany between architects, engineers, producers of kitchen equipment and fittings and housewives to develop kitchen designs (Bullock, 1988). Influences of social reformers, and architects also contributed to the formation of kitchen design. In addition evolutions in the value system and developments in domestic technology influenced the kitchen design developments as well. Ideas of the “new dwelling” and the New housekeeping” of the 1920’s era in Europe impacted on the kitchen design, as architects started thinking afresh about the new lifestyles and how to organize the new dwelling. These changes were taking place particularly in Germany but as time went by they spread to other (developed) countries. The new dwelling represented a new form of the house which was remodeled to accommodate the new thinking generated by the social policy. This caused the redesigning of the new dwelling to consider what was relevant in the everyday home life by looking at the new attitudes and habits in the home, what equipment was old-fashioned and irrelevant, and how to get rid of such old fashioned habits and clutter in the home (Lawrence, 1982; Bullock, 1988). Bullock (1988) argues that changes in family life led to the form changes in the built environment, the kitchen included.

As the women in the developed nations became more socially liberated and emancipated they got more involved in political and economic affairs and less tied up with domestic chores in their homes (Ford, 1933; Bullock, 1988). This necessitated the size of the kitchen to keep shrinking so as to make domestic work easier, by maximizing efficiency and time spent in cooking and other related kitchen activities. Improvements in the kitchen designs were corresponding to modernization in lifestyles. Bullock (1988) explains how the women movements in Germany in 1920’s affected the evolution of the kitchen design, with the aim of making the kitchen more efficient. This was aimed at improving the quality in family life, which would in turn affect the well being of the nation.

3.1.3 The Kitchen size and Location

Such critical approaches in designing homes had first started with improving homes of the working classes but later on, especially after the Second World War the middle class homes started being reformed. Key factors which played major roles in reforming homes in today’s developed nations included the gradual decrease in employing domestic servants-because of the high expenses involved, and the need of reorganizing homes stemming from more women getting employed in cities (Lawrence, 1982; Bullock 1988). Reorganization of the home was particularly visible in the kitchen area, where in the meantime appliances got into use and the kitchen got better developed than what it had been earlier.

The “scientific management”, an ideology which was in vogue in 1920’s in Europe and America (Bullock, 1988) played a role in the evolution of the kitchen design. Its main principles in design
were concerned primarily in improving the activity flow, getting the right heights for working surfaces such as tables, limiting the kitchen space to be purely for cooking and washing up, arranging kitchen equipment together for sequential use, and to ensure that the kitchen got adequate ventilation and lighting. Bullock continues to write that changes taking place in housing were reflected by the gradual emancipation of women and their changing home-based roles to those of getting more involved in civil and economic ones; from being sorely domestic and being supported by husbands to those of getting engaged and employed in urban affairs (Bullock, 1988). These societal changes were accompanied by shrinkage in size of homes and the sizes of kitchens and the laundry. The whole idea was to save energy and time spent in domestic chores. It is worth pointing out that the kitchen evolved from “a living kitchen” which was larger in size and accommodated many more activities than the so called “cooking kitchen”, which was shrunk in size so as to make work move faster while spending less effort. The cooking kitchen then became a modern version of a kitchen lay out (Bullock, 1988). Bullock continues to write that as the kitchen area continued to shrink in size, the idea of a big kitchen seemed to refer to a rural one while the smaller sized kitchen referred to a modern, urban one. Various design options of kitchens showing different kitchen locations were studied and experimented with. These included having a kitchen with some space where meals could be eaten from, or combining a living and dining rooms with an attached small alcove as a kitchen. Rural kitchens in Sweden, as well, were the ones more prone to being planned and used more as living rooms thus being larger in size, while the urban ones were the ones undergoing the changes in shrinkage (Reimer, 1941). The changes in design corresponded with industrial developments in Europe, where for instance, “the living kitchen” was in mode when house heating was done using coal, but with the advent of availability of gas and electricity the kitchen changed in design and use (Bullock, 1988).

Lawrence (1982) writes on how the kitchen design evolved by gradually changing its location over a period of time in an Australian setting. The first dwellings built in Australia were a basic multipurpose room where all the household activities such as sleeping, cooking and eating took place. Further development in time relocated the kitchen in an outside structure, together with servants’ and service rooms. The separation of such facilities from the main, “master’s” house could also be found in old manor houses in England (Lawrence, 1982). The aim of separating the kitchen together with service and servants’ rooms was due to the untidiness, heat, fire and servants’ living to be far and detached from the main house (Lawrence, 1982).

In Britain, the scullery was earlier common in the domestic space until the Second World War. A trend in housing then came in vogue where the kitchen got located at the back of the house where all washing up, cooking and living could take place from the front of the house, where the parlor was located and kept tidy for special occasions. In light of that, Lawrence (1982) mentions that an ethnographic approach is useful in investigating domestic spaces in relation to preparing, cooking and eating food. Lawrence suggests that it is better to first understand historical significance and meaning of spaces in order to relate the design to the use of such spaces.
3.1.4 Cultural identity and the kitchen design
Places of origin and the culture of the people influence the built form. In this particular study the kitchen design form tends to differ with variance in the culture of those who use it. Lawrence, (1982) in his comparative study on domestic spaces between the two cultures of the English and Australians verifies through his research how peoples’ historical values and meanings differ from one context to another. This is in regard to their habits in cooking and eating food. He argues that the predisposition of a people plays a major role in the development of such domestic facilities, in the way they are designed and built. Lawrence has this to say “It has become evident; for example, that what two societies stemming from the same Anglo-Saxon culture understand the term “kitchen” to mean can be explained only by ethnographical observation and a study of historical precedents” (Lawrence, 1982: 129).

Lawrence (1982) states that the availability of resources in a household also relates to the activities carried out in preparing, cooking, and consuming food. Belcher and Vazquez-Calcerrada (1972) reiterate that with a higher economic status, more functions are catered for in the design of a home which would otherwise be lacking in a home of a person with a lower economic status. Bullock (1988), while writing on how the influences of ideas of “new housekeeping” and the “scientific management” of a home impacted the design of kitchens in 1920’s in Germany and Europe on the whole, states how in practice the principles behind such thinking were impractical and out of bounds for the ordinary citizens. Bullock exemplifies this point by showing the various costs of kitchen equipment and how running a home and cooking with electricity was too expensive for a family at that time (in late 1920’s). The ideas on the scientific management and the new housekeeping of a home seemed to be affordable for only an affluent section of society. At that time there was still a housing crisis after the First World War, and Bullock gives specific statistical information on what percentages of the population lived in tenements, or who had water closets in their home, or who could afford purchasing the recommended kitchen equipment in consideration of their family income. However, according to Bullock (1988) the scientific movement of the 1920’s had good attributes in challenging the outmoded methods of running a home and also for providing the foundational approach in designing new dwellings. He goes on to point out that this was based on good housekeeping thereby causing architects to rethink their approach to house design in beginning from the inside to the outside, i.e. beginning with the functions of spaces before determining the form (the functions of the kitchen before determining the house form) (ibid).

3.1.5 Kitchen Research in Sweden
This section is based upon an interview (Interview at KTH, Stockholm, on 25th June, 2013) with Professor emeritus Dick Urban Vestbro, an experienced researcher in housing. He provided the following information on the development of kitchen research design in Sweden.

According to Professor Vestbro, the kitchen research in Sweden was connected to reforms in housing. The need to reform housing in Sweden was already recognized before 1930’s and the labor party had an interest in housing. When they got into power in 1932 they had their
opportunity to improve housing, though this took place over a long period. The labor party built a welfare state in Sweden where improvement in housing was one of their priorities to be accomplished.

In Sweden the kitchen had traditionally occupied the central role in a home. The iron stove which was traditionally fed using firewood provided heat in winter for a household, as well as being used in cooking food. The kitchen usually was one of the two rooms occupied by an average household, and during the winter season the heat was provided by the hearth which was usually located in the corner of the big room, the kitchen. That was the kitchen and everyone had to keep warm there in winter. Even in the urban areas housing the kitchen played the role of a living room. For the low income people in 1920’s housing conditions were so bad with overcrowding, poor hygiene and sanitation that something had to be done. By then, about one hundred years ago, Sweden was one of the poorer countries in Europe.

Even as far back as in 1910 articles were already being published expressing the need to improve housing conditions, especially in allowing fresh air in the residences. Housing research was started by the labor party around 1945 mainly for the purpose of bringing about improvement in housing conditions. There was the Home Research institute which was established for that purpose. There were several people there, especially women, who were dedicated to the cause of improving the everyday life of women in homes. Improvement on kitchen facilities was focused on.

The Swedish housing research was based on the idea that home habits had to change in order to bring about the needed reforms in housing conditions. The ideology of modernity played a big role in transforming the old fashioned habits. Along the way the idea of the laboratory kitchens with the Frankfurt kitchen came in vogue. Standard types of kitchens were developed which looked more or less “workshop” kitchens. These were reduced in size and the tradition of a family eating together in the kitchen was dropped or discouraged through the design. The new types of kitchens were equipped with gas cookers, refrigerators and other by then modern facilities. Building codes in housing design became mandatory and were reinforced in a way that people had to adhere to them in order to get state housing subsidies. Opposition to the compulsory use of building code regulations rose especially supported by the architects who could not exercise their creativity in design with them. Standardization also took place for kitchen joinery equipment and furniture so that all kitchen equipment could fit together. The standardizations were gradually transformed into recommendations and no longer compulsory to use. The subsidies for housing construction were also gradually taken away. The period when housing research and kitchen design research had a big impact on housing in Sweden lasted until mid 1980’s. Then the workshop kind of kitchen gradually gave way to new ideas and the kitchen started being designed as an inviting living room, and that was later in 1980’s. Nowadays, there are many commercially produced kitchens on the market with a variety of designs and décor.
3.2 Existing studies on domestic kitchen design in developing countries

3.2.1 Kitchens in developing countries
In developing countries, architectural kitchen design has not been researched to the extent that is the case in Western industrialized countries, but there are several studies on kitchens and stoves done in African, Asian and Latin American contexts, as presented below.

Urban kitchens in the African housing in the colonial period differed from one locality to another. Atkinson (1950) writes that British colonial designers of African housing planned and meant each household to have its own kitchen. The kitchen could either be built detached from the main house, at a distance away, to keep heat and smells from cooking at bay, or it could be attached to the dwelling, as in the case of apartments. Placing the kitchen further from the living and sleeping rooms was also found to be the practice in early urban housing in Vietnam, as early as late 18th and early 19th centuries (Anh Tran Hoai, 1993). Locating kitchens to be at the rear of living quarters is not limited to developing nations but is found to have also been the practice in earlier houses of the currently developed nations, as the literature presented in sections above show. The type of fuel in use played a role in the design of the kitchen space. It was necessary to keep smoke, dust, heat and all other fire-related hazards from living quarters. In other instances kitchens for several households in African housing could be grouped together, probably for economic reasons (Atkinson, 1950). Even during the colonial era the colonialists constructed structures including kitchens surrounded by walls inside courtyards for Islamic communities, thus adapting to the seclusion of women (Atkinson, 1950). This also shows that during colonial time some cultural differences were included in the planning and construction of housing.

Tran Hoai Anh (1993) writes about how the urban kitchen designs in Vietnam underwent a number of changes over a period, changing from collective kitchens to individual household kitchens, in apartment housing. She mentions how inadequately these “own kitchens” were designed in terms of function, as they only provided a cooking place. Tran Hoai concludes from such cases that much thought has not been put into kitchen design in developing nations because issues that involve kitchen design are not adequately studied and taken into consideration. Nyström (2003) mentions a lack of knowledge on such complex issues as energy use, functions, microclimate, cultural values and habits, among others, which are pertinent in providing guidelines for designing domestic kitchens. How the kitchen user cooks matters and according to Nyström there is so much detailed information which need to be thought through, such as where the kitchen should be located in relation to other rooms in the house; how the users are positioned as they carry out the culinary activities; how is natural lighting in the kitchen; how is food, utensils, and fuel stored? Details of the stove used-such as what type, size, shape, and its placement in the kitchen space; how is the waste disposal carried out? The nature of food consumed in the household matters and methods of cooking. Some cultures consume foods that require long boiling, which has to be considered, too.(Nyström, 2003). Having carried out extensive studies on domestic kitchens in developing nations she recommends that a good kitchen design needs to ensure a smooth flow of activities, good hygiene, easy use of equipment, proper
refuse and waste disposal, evacuation of smoke, vapor and soot, good accessibility of water but avoidance of dampness.

3.2.2 The meaning of the kitchen

People express their various attributes of their identity, cultural symbolism meanings and values through the functions in which they handle food (Lawrence, 1982; Christie, 2008). All the activities in regard to food indicate their place in the natural and social spaces found in the political and economic systems in their nations. Thus, the kitchen, being the central domestic space where food is prepared and cooked and at times consumed is very significant in a household. Rodman (1985) emphasizes the importance of understanding what domestic space symbolizes as it indicates the processes of change through which people build their residences. Rodman also mentions the importance of recognizing the local context of the place under study, while noting the locality’s spatial arrangement, and organization of the social space. She cautions on how the relationship between the physical form of a structure and the social practice are complex. Writing on domestic space she points out how it is symbolic of the locality of the people and communicates messages about the society.

Depending on the climate, domestic space can include indoor and outdoor areas. Nyström (1994) writes on how she takes the word “kitchen” not to be limited to the space enclosed by the four walls, but rather extending to every other space where the cooking and other related food activities take place. Consideration of what functions are needed to be satisfied in specific cultures cannot be overemphasized (Robben, 1989; Belcher and Vazquez-Calcerrada, 1972). Kitchen functions also reveal the gender roles in a home. Christie (2008), while writing on the kitchen spaces in Mexico terms them to be a woman’s territory or domain.

The kitchen plays a big role in a home and society at large. Social activities play a big part in defining the boundaries of kitchen space, bringing out the symbolic aspect, as well (Christie, 2008). People’s culture is most evidently shown in their activities, rather than in what they say or say that they do. A person may be unaware of the habitual practices he or she does as they unconsciously develop into organized or representational characteristics (Robben, 1989). The importance of a kitchen in a household is shown in the way in which members of a household interact with each other in sharing meals. I am inclined to have the same view with Robben when he writes that the kitchen is one of the main spaces within a home where household members socially share their various experiences, closely relating with each other by eating and socializing together.

Considering the role a kitchen plays in the home, the design of such a space is not given sufficient attention in the developing nations. Nguluma, as she carried out a study on the transformations of dwellings in informal settlements in Dar es Salaam, Tanzania, observes that sufficient care was not given to kitchen improvement as residents in Dar es Salaam carried out transformations on their homes (Nguluma, 2003). This is in line with the argument that the kitchen is not considered as a priority when resources and creativity are being considered or spent
for a home (Tran Hoai Anh, 1993; Nyström, 1994). Although there has been concerns of generally improving housing; and also in stoves designs, including studies on how to successfully evacuate smoke; little has been done on the actual design of a kitchen together with the household energy. It is observed that organizations involved in housing projects and improvements in stoves work separately, without much corroboration, while the design of the kitchen, the use of energy and indoor environment are hardly thought about (Nyström, 1994). She states in quite strong words:

“We have seen that the kitchen is missing in research and development work in developing countries. This is not reasonable, because the kitchen is the focal area for housing, energy and indoor environment” (Nyström 1994: 37).

3.2.3 The Kitchen, the stove and health

One of the major problems constantly occurring as a result of cooking fuel smoke in the developing nations is the indoor biofuel air pollution which causes respiratory diseases. A considerable number of studies have been made over a period spanning over three decades which connect serious illnesses with smoky cooking fuels. Biofuels include wood, dung and crop residues. There have been many studies in the developing nations (Nyström 1988; Sarin and Winblad, 1989) which aim at improving the cook stoves thus reducing the amount of energy used and improving the efficiency of the stove.

Nigel, Neufeld, Boy and West, (1998) write that the estimates show that 50% of the world population relies on biofuel and 75% of those live in the low income or developing nations. Nigel et al go on to point out that charcoal produces carbon monoxide which is harmful. Moreover women and children, people whose voices need to be heard, are the most affected (Nigel, et al 1998; Ellegård, 1996). Ngulumi, (2003) writes that because of lack of health and safety requirements, cooking indoors in some Dar es Salaam homes prove to be unhygienic and hazardous for users. Because of that outcome she suggests the use of outdoor kitchen structures as part of the solution to that problem in consideration to charcoal and kerosene use.

Charcoal, as a major fuel type used in cooking in urban areas of Uganda, has well known repercussions. Wallmo and Jacobson (1998) write that, in Uganda projects have already been carried out on fuel cooking stoves or improved cook stoves which are noted to have abilities of helping people to cook more than one dish at a time while saving on wood fuel and cook faster; and a having a marked reduction on fumes and accidents. These advantages have decreased the demand of fuel wood which results in forest conservation. The decrease of forests in Uganda has been noted to be fast with an estimated annual rate of 2%. Such a decrease is coupled with a fast growing national population estimated to be at an annual rate of 3.4%. On a positive note the knowledge on implementation and usage in improved cook stoves is already widely spread in Uganda. Some studies have already been carried out in other African countries on the usage of cleaner fuels and cooking stoves in the sub-Saharan region. One project aimed at assessing the impacts of the usage of such cleaner fuels before they could be introduced to the people. The
major factors affecting the usage are different and some of them relate to social economic issues, while others are linked with costs, performance and safety of the products. (Takama, et al, 2011)

Various types of fuel are at hand for use and the choice largely depends on the types of food to be cooked, or socio-economic reasons under the prevailing circumstances. In Uganda, like in other developing countries many people use charcoal and other biomass products for cooking their meals. Charcoal is preferred because cooking is done inside houses and wood fire would not be convenient because of smoke and emission of much heat. According to Nyström charcoal use has its negative health and hygienic consequences (Nystrom, 2003). Research on this subject shows respiratory diseases caused by indoor pollution through the use of biomass products. Outdoor environmental pollution cannot be overlooked, either. For a few years now Uganda has been experiencing electricity power cuts caused by power rationing which greatly affect homes where electricity is being used in cooking. Urban households have sought the cheaper and more reliable alternate means of fuel provision through using gas, charcoal, kerosene and even firewood. Handelman (1996) writes that poverty and low consumption of energy are some of the characteristics of the developing countries. As Uganda is included in those countries, the underdevelopment and poverty continue to cause very low consumption of modern energy. Modern energy in the context of this study would mean, for instance, electricity, solar energy or ethanol.

Consumption of modern energy is low, especially in regard to cooking since charcoal and even firewood look to be both available and most likely more affordable than electricity use. The problems caused by deforestation (Palmula and Beaudin, 2007) have, in some African countries devastated the environment. There is an urgent need to find efficient biomass technologies by considering sustainable options, which should take into consideration controlled tree cutting for fuel, wood or charcoal production. Upcoming innovations on obtaining alternative fuel production from bio energy have come up with production of ethanol as an alternative fuel for cooking, among other benefits, for the urban and rural poor (Pacini and Batidzirai, 2012). It is estimated that in some countries the percentage of such users may even reach 90% (Owsianowski, 2013). Nowadays there is even so much commercialization of improved cook stoves that there are several varieties on the market. Empirical findings of my research on cooking in rural areas in Uganda (not presented further in this licentiate thesis) show that rural inhabitants do make use of the improved stoves, too, provided they can afford charcoal. On the other hand the majority of rural area inhabitants use firewood for cooking; and this is done on open three-stone-stove fires, and such usage has many repercussions, such as deforestation and

4 http://www.google.com/search?hl=en&source=hp&q=%22underdevelopment%22+%22low+consumption+of+energy%22+%22developing+countries%22&gbv=2&oq=%22underdevelopment%22+%22low+consumption+of+energy%22+%22developing+countries%22&gs_l=heirloom-hp.12...56330.161818.0.166495.79.19.0.60.7.0.101.1292.18j1.19.0...0.0...1ac.1.15.heirloom-hp.ej98f2lWQ94 accessed on 7th June 2013
excessive energy loss. Such losses of energy and vast areas of forests led to the quest for ways of improving cooking stoves which is widely practiced in developing countries, Uganda inclusive, as part of the solution. There has been a lot of focus on cook stove improvement with the aim of energy conservation and environmental concerns since the early 1980’s. Improvement of cook stoves and dissemination of such knowledge has ever since been the concern of many programmes and projects. However, the major setback has been that such knowledge has been lacking the architectural design aspect of the kitchen space where cooking and preparation of food takes place. This is probably so because there has been poor exchange of knowledge and efficient networking between people who carry out such cook stove improvement projects and professionals in the building and construction industry e.g. architects and engineers. Lack of the design input has left unfilled gaps that need to be addressed (Westhoff, 1995). Another aspect of cooking which emerges through studies on cooking stoves and kitchens in developing countries is that it is females who mostly toil with chores of cooking, under unhealthy and inefficient conditions (Westhoff, 1995).

3.2.4 The colonial influence
The influence of colonialism in Uganda, as elsewhere in former colonies, resulted in a locally adopted British culture (King, 1995; Mavunga, 2008; De Villiers, 2010). Besides the British culture there were other historical cultural influences in Uganda such as the Arab and Indian. There was segregation of races in the last century when housing areas and types were planned, designed and built for particular races (Omolo et al, 2010). Urban housing from the colonial times, in Kampala or the rest of the country, indicate a modern layout of the kitchen area implying a modern lifestyle, although some houses from that period (from about a hundred years ago) were designed to suit the Indian way of life. The Indian type included the use of chimneys and raised platforms in the kitchen space for charcoal or kerosene stove use. Such provisions are also found in back, smaller house structures popularly known as servants’ or boys’ quarters, built during the colonial period, which were designed for African servants. According to my own experience as the former architect for Kampala City council, as well as a practicing architect, such outer houses are still known as servants’ quarters and still included, to date, in design and construction of residential premises on town plots in Uganda. The town houses in the colonial era were designed to suit the masters’ tastes and intentions while African peoples’ ways of life were branded to be primitive at the time.

However, there have been indigenous versions of modern house designs, which still do not address cultural needs and values, more so in the domestic kitchens (King, 1995; Cripps 2003). People in Uganda may desire to be modern in their lifestyles even though their lives are still rooted in culture. Domestic kitchens seem to be designed and built showing western orientation while the actual activities involved in cooking are not considered. The same trend as in colonial times is still in force but existing in a different form (King, 1995; Cripps: 2003). Also, it has also been argued that the kitchen is a woman’s place (Christie, 2008). Traditionally cooking is not done by many people unless it is an occasional event where a gathering of people takes place.
From my own experience in growing up, living and working in Africa, the similarities in the general African ways of life has a traditional tendency of not including women in decision-making or in undertaking major cultural projects. Through women’s’ emancipation this cultural gender segregation is changing with times, but still affects even the way houses are designed and built by stakeholders who are males in majority. I concur with Beall (1996) who argues that women’s inputs have generally not been considered in the design of human settlements.

3.2.5 Food and cooking in Uganda today

Food which is consumed today in Uganda is varied in type and nutritious value. It constitutes of both Ugandan African traditional food as well as globalized food types. Raschke et al (2007) write on East African food habits and argue that there has been a food transition over many years from the onset of colonization to date. According to Raschke et al the African traditional food include, among others, grains, cereals, meats, fish, fruits, nuts, various green vegetables, legumes, grasshoppers, ants, honey, etc. The traditional food in Uganda includes plantains (matoke), too, as one of the main staple foods (Oltersdorf, 1971). Raschke et al (2007) argues that on the other hand, people of the whole world, Uganda included, to an increasing degree consume globalized food stuffs, like refined cereals and sugars and cheap fats. These, she argues are of less nutritious values and they stem from the multinational food system. She even suggests that there has been a loss of knowledge and food habits which she attributes to the colonial and neocolonial political economic forces. Oltersdorf (1971), in support of this argument, also suggests that there have been changes in dietary habits in urban areas of East Africa. He writes that the indigenous more nutritious food products have been displaced, and replaced with more refined and processed global ones. Urbanization is mentioned as part of the reasons why there has been such a transition of the food intake in Uganda (Oltersdorf, 1971). Oltersdorf is of the opinion that educated people living in towns in Uganda consume a more varied diet of food, although it may not be necessarily more nutritious and beneficial than that in rural areas.

In Uganda some food types maybe more preferred by some tribes than others. For instance, some tribal groups desire and select grains rather than plantain (matooke) for consumption as a staple food (Oltersdorf, 1971). According to Oltersdorf rice as a meal is found to be unfulfilling by some Ugandans. Traditional food in Uganda is prepared in special ways which need precision and great care in order to come up with a delicious finished product. Mother M. Anna (1940) in her writings on Preparation of food in Buganda notes the elaborate ways of preparing a traditional plantain (matooke) meal. According to my experience as a Ugandan the method Anna writes about has not been much altered to date. Although she writes about “preparation of food in Buganda” this practice is widespread amongst the Ugandan population where the matoke is one of the major staple foods. The bananas are picked green and prepared while still green. The peeling, and all the food handling process is lengthy and banana leaves play a basic role in all ways, in preparation, in cooking and serving the matoke meal (Anna, 1940). Briefly explained, middle parts or midribs of banana leaves or the stem of the banana bunch are sliced into smaller
pieces to make a layer of padding at the bottom of the cooking pot, which is about a third filled with water. One or more young, green and smooth banana leaves are folded into a half and spread over the padded layer. Green bananas are peeled, even that is done specifically in a special way. Anna (1940) describes this traditional way of banana peeling as follows, “The bananas are peeled, lengthwise of course, but from bottom to top, that is, from the end opposite the stalk end” (Anna, 1940: 26). Anna describes in lengthy details of how the peeled green bananas are tied up in a bundle in those smooth green banana leaves using dry banana fibers. The bananas are then steamed in that way and when cooked and done, they are pressed while still inside the bundle before serving. Referring to my experience as a Ugandan, preparation of a plantain meal is one example of many other lengthy and laborious ways of preparing other Ugandan types of traditional dishes.

3.3 Concluding remarks
In spite of the knowledge acquired through research on the significance of kitchen studies in the developed nations, the kitchen is not given enough attention in developing nations while designing a home. The views on kitchen design mentioned above, nevertheless, give some light towards attempts of generating knowledge concerning designing better domestic urban kitchens in Uganda, albeit, the scenario in Uganda is different from that in Europe or elsewhere in the developed nations. Acquiring knowledge on the predispositions of the users of these kitchens is pertinent to improvement of such facilities, as an example of housing research in Sweden was necessary and connected to the kitchen research development. The information on existing kitchen studies provide guidance towards determining the methodology employed in the study, which is presented in the following chapter. This is in line with the aim of the study and the research questions.
4. Research Methodology

I start by clarifying the term *research design* as I have applied it in this study. I explain the qualitative approach of the research methodology and the reasons behind its choice. The case study method adopted in carrying out the research is expounded on indicating the relationships between the research problem, the research questions and the methodology chosen to get to the empirical findings. Advantages and disadvantages of the case study methodology are pointed out. I further explain the rationale behind the selection of cases in Kampala. The data collection of the evidence on cases is explained in terms of the techniques which have been used in the process. The chapter concludes with issues on interpretation of the collected data and its analysis.

4.1. The Research Design

I use the term *research design* in this study to mean the plan or the outline of the research, which describes how the process of the study has been conducted. I define the research design as the complete program which is followed in investigating the research in relation to its objectives and the research questions, indicating the ways in which I have selected the studied cases, and how I have collected and analyzed the results.

The aim of my study is to investigate the design of the domestic urban kitchens to find out how they work in the face of tradition and modernization. The ultimate objective is to add to knowledge by which the urban kitchen design can be improved in Uganda. This necessitated the study to be carried out in depth by looking into details of issues at hand. Referring to the research questions of the study, descriptive and explanatory approaches have been considered the most preferred because they yield more information towards understanding the processes and relationships involved in all the activities in kitchen spaces of households. It is a descriptive study as well as an explanatory one where I ask the questions of what, how and why (See chapter 1 section 1.4 on research questions). I explain the workings of the domestic urban kitchens as well as explore some of the background information of the actors’ lives which are relevant to the study. The investigations in this study have been carried out in depth by looking into details of issues at hand.

The main area of study was chosen to be Kampala. Within Kampala I chose seven cases based on diversified housing types and categories of the urban housing. The study objects for this research are the designs of kitchens, the spaces that are connected with food preparation, cooking, storing and consumption, while noting the spatial qualities, decisions taken or not taken in the intended and actual use of such areas through negotiations or interpretations of the designs in place. This approach involves residents as important actors, using and evaluating the studied kitchen designs. I have studied how people use their differently designed and equipped kitchens, in their daily life practices. Thus the study is a case study, where several sub-cases of kitchens in use are studied.
The case study methodology, according to Denscombe, (2003) is widely used in social research. This methodology, he says, is best suited to investigate events in real life which are related to each other. Denscombe talks of one of the characteristics of case study methodology being “spotlight one instance” (2003: 30). Denscombe mentions “interrelationships and interconnections of processes in social settings” (Denscombe, 2003: 30). This is reflected in this study as the topic is complex with its socio economic and technological implications at play, with the interplay of the concepts of modernity, tradition and identity in force. The settings in this study are social, and the study is people centered. Denscombe (2003) argues that case study methodology is appropriate to delve into the details and complexities of how the various parts of a given situation affect one another. I find this argument to apply well to this study which involves various social and technical aspects relating to one another. Referring to the research questions of the study the research has to investigate the processes of actions taking place in domestic kitchens in more detail in the urban households. The interrelationships of or clashes between tradition and modernity taking place in the domestic urban kitchens are investigated. Denscombe mentions that within a case one can find out the detailed processes and workings of an instance which affect the outcome. I investigate reasons and causes behind the dynamic cultural interplay between, mainly, tradition and modernity in the design of the modern urban kitchens.

According to Denscombe the value of a case study lies in the attention of how the processes lead to the outcome or results of an event, rather than concentrating the effort on the end results. The case is a natural event which already exists at the time of study, and will continue even at the time of completing the study (Yin, 2003). Yin’s view suits this research as it is applied to the everyday life of an urban household in the kitchen. This outlook is exemplified in the way of life of urban dwellers in Kampala, the way they go about their daily activities in their urban kitchens of the present day city.

Denscombe (2003) writes that case study allows the use of a variety of methods other than depending on only one particular one. By adopting this approach I was able to have flexibility in data collection as I examined ways of food preparation, cooking, and other related kitchen activities in the kitchens. Denscombe (2003) mentions another characteristic of case study, and that is focusing on the relationships and processes. I have preferred to use a case study instead of other approaches for this research due to the fact that it has enabled me to investigate the reasons why people use a modern urban kitchen for certain dishes and not for others. The investigations are done in-depth and there is no manipulation of the situation, because the study is done in the natural settings of households. The inquiry is has been done while respondents carry on their normal routines of food preparation and cooking, taking place in their usual settings. I have not induced or controlled any events in order to take on any particular feature or occurrence.

In accordance with what Yin (2003) recommends as reasons behind the choice of the case study methodology, I adopted it for the following arguments:
1) The focus is on issues on the contemporary way of life in urban areas of Uganda.

2) The nature of the research topic is rather complex. It involves technical issues in design as well as social issues of culture in relation to tradition and modernity, as well as issues relating to identity.

3) The research involves exploratory and descriptive approaches. This method depends on the types of research questions that I have.

4.2 Methods for data collection
I have used the qualitative approach because it allows flexibility; in order to get in depth answers to the research questions. I have formulated semi-structured, open-ended questions which are used in the interviews. By using qualitative research I have explored the implications of tradition and modernity in the design and function of the domestic urban kitchen. While collecting the data I have based my study on the descriptions of the existing situations in the studied households. I have explored the conditions under which various people are using their differently designed kitchens. If I had used a survey, it would not have allowed me to study the phenomena which are taking place, in a detailed manner, in a given household.

Other research methods which are employed for data collection include, in addition to in-depth interviews, also observation through which notes were made. Physical dimensions of spaces were measured, photos were taken and sketching was done by the researcher herself.

4.2.1 Study area and cases
The research is done in Uganda, with Kampala as the study area. I have taken a case for this study to mean the interaction of the house type, the household practices in the kitchen area and spaces related to the kitchen in consideration of all the food related activities taking place there. In Kampala seven households and their kitchens have been selected as multiple cases for the study. Kitchens in different types of housing such as apartments and individual housing have been examined. The cases have been selected from housing units expected to yield information needed to answer research questions. Yin (2003) states that “information rich” cases are to be selected rather than representative examples.

The household, as part of the case for the study, being a basic social unit is regarded appropriate to use in this study because of the social economic relationships which a family has amongst its members. I have adapted Beaman and Dillon’s (2011:12) definition of a household for this study which includes the aspects of the household members living in one dwelling and eating meals together. It is where and how the meals are prepared, and what these meals are constituted of that makes part of the main objective of my study.

The study focuses on the middle-income group of households in Kampala. The choice of the middle income group is based upon the approach or the conception that this group of people probably takes conscious effort or deliberate steps of choosing the designs, construction and
refurbishment of their urban kitchens. This relates with the aim of the study, the objectives and the research questions; and that is where I comprehended that I am likely to extract information rich data for the study. The low income group has not been the best choice because there exist a number of very basic problems which need to be addressed first, such as a decent shelter to live in, access to clean water and proper hygiene and sanitation. These problems most likely need to be prioritized in searching for solutions rather than delving into those found in design of kitchens. (Besides this, such basic issues would have been in competition with the problems I am attempting to address in this study. On the other hand the high income group tends to solve the problems through monetary means; and in addition they most likely form a very small fraction of the society in Kampala, but, still they probably will benefit from the outcome of the research.)

4.2.2 Criteria for selection of study areas and cases

Kampala has been chosen as the area for research because of its strategic position as the biggest, city of Uganda, bearing in mind the role it plays in its functions in administration, industry, education, commerce and socio-culture. Its inhabitants are culturally of diverse tribal and international origins, thus offering the opportunity of having a mixture of different cultures. Kampala has played a leading role in the local urbanization in Uganda. The international and national strategic position of Kampala has offered an opportunity for selecting among a variety of cases for this thesis. My own experience as an architect working in this city, adds the advantage of knowing the context thoroughly.

I chose seven different cases in Kampala illustrating different housing types, which show different approaches to design. Such design approaches are shown through three periods of time and two housing types which have been chosen for their diversified architectural designs that enrich the data. See table 4.1 below.
Table 4.1 Overview of selection criteria and selected cases

<table>
<thead>
<tr>
<th>Cases</th>
<th>Period: illustrates design ideals</th>
<th>Type of housing unit; One family or flat</th>
<th>Type of household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonial, up to 1950</td>
<td></td>
<td>Bungalow</td>
<td>Family with young adult children at home, domestic workers</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Bungalow</td>
<td>Family with young adult children at home, domestic workers</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Staff house at university grounds</td>
<td>Single mother with young adult children, no domestic workers</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Flat, 2 bedroom</td>
<td>Single mother with one adult child at home, domestic worker</td>
</tr>
</tbody>
</table>

After the independence, 1970

<table>
<thead>
<tr>
<th>Cases</th>
<th>Period: illustrates design ideals</th>
<th>Type of housing unit; One family or flat</th>
<th>Type of household</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td>Flat, 3 bedroom</td>
<td>Single mother with teenage children at home, domestic worker</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Flat, 2 bedroom</td>
<td>Family with teenage children at home, domestic worker</td>
</tr>
</tbody>
</table>

Recent construction, 2000

<table>
<thead>
<tr>
<th>Cases</th>
<th>Period: illustrates design ideals</th>
<th>Type of housing unit; One family or flat</th>
<th>Type of household</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td></td>
<td>Double storied house</td>
<td>Retired couple, domestic workers</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Bungalow</td>
<td>Family with children, domestic workers</td>
</tr>
</tbody>
</table>

Housing units from the colonial period were selected to show what role the historic influence of colonialism may play today, as a basis for comparison with what is considered modern in what is built today. Housing units from the period after Uganda’s independence were selected to illustrate whether the young nation had developed any other design ideas for housing than the former colonial power had. The most recently built housing units were selected to show what ideals and design solutions are applied today in the construction of middle class housing. The cases were selected to show a variety of housing units, thus incorporating both one-family homes and flats. Flats generally offer less space for cooking activities than one-family houses on plots, where some activities can easily take place outside. The design of kitchens in flats is very critical for functionality, which makes flats especially interesting to study.

The types of household structures which make up the cases in Kampala vary in composition. The seven households I have investigated constitute of a couple living in a colonial style bungalow with their children and two domestic workers on their premises; a single mother living in a
detached colonial style institutional staff house with her children but having no domestic worker; a single mother living with one of her grown-up children, a house maid and another young woman who is being economically assisted; a single mother living in an apartment with her two children and a domestic worker; a couple living in an apartment with their children and one domestic worker; a retired couple living in their double storied house and having two domestic workers on their premises and a couple living in a bungalow with their children and one domestic worker.

4.3 Conducting the research

4.3.1 The pilot study
I saw fit to carry out a pilot study to test data collection methods and interview techniques. The pilot study was carried out in the months between February and April 2006 using a survey method in the form of a set of questionnaires which were used in twenty households in Nalya estate situated about 3 kilometers from the city centre. During the pilot study I worked with a research assistant who distributed the twenty questionnaires to households in Nalya estate. The answers to the questions were filled in by the research assistant as she interviewed the respondents. I personally carried out a number of interviews with individual house owners in Bukoto, Naguru and Nakasero residential areas within Kampala, using the same questionnaire. I was able to learn lessons from the shortfalls of the pilot study, which I was able to use to improve on the methodology, the selection of study cases, and the areas of study for the main research.

4.3.2 In-depth interviews
I carried out in-depth interview within each respondent of the Kampala case studies. I visited each household between three to five times and some of those times were for in-depth interviews and recording purposes. Other times were for observations, measurements and photography, taking notes and drawing. Since most of Kampala cases were of working class women folk, I was careful to avoid interviewing them as soon as they reached their homes from their work places. I could not, therefore, get through all the interview questions with one respondent in one session. The interviews were recorded and transcribed thereafter. Each interview, for an urban household lasted from forty minutes to one hour and twenty minutes.

4.3.3 Interviews with key informants
I chose five key informants, depending on their capabilities to provide in depth information on my study topic. The nature of my study has prompted me to investigate the lifestyles which affect the choices made in building and using present day urban kitchens. I have looked at the technological aspects of architectural design of town houses, as well as peoples’ traditional norms and habits in order to gather relevant data for the study. I chose professionals who have had long spans of experiences in their fields relating to the subject matter of my research. I had to bear in mind the research questions, the objectives and the problem of the study.
The first informant is a professor emeritus at the Royal Institute of Technology, KTH, Stockholm, Sweden, who is presently having part time engagements at KTH. He is very well versed in housing issues and has been particularly very resourceful to this research in regard to the development of the kitchen design research in Sweden. The information contributes to the existing kitchen studies which are part of this thesis.

The second informant is a professor who values and supports tradition and culture in Uganda. He has had a long experience of about four decades in the academic world and community service and has served on numerous boards in the country. He had been a member of Uganda National Council for Science and Technology for over ten years, and has been Uganda’s representative to the Executive Board of UNESCO for four years. Having chaired a number of task forces, he is knowledgeable on technological and scientific issues. He is a good resourceful professor of information on social and cultural issues in Uganda, as well as those on modernity, together with those on education and dissemination of information to the public.

The third key informant is an architect who has been practicing architecture since 1976. She has served on a number of boards of bodies in the building industry such as the National Housing and Construction Limited, Uganda Clays, and habitat Humanity. As a very experienced architect, housewife and mother, she is more sensitive to the issues on design and use of an urban kitchen and a good source of information. Architecture has been for long a male dominated profession in Uganda until just over twenty years ago when the first school of Architecture started at the Makerere University, Kampala. That is when more women started to enroll and gradually graduate as architects. The architect has worked on numerous residential house plans and she is, therefore, resourceful on matters concerning domestic spaces.

The fourth key informant is a pioneer consultant on innovations in appropriate technology. The outcome of his work serves a wide spectrum of different income earners in the Ugandan society. He has been a winner of the presidential award for appropriate technology in 2008. I have chosen him because of his long fruitful experience as an innovator and for making improvements on domestic life through cutting down household costs on energy consumption through the energy saving hybrid stove, which is widely used by urban residents. He has also come up with types of domestic incinerators which burn organic household garbage, thus lessening the impact of the problematic garbage disposal in urban areas of Uganda.

The fifth key informant is a retired KCC Chief Health inspector and a former director on a World Bank funded Project on Sanitation in Kampala. He has had a long experience working in the former Kampala City Council and has been involved in checking through the submitted building house plans for clearance for approvals. I had chosen him to get more information on the role of Kampala City council in relation to health, hygiene and sanitation in the city.

4.3.4 Observation
With the case study methodology I have used all possible techniques to get evidence for the study. Gillham (2000) writes, “The overpowering validity of observation is that it is the most
direct way of obtaining data. It is not what people have written on the topic (what they intend to do, or should do). It is not what they say they do. It is what they actually do” (2000:46). He, however, points out the major setback in observation as a technique as being time consuming. “Observing people is slower than asking them about what they do” (2000:47). He adds that data collected using the observation technique is not easily recorded or gathered according to the sequence of events when collected with other data, and this is observed as another problem posed by observation as a technique of data collection. He says that getting to know your case very well requires a lot of time. There are incidences in the study where, through observation, I noticed something different taking place, from what the respondent said. In that way data was better validated as through observation. Gillham says that observation is composed of three main elements, namely: “watching what people do”, “listening to what they say”, and “sometimes asking them clarifying questions” (2000, 45).

I have visited the case sites to observe them and document them with camera and notes. I could take a specific visit to the case site with the purpose of observing the activities, spaces and other phenomena which have been difficult to capture during the in-depth interviews or by photographic evidence. I have used this technique for cross validity purposes in view of having different sources of evidence. I have observed respondents prepare meals in their urban kitchens, particularly noting the postures of the body, the items being used, the movements of hands which have to be made, and distances covered while doing the chores during the food preparation process, such as going to get water from its source or picking items from where they were stored. The observations made during these studies have been participant observations whereby I have been with the respondent and have been involved in what she was preparing, as I sat, watched, listened and asked questions as I recorded the responses.

4.3.5 Photographic evidence
This technique has been implored in my data collection and used to analyze the data. Photographic evidence has helped in broadening the scope of evidence in the cases which could probably not have shown up otherwise. This also helps in bringing out more evidence on what I think about the various spaces in cases through my choosing to photograph them. The photos show the real evidence and help in the interpretation of the data taken through scrutinizing and studying them. As a technique in data collection it helps in triangulating the data. I have taken photographic evidence as work been carried out in kitchens of the studied cases and also of objects of relevance to the research. Photographic evidence has been subject to scrutiny sifting through it to choose the material. It has helped in the interpretation of data, as Denscombe puts it “to identify patterns and processes, commonalities and differences” (Denscombe 2003: 272).

4.3.6 Sketching and measurements
I carried a tape measure each time I visited the cases and I measured the dimensions of the kitchens with their adjoining related spaces. I took measurements of heights, widths of kitchen cupboards of urban kitchens, and where there was an outside kitchen I took measurements of that,
too. I took measurements of the main kitchens and the whole main house structures to indicate the locations of the kitchen spaces within the houses. Sketching was done in some cases simultaneously with measurements to document the structures and items of relevance to the study. Some sketches have been done to scale wherever that has been possible and efficient.

4.3.7 Analysis and interpretation of data

According to Stake (1995), analysis means taking parts apart, parts that are relevant and meaningful to the study. Stake also mentions that we should then give meaning to the parts. The meanings were needed to be eventually interpreted in order to make sense to the study objectives. Material gathered in my study was much and varied, comprising of the impressions, observations, and all other written, drawn, measured and recorded material, gathered from different sources, as stated above, earlier in this section. There has been need to find out how this varied material relate to each other so that I get meaningful information.

Analysis and interpretation of data in case study methodology usually employ two main methods: either to directly interpret each event individually, or to aggregate the events and find the overall meaning to them (Stake, 1995). I have used the latter in my study. I have concentrated on understanding the cases under the investigation, as this is one of the primary reasons why I have used case study methodology for the research.

Observations in the field have been written down in field notes, of the journal. Impressions have included intuitive ones which I have observed as I carried out the study, as well as those which have been recorded in photographic form. Interpretation of the qualitative data has depended largely on me, the researcher.

By using content analysis I had to find a way in which to organize the data by first determining what was vital, by sorting it out in categories, which have been arranged under the identified themes. I have had to stay focused throughout the process of analysis by constantly referring to the research questions, the objectives and the stated problem of the study. I had also to base the analysis on the conceptual framework of the study. I had then to look out for patterns that would be formed through categorization of data. In interpreting and analyzing the data I have made reference to the content of the thesis as different parts give meaning to each other.

4.4 Methodological Considerations – limitations and ethical issues

4.4.1 Principles of confidentiality

As the research was made in private homes I have been cordial in order to access the private areas of individual kitchens through collecting data on activities there. I had to make clear to the respondents what the research was about, its intended beneficial output, how long it would take on their time, and what it would involve in collecting data on their private spaces. Participants were assured of confidentiality and that their identities would remain anonymous throughout all stages of the study.
I had a letter of permission, addressed to the would-be respondents from my supervisor in Kampala to allow me carry out the data collection, and also indicating how investigations of cooking areas will improve the lives of those involved in the activities, especially the women folk. I had to talk with various individuals familiar with the sites I was going to investigate, thus gaining some insight on the procedures of approach.

I sought permission and made an appointment beforehand with the owner/occupier of each housing unit under study. First I paid a visit to a household I would study later to acquaint myself with the person, introducing myself and the topic. Appointments did not materialize with some households who would not tell upfront that they did not want to be part of the study. So I have not included any respondent who has been reluctant to be interviewed. Participants were given time to decide if they wanted to participate; and I endeavored to be clear concerning information that might be considered private by those respondents.

4.4.2 Generalization

The study is particularly concerned with case studies in Kampala, Uganda. Yin (2003) states how a case is not a representation or a sample of a population under study, unlike in surveys, but rather case studies rely on analytical generalization. In my particular study I can generalize the findings of the cases which have been studied to the Ugandan context. Yin (2003) writes on how case studies are generalizable to theoretical considerations and not to populations. Concepts of tradition and modernity are cross cutting in similar situations as the ones where the study has been conducted and will apply under the similar contexts of social-economic conditions in other cases in Uganda. The same concepts used for the case studies in Kampala apply to more cases in a broader sphere in Uganda, considering that if I am to choose other cases of domestic urban kitchens in other Ugandan urban settings applying the same concepts and in similar contextual conditions, I will most likely get similar results. According to Yin if the same social-economic and cultural conditions are investigated generalization is possible, but in case study it is of less importance because investigation is specifically done for a particular case in question. Yin explains further that generalization will then be done in those other cases where the target is the similar theory applied to those other cases. The findings obtained from the investigated cases form a basis for generalization in other cases of Uganda in other urban contexts.

Another concern regarding generalisation is the qualitative approach I have adopted. As I carried out the research I purposed to be objective on the findings so that I do not report disproportionately by being biased through my prior disposition in the profession. Denscombe (2003: 268) writes that the “self” of the researcher plays an important role in data production and interpretation. In spite of the inclusion in this study of my professional experiences I have chosen to distance my personal belief system, values and prepositions as much as possible from influencing the way data has been produced and analysed, throughout the research process. I have taken the decisions in my research basing them on goals or aims of the study and trying as much as possible to be neutral by not subjecting what I have heard, noted or have seen to my personal
experiences. Although my professional experiences have been resourceful I have had to be cautious to avoid prejudices.

4.4.3 Validity
Denscombe (2003) argues that validity means whether the research data and the methods used in getting the data are appropriate for answering the posed research questions. Triangulation is used to validate the findings in the study. Triangulation implies using different sources of data collection to complement each other as each method looks at the case from a different angle or perspective. The data had to be checked using different sources to find out if the events which occurred tallied or contrasted within those sources.

The different sources would converge to establish the validity of the reality of the case under study. Each method of approach need not be used at the same time; sometimes each method of approach can be used at the same time with another, or vice versa. In this particular study I have used different methods of inquiry, namely, in-depth interviews, observations, photography, field notes and sketches, documentary evidence, and site measurements. The internal validity of the collected data has necessitated my going back to the field to verify it with the respondents and informants to get their opinion on the recorded material. The findings have been triangulated to get the internal validity. I have also used the technique of observation in checking correctness of the recorded data.

4.4.4 Reliability
Reliability means that if another researcher repeated a study about the same case he or she will obtain similar results of findings. Yin (2003) mentions that such a possibility will depend on a documented case study procedure to be followed for the initial investigation. Reliability, Yin cautions, is difficult to achieve since even repeating one’s own research will not guarantee similar results. I have faced this challenge by clearly accounting for the steps (procedure) I have taken in carrying out the investigations; and in that way I have attempted to make the study as reliable as possible for any future investigators. I had the case study protocol, meaning I had the plan of action in place which I discussed with my supervisors, peer group, and other professionals in related disciplines for comments. I have had to acquaint myself with what type of subject matter the research project is about and this was discussed with the groups of people mentioned above. I discussed with my supervisors the types of questions I used in the interview guides. I have had to keep constantly in mind major questions which are to be addressed throughout the research. I had to determine the sources of evidence which would yield the answers to the questions that I had.

4.4.6 Methodological Limitations
Transcribing the in-depth interviews needed time and often meaning, tones or emotions of respondents could be lost in the process as it was not possible to capture such on the voice recorder.

The kitchen is a sensitive area where few people would not like to talk about what they do or not do, especially to a stranger who is going to publish the findings. This has showed me that an
interviewee can narrate to me things which she prefabricates for me to hear, or what she determines for me to record; not being the reality of the habits and current lifestyles they are leading. At times I had the feeling (which I had to check out) that what the respondent was telling me was what she aspired to be or to have, and that was different from the reality at that time. It seemed to me, at times, that there was probably that element of thinking, “what will they think if I say that I do this or that?” In such incidences employing the techniques on validity of evidence (see section 4.4.3 of this chapter) could help sort out the problem.
5. Results of the study
This chapter starts by first presenting the views expressed by key informants on the tradition and modernity, culture and identity, food, cooking and design on urban kitchens in Uganda. The general conduct of professionals is also discussed in relation to the aforementioned. This is followed by an introduction to the cases studies, mentioning their locations and describing, briefly, in respect to this study. The empirical findings of the cases follow by presenting each case one after the other, while ending each case with the respondent’s evaluation of the kitchen’s functions and the author’s case summary. The chapter ends with the summary of the study cases by presenting it in a thematic form.

5.1 Narratives from the key informants
This section presents views expressed by four key informants of this study who were already introduced in section 4.3.3chapter four. These interviewees had been chosen by virtue of their being knowledgeable and interested in matters relating to tradition, modernity, culture and identity. They also seemed to have had concern on how the urban domestic kitchens work. In view of that, their participation in this discourse helps to situate the case studies in the present day context.

With this, the discussion is thematically presented as (1) tradition, modernity, culture and identity; (2) actual cooking/kitchen practices; (3) kitchen/ housing design and (4) the role of professionals.

5.1.1 Tradition, modernity, culture and identity
Tradition and modernity need to be harmonized, argues the traditionalist academician, and this may be achieved through adding value to the indigenous technologies in order to appropriate them within modernity. There are traditional ways of working which are not yet done using modern means, such as mingling maize, millet or cassava bread on an electric or a gas cooker. The innovator comments,

“Many issues need to be addressed. People move from the village with their traditional ways of behavior, the same way as in the village. For instance, mingling the cassava, millet or maize bread (kalo or posho) on a cooker for a large family living in apartment (this activity will spoil the cooker within a short time). Existing gaps need to be identified”.

The traditional culture seems to play a cardinal role in a society, as the traditionalist academician concurs,

“Wherever one is located the variables are rooted in culture. Tradition and core values should be taught in the homestead. The home, as a centre of learning, needs to be emphasized”.
The former chief health inspector claims that “people who try to be modern are copying other people, copying for the sake of modernity”. He is of the opinion that one can remain traditional as modern lifestyles may bring problems. He draws attention to, for instance, traditional food consumption and traditional ways of cooking. He says that traditional ways of cooking, such as boiling food, are healthier than some modern methods of cooking. He claims that some diseases such as high blood pressure are more often suffered by the higher income groups of people than the lower ones, which may be due to the unhealthy modern food habits. Cooking in pots, he claims is healthier as it steams food and retains nutrients, opposed to more modern methods of cooking such as frying food. On the issue of kitchen design he argues that people may merely desire to be ostentatious to visitors by exhibiting their modern kitchens.

However, there are some cultural traits that may be only attributed to individuals. The architect calls attention to some individuals in society who say things like, “I will not eat matooke prepared on a cooker” or “peanuts pounded in a mortar taste different from those ground by a machine”. The Ugandan culture, she comments, needs to be studied in order to know how to handle certain issues in the modern world.

As modernization takes on tradition, or vise versa, some innovations in appropriate technology come up but not many people in the targeted groups (targeted by the innovators) benefit from such innovations. The innovator mentions how he targets the low income groups with some of his innovations, but the end results show otherwise. It seems to be people of higher income who make use of the innovations. He says the low income groups tend to complain about the costs preferring and insisting on purchasing much lower priced products. The traditionalist concurs, saying that it is those individuals who are economically better off who seem to benefit from innovations which come up.

The indigenous technology needs to be alleviated for improvement, argues the traditionalist academician. He continues to say that it is still premature for the society in question to totally “discard” the modern and take on the traditional way of life, in a bid to enhance tradition. Considering different aspects of urban life he adds that we are still a traditional culture considering the types of food which are consumed and how they are prepared; or the structure of the household being more of an extended family than a nuclear one. He argues that the modernity experienced in our culture is partial, and that it is better to let modernization take place gradually as a transition, rather than allowing it to be disruptive. He poses the question on what is normally understood to be “modern” or “educated” in the Ugandan society. He mentions the four principle ideas which explain what education may mean, as grasping the difference between knowledge and information; putting the knowledge into action; gaining understanding on how to live with other people; and getting to know one’s identity. Education, the traditionalist academician argues, may not only mean passing exams or merely becoming modern. He draws attention to the fact that a person, for example, can show how educated she or he is by the behavior she or he exhibits. However, he mentions how, regrettably, the people who are educated and should be role
models in fostering modernity in the Ugandan society are not empowered due to social economic factors.

5.1.2 Actual cooking/kitchen practices
There appears to be challenges observed in actual cooking, especially so with traditional dishes in urban kitchens. These problems include the use of charcoal fuel in cooking, as the key informants attempt to explain. The innovator suggests solutions to some of these problems saying,

“We have to find a way to prepare those traditional dishes in a friendlier manner. We have to develop appliances in appropriate technology. We have to find a way of managing the waste in the home. How to bring a bag of charcoal (currently that is how it is) to the fourth floor level flat and to come up with a user-friendly disposal of ash from charcoal. What is the easiest way of mingling millet bread “kalo” or “posho”? We are still using the same traditional ways”.

The architect goes on to say that even the traditional bread (kalo or posho) sticks at the bottom of pots and it clogs drains which make it costly for the kitchen user to unblock. Another type of challenge in kitchen waste resulting from traditional food are the fresh banana peelings which are bulky and emit an offensive odor if they are not disposed off immediately.

When it comes to actual cooking, the traditionalist academician remarks that the physical force used in mingling traditional bread on electric or gas cookers may spoil the modern cookers. With that in view he questions the relevance of modern and extravagant kitchens which he says seem to be to be lavish, and may end up not even being used by the actual owners. The modern kitchens may look to be impractical to use due to some factors, as the former chief health inspector suggests. Various cooking activities take place in the space surrounding it because those activities are not catered for in kitchen planning and design. He alleges that he personally owns a firewood kitchen as well as a modern one where electricity is used. It may seem to be more practical to have more than one type of fuel for use. The academician mentions how different types of stoves are used depending on what is being prepared or cooked. The perception on the food value consumed may also play a part in determining what type of fuel to use in cooking, as the former chief health inspector puts it.

“Slow cooking using firewood gives food a good taste and food maintains its nutritional value. Food has to be properly covered traditionally. Frying food fast on an electric cooker or stove does not give it a good taste”.

Kitchen waste disposal in urban homes seems to be a thorny task to be seriously addressed, as all the key informants agree. Peelings from the plantains exasperate the problem further as they are bulky; they give off an offensive odor so they have to get disposed of immediately. It is observed that people dump garbage everywhere, even in the sewage. The former chief health inspector comments,
“The kitchen waste poses a big problem. It emits an offensive odor, breeds flies and cannot burn easily because of the moisture. On separation of different types of waste, the majority of people throw rubbish out of car windows on roads. There is this attitude of trying to earn a quick buck, without taking any measures on maintaining a good environment. Garbage disposal remains an issue to be systematically handled”.

The innovator suggests that it is the architects who are to determine the design solutions on what to do with the highly organic garbage generated from the traditional cooking, such as banana peelings, or banana leaves. For apartment blocks, the architect suggests that garbage chutes would probably work better, by easing garbage disposal, but unfortunately they are not incorporated in the design. According to the architect, if the behavior in our culture is studied in relation to everyday life, such as the way cooking takes place, then perhaps most of the problems will be resolved by design. A lot of waste comes from preparation of food which makes the modern kitchen untidy. The waste bags which are dumped at house gates for garbage collecting tracks look unsightly, says the architect. The architect compares the scenario with the situation in the developed nations where food is already cleaned and mostly processed before purchasing it. As a step towards solving this garbage issue, the innovator explains some of his work saying,

“I have designed the incinerator where one has to separate garbage; one can have the organic part for manure, whereas a small incinerator can be used to burn the biodegradable rubbish. Such incinerators are already used in the homes. A few have been installed. They have a short lifespan and they have to be replaced. However, one can buy more expensive ones, which last longer”.

### 5.1.3 Kitchens and housing design

According to the traditionalist academician most approaches to housing design follow the conventional nomenclature of rooms, comprising of the living room, dining room, kitchen, bedrooms, bathroom, etc. When it comes to cooking, a problem arises because cooking using charcoal does not work well in such a house. Using other fuel types other than electricity becomes a predicament as far as the modern house design is concerned. The former chief health inspector notes that firewood kitchens had not been catered for in the building bylaws, yet developers show a keen interest in them. The architect mentions how some of her clientele request her to design for them outside kitchens, where they may prepare and cook their traditional dishes, such as matooke, using fresh banana leaves. However, according to the traditionalist academician and the innovator, constructing a secondary kitchen may not be the best option. The issue of moving at night from the main house to the outer, detached kitchen may pose insecurity risks and inconvenience. The expense of building a secondary kitchen also has to be considered. The architect suggests that this kitchen may only be about 2 meters by 2.5 meters in size. She goes on to say,

“Usually they would rather have it connected to the servants’ quarters. Then they would get their matooke cooked, and bring the finished dish inside the main house for consumption”.
The author would think that activities involved in preparing, cooking and serving food need to be considered first and catered for in this supplementary kitchen, before dimensions can be determined, so that a lot of unnecessary movements may be avoided. The architect argues

“Clients want space for all that activity but space is hard to find. Chimneys are normally provided in some cases....To avoid expenses of building two kitchens, a kitchen is required where we can prepare traditional food as well as modern dishes.”

Cooking modern dishes suits better in the modern urban kitchens which are in use already. In regard to designing such kitchens the architect cites the Architectural Design Handbook by Neufert which is used by practicing architects. She notes that the information in that handbook is based on research on how people work. The book gives dimensions and measurements for various kitchen fittings which the architect affirms as comfortable to work with. She calls attention to some of a few foremost criteria in designing a kitchen as catering for a mechanical fume extractor/extractor hood, knowledge of wind direction, provision of adequate space, proper ventilation and improved garbage disposal, among others.

In regard to the afore said, the author imagines contemplation of cooking traditional and modern dishes in one urban kitchen may require more information based on the urban lifestyles in Uganda. It, probably, may not be representational to design only one kitchen where traditional and modern dishes may be cooked.

Cooking fuel as a critical aspect in kitchen design needs to be affordable and appropriate to the users, according to the architect. Using various cooking fuels may be useful, as the former chief health inspector explains. He supposes that these fuels are not available in supply all the time. Electric power may be cut off at any moment, charcoal prices may shoot up due to transport setbacks caused by slippery village roads in bad weather; or gas can be out of stock for some time. He claims that he has to use two kitchens in his urban home, one for electricity, and the outside one for firewood. He adds that even firewood may be hard to find.

Charcoal as one of the most useful cooking fuels is mostly used in portable stoves. The placement of the portable stove in the kitchen space, as stated by the innovator, remains to be sorted out. According to him, the involved stakeholders such as the architect, the supplier and the developer need to determine the best location. The innovator goes on to say that the Musaazi hybrid stove, which is his innovation, gets fixed in one place and does no tilt, which he counts as an advantage. As this type of charcoal stove is connected to water pipes and a water storage tank, I imagine that the same challenge lies in its convenient placement in the kitchen, as it needs to be in a relatively open space.

Cooking with relatively affordable fuels like charcoal or firewood has repercussions, such as smoke. The traditionalist academician suggests that other types of fuel comparable to prickets may offer better smoke free alternatives.
Cooking for an urban household might be demanding. House help is needed as a housewife can be involved in other activities away from the home. There appears to be a few obstacles in hiring house helps in an urban home, as the architect discloses

“Very difficult to find an efficient house girl/boy because of the demands put on the household. There are not well-trained peoples. It remains an issue on how to train people who work in the household kitchens. A kitchen in the countryside is different in the sense that one goes in briefly to attend to the fire, and comes out; whereas the one in the city is closed in”.

Special care is required, according to the architect, on how to handle the various types of cooking fuels. She goes on to suggest that on the whole, there is lack of real professional guidance on the part of people who sell their products to purchasers to explain how best they may benefit from the purchased products. In the instance of electricity, she contends, much energy may get lost as a result of wastage by an untrained house maid. In such a case the housewife may come from work exhausted and in need of having a rest so that she leaves the domestic chores to the maid to attend to. Cooking with gas, the architect clarifies, needs a lot of care, and using kerosene in cooking needs a lot of air movement. The traditionalist agrees that untrained house helps from villages find it difficult to handle housework in modern kitchens, yet their help is indispenisible; nonetheless, he concludes, it is more practical to train a house help than designing appropriate kitchens to suit them.

5.1.4 The role of professionals
Different professionals are noted to be mostly working separately, each profession keeping to itself, instead of trying to learn and understand what is happening with the other professions. As part of a solution to this challenge, the architect mentions how seminars can be educative where someone, for instance, a supplier of charcoal or firewood stoves can talk about these stoves to the architects or a certain innovator may give a talk about her or his innovation so as to get ideas on how such products may be incorporated in the architectural designs. The traditionalist academician alleges,

“Exposure and dissemination of knowledge is required. Various professionals can meet and exchange ideas. There are no professional journals, no magazines or dissemination of ideas to discuss the issues. Catalogues are borrowed from other developed countries to get ideas”

He exemplifies this observation with, for instance, the topic of this thesis, which is virgin and people have little knowledge about it. The innovator suggests that knowledge and lessons acquired, for instance from this study, can be disseminated, in a bid to educate the public.

The public needs to understand the meaning of professions, what they do, and how people can benefit from the knowledge professionals have. The architect comments on how the architectural profession needs to be understood as to what it means. She comments,
“Most clients/developers do not understand or appreciate what architecture is or what it does. The work of an architect in Uganda is difficult when it comes to payment for services, even among the educated. Explaining the cost of design is difficult whereas the work of a contractor is easily understood. Practicing and giving time to the profession is difficult.”

5.2 Introduction to the case studies
The first cases were selected from housing units built under the colonial era. One case selected for the study is that of a privately owned colonial style bungalow, which is standing on its own plot of land in the affluent Kampala suburb of Kololo residential area. The bungalow has been chosen as a case because of its unique type and period of design, depicting the meaning and reasons behind the design. On the same plot is located a separate structure popularly known as the servants’ quarters which was designed and constructed at the same time as the bungalow. The second case is that of an old technical staff house at Makerere University, one of the oldest Universities in Africa. The house was constructed in 1930’s and is currently occupied by a member of support staff of one of the colleges in the university. This case is full of interesting information because of the ideology behind its design and what was, by then, expected of the lifestyles of the occupants at that time. The present day occupancy portrays contrasting ideas in the face of the old design. This case is the oldest structure among the studied cases.

The third case is an apartment, situated in the Buganda road flats which are located in the central business district of Kampala city; and which were built in 1950’s, during the late colonial era. These apartments were designed and constructed for the white collar working class of that time. I have selected the apartment because of its unique type of design considerations of that era.

The area of study also includes two apartments in Bugolobi housing estate, which is situated about two and a half kilometers from the Kampala City Centre. Here are apartments in an estate which had been constructed in late 1960’s/early 1970’s after Uganda achieved independence from the colonial regime. These cases of apartments have been selected as a lifestyle in a city apartment is probably intriguing and unusually full of information for the study on urban kitchens. This is a period which was the first decade of independence, thus differing regarding age, approach to architectural design and housing type; and in history from the colonial houses or from recently built housing units. Each of these two apartment cases are differing in size and in types of occupancy and ownership. Sitting tenants had been obliged to purchase the apartments under the condominium Act and the privatization policy in the country. With that in view the buyers have had opportunities to alter the apartments to their tastes and capabilities. I have, therefore, expected these apartments to possibly yield rich information to the study. For location of all cases described above, see figure 5.1.
Figure 5.1 Map of Kampala and environs showing the sites of the households where the study of inner city cases were carried out. Modified from the source: Dept. of Surveying & mapping, Entebbe, 2002

The last cases for study are from a satellite estate, known as Akright Kakungulu housing estate, which is situated two and a half kilometers off Kampala-Entebbe road, turning off from the main
Entebbe road at eighteen kilometers from Kampala city (See figures 5.2) This estate was initiated in the year 2000, being one of the pioneering private real estate developments in Uganda. The Akright Projects Limited was a venture started by an individual who is thought to be one of the pioneers in the private sector of real estate development. The company was first registered in Uganda in 1999. The proprietor who was a local investor had developed a number of other housing estates around Kampala by purchasing large areas of land, dividing them into plots, planning them and providing the basic infrastructure before selling them to the public. He also constructed some housing structures on the plots for sale. He employs a few architects to produce model house plans which can be used by some of the clientele to develop their plots. The prospective buyers may not be able to influence beforehand the plans of the model houses, or the kitchens layouts. The estate management decides on some of the types and designs of the houses before offering them to any interested parties. The house types are of one family residence which varies in size and design. The standards of housing are quite high and open to the public market, there by attracting the high and middle income groups of people. There are different categories of villages in the estate so that the interested clientele can choose where they may fit best. The simplest or cheapest option is in the “celtel” village where already constructed houses are put out for sale. The clients who choose plots within the “professional” village have the option of constructing their houses using their own preferred house plans. Having been recently built in the twenty first century, the houses in the estate possibly reflect new and modern ideas of their owners, clearly expressing their intentions, dreams and ideals in choosing to construct their permanent homes in those ways.

The estate is planned as a “satellite city” for Kampala, from where people can reside and commute to Kampala City for work. It is situated on a one and a half square miles of land, on a hill situated two and a half kilometers away from the Kampala-Entebbe road, the access road branching off the Kampala-Entebbe highway at about eighteen kilometers from Kampala City Centre. Akright Kakungulu estate is taken as Kampala because of its physical, social and economic relationship with Kampala evidenced in the livelihood of its residents who commute for work and depend on Kampala for their various needs.
Figure 5.2 Location of the Kakungulu Akright housing estate situated 25 kilometers from Kampala City. Modified from the source: Dept. of Surveying & mapping, Entebbe, 1998.

5.3 The colonially designed houses

5.3.1 Case 1, The bungalow in Kololo residential area

The main house and adjacent structures
The bungalow sits on a one and a half acre of land located in the high income and affluent upscale residential area of Kololo, being one and a half kilometers from the city centre. The
entrance to the property branches off from the access road just along the property boundary line and enters through double metallic gates which are guarded by a gate keeper or an “askari”, as locally known. There is a small gate house by the gate specifically constructed for the gate keeper. The property has a fencing wall all around it constructed out of concrete blocks (See figure 5.3).

The structures which had originally been built in 1945 are only the main house and the servants’ quarters (See figure 5.3). The servants’ quarters are situated across the driveway and car parking on a slightly higher ground than the main house, and about 18 meters away from the house. It is shielded from view by a Pompeii grill screen wall (See figure 5.4 & 5.5).

The boundary wall and the rabbits’ and chickens’ shed attached to it have been added later. It accommodates an outside firewood kitchen at one of its shorter side, which the house owner has created by building up firewood stoves to economize on the amount of fuel used in the modern kitchen of the house.

Figure 5.3 Case 1 Structures on the plot
This is an alteration work done to the original kitchen meant for the servants’ quarters. The servants’ quarters are now multi-used, providing accommodation for domestic workers, miscellaneous storage, and in addition, includes the above mentioned outside firewood kitchen. The house has a constant running water supply from the National water and sewerage corporation, as well a constant electricity supply from the “Umeme Ltd”-the body that supplied national electricity. The soil waste from toilets is connected to the city sewer which is also connected to the other properties in the area. Garbage collection is sorted by the owner so that she throws the organic ones in a pit dug in the ground located in a small garden at the back of the plot. The rest of the garbage is placed in bags and put outside the gate for collection. The compound has a well maintained lawn enhanced with a few lush, nicely trimmed shrubs and trees. The respondent has a garden at the back of the plot where she grows green leafy vegetables, stalks of maize, and some pumpkin plants. A permanent solid wall constructed out of concrete blocks fences off the entire property.
The house has three bedrooms, a kitchen, a food and utensils store-complete with fixed timber shelves, laundry, garage, one bathroom, and one toilet, a books store-complete with fixed timber shelves, a dining room and a sitting room with an attached veranda. (See sketch of floor lay-out in figure 5.7)

**Figure 5.7** Case 1, the bungalow lay out

**Figure 5.8** Entrance though the kitchen

**Figure 5.9** Case 1 The designed entrance faced the lawn, away from the main gate
The bathroom and kitchen facilities are relatively modern as the owner has carried out some renovation work on some of them. The house is roofed with burnt clay roofing tiles and has steel casement windows and external doors.

The main designed entrance of the house faces the green lawn and away from the actual practical main access which is currently in use through the main gate, from the access road. (See figure 5.9). The main circulation route entering the house passes through the kitchen. (See figure 5.8).

**The Household**
The house hold comprises of a total of 9 people, including all the domestic workers. (In this particular family domestic workers are counted as part of the household).

The house is owner-occupied by a couple both in their early fifties, having five children, ranging in age from very early teens to early twenties. The husband is a medical doctor employed by a U N body, while the wife was a civil servant cum business woman. The older children are away in schools and universities at the time of this interview, with the youngest one still living at home as he completes his primary education. Extra members of the household are composed of the gate keeper cum gardener cum house boy; a house maid; and a driver. The family has pets, a dog and cat. The house maid is involved in cooking, especially traditional food that requires longer hours to prepare, or any other food or water that requires heating in the outside firewood kitchen. The housewife is also involved in cooking; there is no clear division of labor in the kitchen as the housewife can be carrying out any chore together with the house help, but mostly doing supervisory work, without having to leave everything to the house maid. Everyone in the household eats the same food that is cooked. The nuclear family is served their meals at the dining table in the dining room. The rest of the household workers either have their meals in the kitchen while seated on low stools or in their quarters situated across the lawn from the main house.

**The Kitchens**
There are two kitchens in the household; the main modern kitchen in the bungalow, and the negotiated outside firewood one located in the servants’ quarters. The main circulation route entering the main house passes through the kitchen, as it is naturally located straight in front of the main entrance gate. However, there is an ‘official’ entrance to the house but unused for the purpose, being located far away from the gate and the parking lot (See figures 5.8 and 5.9). The respondent comments,

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……. ‘people are passing through the kitchen, coming from the gate. They make our work difficult: I am cooking, then someone is knocking and he or she is entering. Then the ironing is being done there, which is almost in the kitchen because the laundry opens into the kitchen. One person is bringing in clothes, another one is passing by, another one is cooking and also getting food from the store, a visitor is coming in, a child is coming in…..”
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As the house was built in 1945 the kitchen size and structure are done as per that era. The owners however did some renovation on it by fixing low level storage cupboards and finishing the worktop in granite. The kitchen size is relatively small in relation to the activities that takes place in that household. The storage space of the installed cupboards is still inadequate as extra storage has to be created by a movable cupboard and free-standing racks (See the drawing in figure 5.7) Modern appliances include an electric cooker, a fridge, and a microwave oven. Other smaller modern ones are juicers and extractors, a rice cooker, a chips maker, and some other portable electric cooking pans. The kitchen has a specific food store, under lock and key, fitted with wall shelves for proper storage where the occupant keeps all different flour types such as that of sorghum, millet, cassava and maize. (Figure 5.7). She also stores bigger traditional utensils there, such as the woven winnowers, mortar and pestle. A laundry room where ironing takes place is accessible from the kitchen area. It had been designed with heavy duty laundry sink which is still in place.

The outside firewood kitchen has been transformed by the current house owners from a servants’ kitchen as per the original plan. (See the photos figures 5.10 &5.11). It is originally a room with a chimney built for the charcoal stoves which the servants used in cooking.

Figure 5.10 Case 1 Outside kitchen screened off

The firewood stoves are built in the space immediately below the chimney. The housewife had used a local artisan to construct the cemented stoves where firewood is used. One of the rooms in the servants’ quarters serves as a multipurpose storage where fresh bunches of bananas; potatoes and other bulky fresh food stuff are kept. There is a stand water tap outside near that kitchen where water can be fetched from.
Food
On consumed food in the household the respondents narrates,

Our staple food comprise of matoke, potatoes, rice, cassava and millet. Foods most often eaten include beef, chicken, fish, ground nuts, beans and peas. Then we have our greens such as “nakati”, and we also prepare fresh salads. Sorghum, maize and millet are grown in our upcountry home and we are able to get the surplus food from there. We keep getting the supply from the village. We do not cook only one type of food but we mix matoke with rice, or rice with sweet potatoes, or Irish with rice, or sometimes matoke with pumpkins, or matoke with chapatti or with potatoes, we keep on interchanging like that. We have goats on our farm. Sometimes when we go to the village we bring along a goat with us especially when the children are around. Usually we prepare goat meat in stew form. We have a variety of vegetables; cabbages, nakati, dodo, spinach, cucumber, egg plants, red pepper and carrots. The challenge is found in how to store them”.

Plantains/bananas are either steamed in banana leaves over the firewood stoves or on the charcoal stove. Fresh green bananas are first peeled. They are then placed in well prepared clean banana leaves which are placed inside a saucepan of water. There have to be bits of the banana leaves mid-ribs in the water, right at the base of the saucepan to make a pad and enhance the steaming process so that food is not directly placed in water. The bananas are well wrapped in a few leaves in the saucepan before can be placed over a fire. When the banana dish is cooked and done, the bananas are then be pressed or squeezed while still in the leaves to make lump. They may be placed back on a low charcoal stove fire to simmer slowly before they are consumed. The time of simmering depends on how much time is available before consumption. Cassava can be boiled while fresh, fried or even prepared as cassava chips. Another method of cooking that the household practices is to steam a variety of dishes, such as pumpkins, sweet potatoes, greens, or already mingled maize bread or “posho” on top of the bananas (matoke) as it is being steamed in fresh banana leaves. That type of cooking produces a sweet, unique aroma in those dishes.

Other major traditional dishes include cassava, millet bread, which is mingled from a mixture of millet and cassava flour; and maize bread, which is popularly known as “posho”, and is made out of maize flour alone. Another dish often prepared is “chapatti”, which is a form of a pancake, mixed from various ingredients. This dish is of foreign origin, with the Indian influence. The other major staple food is rice, which is grown in Uganda and also imported. Common meats are beef, and goat which can be fried, grilled or roasted. Stews were made from groundnut paste, chicken, fish, offal, and various types of vegetables. Beans and peas also feature quite often in the diet. Prepared snacks include some pan cakes made out of cassava flour, locally known as kabalagala; samosas, a popular African snack of foreign origin; cassava pancakes, sweet potato chips, grasshoppers, and doughnuts, locally known as mandazi. Drinks which are prepared in the home included hot porridges out of maize, soya or millet, a cold local cold sorghum porridge popularly known as “obushera”. Cold beverages are mostly a variety of fresh juices, which are prepared using fruit blenders and extractors.
Food Preparation and cooking
Charcoal and electricity are used in cooking. Firewood is also in use as it is the cheapest means of cooking (See figure 5.11). At the time current of the interview, the only type of fuel used in cooking major meals is firewood, because the respondent has an excess amount of poles from a building site, so she has opted to make use of it all for some days and save on the fuel. These are used in the firewood kitchen. The charcoal stoves are placed outside on the ground just beside the outside kitchen, which is well concealed from view behind the screen wall.

Figure 5.11 Case 1, outside kitchen firewood stoves

The respondent has this to say on the fuel,

“We were paying a lot of money on electric bills so we started using charcoal, but even charcoal is becoming expensive so we resorted to firewood, but even that is hard to find; but charcoal is still number one fuel in use”.

However the smoke evacuation device in the firewood kitchen is not working well as the soot and smoke are clearly being emitted within the space (Figure 5.11). No stoves are placed on the veranda of the main house or its immediate compound space. Food preparation is done both in the main house kitchen and in the outside firewood kitchen. The respondent says this on food preparation,

“We prepare the matoke using two main methods, either of steaming in banana leaves or by boiling it in katogo form using different ingredients there. “I prepare the sorghum grains outside like in the compound. I first winnow it using “entara”,( the traditional winnower) and I sort it to
get the stones and chaff out. When it is ready then I take it to the milling machine to grind it into flour, which I keep. We mix the millet flour with cassava to make the bread. I prepare the bread on the cooker or on the charcoal stove. The charcoal stove can be better because you can control the fire. The level of the cooker is a bit higher so when I am mingling the bread I find it difficult. I can hold the saucepan but it is raised to a higher level. I can mingle it well but I find it difficult to mingle alone, I need someone to hold the saucepan. Sorghum is used for “bushera”, a cold porridge drink. I first ferment it, then dry it and later grind it into flour. We can use a pot to prepare it but here in Kampala we use a bucket. We boil the water and leave it to cool. We then add flour to it and leave it overnight and it is ready the following day. 

I prepare “kalo” (millet bread) when we have meat or chicken, or when I have visitors, I do not need to eat it every day”

Other spaces such as the store space, main house veranda or the compound are not used for food preparation (except the servants’ quarters’ compound). At times chickens or rabbits are slaughtered in the home, and this is done on the kitchen table in the main kitchen.

Figure 5.12 Case 1 Food preparations in the main kitchen

The respondent (the housewife) or her house maid prepares food while standing, and that is in the main kitchen; or she can bend over and that happens as she prepares or cooks food using the charcoal or firewood stoves (See figures 5.12 & 5.13). The respondent says that she prefers to prepare her food while seated on a chair in front of a small kitchen table. She can also sit on a small low stool, while doing the chores.
Figure 5.13 Case 1 Cooking in the outside kitchen

The kitchen worktop is meant for food preparation, but the available space on it is extremely small and hardly of any use as it is mostly used for placement of household items. The respondent does not use a mat, as she kneels down, or even squats. As the respondent prepares food or cooks she makes up and down movements, stirs food, and makes circular movements in mingling maize or millet bread. The particular direction in which she moves arms and hands depends particularly on the kind of action which is taking place.

Utensils
The respondent uses African traditional utensils, namely, the woven flat tray used to sort or winnow grains, beans or peas; wooden spoons including the special one used in mingling millet or maize bread; a mortar and pestle used in pounding grains or groundnuts, many different types of baskets, including the special one used in serving the millet bread; and an African pot which she hardly uses. She explains,

............“the pot I have is for cooking meat. It is laborious handling it because it needs a very careful lady. When I give it to the workers they break it, and also it needs thorough washing inside there. There are specific shrubs to wash it with which we do not have here. So it is cumbersome and I avoid that.”

Other specialized utensils were charcoal aluminum saucepans, meaning those saucepans strictly for the charcoal stoves’ use only. The respondent explains,
“When I am cooking on the cooker I use modern saucepans, which I keep in the main kitchen, but when I am cooking with firewood I use these other aluminum light ones. After washing these firewood ones I keep them in the other store which is attached to the servants’ quarters.”

There are various electric appliances, including a rice boiler, chips maker and blender/mixers. Concerning her electric appliances she explains,

“I put some away because the worker can spoil them. After using them I take them to the store where I keep them under lock and key. I lock the store for security and control reasons because that’s where I also keep food”.

**Storage**

The bulky food stuff, namely, bunches of bananas, heaps of sweet and Irish potatoes are placed on the floor in the outside store in the servants’ quarters situated across the lawn from the main kitchen. Food which can easily get spoiled such as fresh cassava is put in water and then stored in the fridge. There is a food store adjacent to the kitchen where sacks of various flours and other dry food stuff are stored. Big domestic items used in food preparation, like the baskets are stored in the kitchen storage space. She says,

“Some of the kitchen drawers and cupboards are missing. I have improvised by bringing in a portable rack and a movable cupboard to place in some items such as spices, etc. having high level cupboards would be better. I have to take utensils to keep them in the dining/sitting room. Washing the plates and glasses, drying and taking them to the sitting room gets the worker tired because it is laborious making so many movements”

Some kitchen utensils are stored in the kitchen cupboards and in the outside store. A substantial amount of food is stored in the fridge, which is big enough in size. Sacks of charcoal are stored in the outside storage located in the servants’ quarters.

**Evaluation of the Kitchen functions by the respondent**

The respondent feels that the kitchen is badly designed because there should have been provision for charcoal use. She stresses the importance of the charcoal stove because of having to smoke meat, or steam other foodstuff. The two kitchen stores are found to be inadequately small. Besides they lack air circulation and ventilation. On the kitchen stores she explains,

“.......“we need a better planned kitchen where everything is near the workplace....... this kitchen is badly located. It should be facing in another direction, facing the outside kitchen. It should be corresponding to the other kitchen and working space should be provided between the two. Also, what I would prefer is to have another entrance to the house somewhere else. But all in all I would prefer to have working spaces, one inside and another one outside, they are both important.”

The respondent further comments on the function and use of her kitchen as follows,
“You buy the matoke bunch and you bring it here inside the kitchen. How you peel it matters, with the “amakankya” (the sticky gum like fluid that comes out of the cut fresh bananas) which is not catered for. You can even stain the kitchen items with this fluid and they get permanently stained. I think we are still tied up with the tradition and I think this modernization does not make things easy. We cannot go wholesale modern”. 

She is of the opinion that having a garage built next to the kitchen is not correct. The location of the outside kitchen (this is reproduced space, and not originally intended to be used by the house owner) is found to be very far from the main house-about 18.4 meters away. Having to move from the main kitchen to the outside kitchen is observed by the respondent to be cumbersome. It becomes very tedious and inconvenient to use, especially when it is raining. On the preferred spaces for food preparation, she responds saying,

“The preferred space for food preparation depends on what you are doing whether it needs outside on the veranda, in the compound or inside the main kitchen”.

The respondent argues that the kitchen drawers are not enough and drawer sizes need to be increased. She complains that whenever food is being fried in the kitchen, fumes find their way into the sitting room. Asked if she is aware of the dangers of cooking on open fires, she says that she is aware that smoke emitted from open fires causes chest infections/respiratory tract irritations, which lead to infections such as pneumonia. Asked on what she thinks about a kitchen with an open plan, she says,

“People have started having open kitchens to the living area but in our culture it is not done like that because you find a lot of activities in the kitchen, and also the person who is preparing food does not have to be in the open. If you imagine the types of movements I have been talking about, the open one would be good if food is processed, and not going into the African ways of cooking. Sometimes you may be cooking some kind of food and you do not have to show it in the open. In the kitchen there is a need for a lot of security in the African setting. Someone may come and she or he may begin to do something she or he wants. I need to keep my food somewhere safe and under control”.

The respondent mentions another aspect of storage which touches on employment of domestic workers. She explains,

“Some people will ask why I should lock the food store. I reply and say that if food which I should have used for a week is finished quickly because I have not locked the store, will that benefit me? Workers can sell charcoal or even dry beans. In such a situation we cannot leave things in the open”.

The respondent is of the opinion that the toilet on the servants’ quarters is poorly located, being right next to the kitchen. Also the respondent complains about the public sewer that connects a
number of properties in the vicinity of her house, which runs right in front of their house and becomes a nuisance at several times.

**Summary and discussion of Case 1**
The residential structures in this case were designed in 1945 to suit the targeted colonial users. The small sized kitchen of the main house reflects the modernist design approach of that time. According to a number of writers such as Bullock (1988), Lawrence, 1982), the size of kitchen had undergone a number of transformations over a period of time whereas for the Ugandan situation the same design which was inherited in 1945 is still in use today. King (1995) argues that British building designs were exported to the colonies without much adaptation to the local contexts. Lotz (2008), too, argues that the built environment needs to be conceived, adapted and made to correspond to the local conditions. However that is not the case with the kitchen of this study case.

In developed nations part of the reasons why kitchens diminished in size over a time period was because housewives became more emancipated and their work in kitchens had to be made easier, while it became extremely expensive to continue having domestic servants (Lawrence, 1982; Bullock, 1988). In comparison to the situation in this case the housewife who is a working woman employs a domestic worker, and she complains about the small sized kitchen, which she says is not adequate to accommodate all the activities. Besides that, the respondent is not satisfied with the way the bungalow was orientation on the plot in relation to the main entrance to the premises and to the house. The entrance door to the main house necessitates almost everyone to use the kitchen door. This kind of human traffic disrupts work which is being carried out in the kitchen. The laundry room also opens into the kitchen, which adds to the intensity of human traffic. Nystrom (1993) writes on how the kitchen is the busiest place in the house. She argues that a smooth activity flow in a kitchen is vital for efficiency of work to be achieved. While writing on the housing reforms which took place along with the development of the kitchen design, Bullock (1988) also mentions that one of the criteria used in improving the kitchen design in Europe was to ensure a good activity flow within the kitchen space. The respondent narrates on how disturbing it is to work in the space while incoming people pass through it. All this bring confusion to the kitchen space which is already having many activities and movements. The numerous activities and movements made in cooking are aggravated by the constant food related activities connecting the main kitchen with the outside firewood kitchen, and other facilities located in the servants’ quarters.

The respondent reproduced an outside firewood kitchen out of the existing one which was designed in the colonial servants’ quarters. Pader (1993) writes on the tendency of people to find out the best way of solving their spatial needs. Construction of a firewood kitchen is good in consideration of reducing costs for cooking fuel using electricity and charcoal. There is a strong and constant connection in terms of kitchen activities between the main house kitchen and the outside kitchen, in spite of the big distance between them. It creates a lot of inconveniences to constantly move from the food stores, the firewood stove cooking and the washing up done
outside to the main kitchen and to the dining room in the bungalow. In addition to this problem, there is a screen Pompeii grill wall screening off the outside kitchen from view, which posed a physical barrier to movement. All these obstacles are in the way of an activity flow which should not ideally be interrupted. The distance is long-about 18.4 meters in between the two structures. The movements are even being more difficult during bad weather or at night. The chimney which is already in place is not working properly as a lot of soot escapes to the surroundings and can be seen on walls. This is due to lack of proper professional advice during the construction of the firewood stoves. Nyström (1994) writes on how architects and engineers are most likely not involved in the kitchen design in developing countries, probably due to the assumed low status of the kitchen. On the other hand, according to the key informant’s narrative on the kitchen design development in Sweden architects were involved, among other reformers, in the housing transformations which involved the development of the kitchen design. In this particular case the ergonomics were not taken into consideration in the construction of the firewood stoves which are fixed in the outside kitchen. The wind direction should have been considered, too, in order to blow away smoke from the kitchen as cooking takes place. The compound space near the outside kitchen is used for charcoal stove cooking and washing up of utensils which are attached to charcoal and firewood cooking. The respondent narrates on how equally important the outside space is as the inside one. ). King (1995) mentions how the good attributes of the tropical outside spaces were not fully exploited in the colonial housing designs.

According to the respondent the majority of food consumed in the household is traditional. Roschke et al (2007) argue that transformations in indigenous food habits in East Africa have taken place from the onset of colonialism. Nevertheless, some African town dwellers may still prefer certain traditional dishes, according to Olterdorf (1971). Some of the traditional dishes have to be prepared on charcoal or firewood stoves. Studies indicate that charcoal is the mostly used fuel in cooking in Kampala households (UBOS (2009/10).The respondent indicates that the mostly used fuel in cooking is charcoal although according to her it is becoming very expensive. That is why, she says, she resorted to firewood use, even then she mentions how firewood is hard to find.

The respondent narrates how she is involved in basic traditional food preparations of pounding and winnowing sorghum and millet to remove husks. She narrates on how important sunlight is needed in order to carry out particular tasks of food preparations, such as sorting grains, cereals, mushrooms, etc. She employs a house help who helps to carry out some domestic chores. However, there are some difficulties encountered in regard to employment of domestic helps. The key informants (architect, the traditionalist and the innovator) narrate on how training in domestic affairs for such household helps is still lacking. The respondent narrates on how she has to lock up some of her domestic appliances for fear of being spoilt by her house helps.
5.3.2 Case 2, The technical staff house along West Road at Makerere University main campus

The main house and adjacent structures
The house is a small two bed roomed detached house (See figures 5.16 and 17). It has two separate structures for the support facilities: one semidetached structure which accommodates a shower and toilet; and the second is a one roomed building, which was designed and built as a kitchen house with a chimney stack.

![Site Plan of Case 2](image)

Figure 5.14 Case 2, The site plan

Being an institutional residence there is no plot demarcation for a one family residence. The one family residence comprises of the main house, the detached kitchen structure, and a small shared toilet/shower structure. The premises are surrounded by lush green shrubs
Figure 5.15 Case 2, Floor plan of the sleeping house

The house structure was originally meant to be used for sleeping purposes mainly, as cooking and bathing was allocated in the adjacent structures close to the house. The house consists of two bedrooms, one sitting room, a multipurpose store-cum-kitchen, and an extra space which was designed to be an internal shower room but has been converted to a sleeping room. The house is roofed in burnt clay rooting tiles and is generally finished in plastered and painted brick. The access to the house simply branches off from West road, and proceeds to the back door, which opens into a narrow corridor, straight into the sitting room which faces the opposite direction from the road.

Figure 5.16 Case 2, main house frontage faces away in the opposite direction to the accessibility on West view road.
The house belongs to the old colonial-style houses built for the University support technical staff in 1930’s. The University staff houses were designed and built differently depending on the hierarchical ranks and categories of staff. This typology of housing was designed specifically to cater for the support technical staff of the university at that time. Since it belonged to an institution and not to any individual there is no demarcation of any plot boundary around it as it is a type of a few others located along West Road. The house stands amidst a plush green vegetation of a mixture of food crops, banana and other fruit trees and bushy flowery shrubs (Figure 5.17 - 5.19). There is no water connection to the house, but electricity is connected and in use.

The detached sanitary facility located at a distance (a two in one, semidetached to an identical one for the neighboring household) has a flush toilet and a shower room for the household. (See figure 5.19). The one roomed kitchen house is situated at about 12 meters away from the sleeping house.
The household
The occupant is a single mother in her fifties who works as a member of the support staff at one of Makerere University’s colleges. She has five children, who are already adults. Three of them live on their own, while only two, a boy and a girl, who are still students in tertiary institutions, live with her. There is no house maid as the household can manage their lives without hiring one. The occupant cooks her meals and at times she is helped by her daughter who lives at home. The meals are served in bowls and the household eats together in the sitting room cum dining room.

The kitchen
The scenario in regard to the kitchen in this household is not so conventional. It is a matter of spatial reinterpretation and reproduction, because the originally designed kitchen structure is not currently used as such. The designed storage space in the house is in use as an indoor kitchen. It is used during bad rainy weather when the occupant cannot use the outdoor space as cooking area. The occupant also makes use of the three stone firewood stoves. The compound is serving as an open air kitchen, as well, where the three stones stove are placed under a tree shade (See photo in figure 5.21).

Figure 5.20 Case 2, Floor layout of the kitchen house

Figure 5.21 Case 2 three stone stove

Figure 5.22 Case 2 Store-cum-kitchen as a multi-use space
These, she says, can at times be used inside the outside kitchen structure which is currently being let out to supplement the meager income of the house occupant. The kitchen house was originally provided with a chimney considering the type of fuel which was in use by the occupant. However, the lower part of the chimney was removed in order to create more space inside the room. It has a low level window like opening, about 50 cm from the floor level, which the respondent blocked with bricks as the room got converted to a sleeping room.

**Food**
Currently the respondent is growing her own food to reduce on the household expenditure and supplement her monthly salary; nevertheless, she has to buy some extra foodstuff from the market. That includes rice, maize and wheat flour; and at times bunches of bananas. She grows diverse food crops which include yams, cassava, potatoes, plantains, peas, beans, cow peas, ground nuts and pepper. She also has fruit trees of berries, mangoes, oranges and passion fruits. The house was surrounded by gardens of various food crops of maize, cassava, beans, yam, peas and potatoes, as well as fruit trees of avocados and oranges. Flowery shrubs enhanced the ambience around her compound. The respondent’s traditional staple foods include cassava, bananas, millet, maize, potatoes, pumpkins and yams. Other main dishes include rice and chapatti. Side dishes are mostly beans, vegetables, groundnuts, peas, various meats and poultry.

**Food Preparation and cooking**
The respondent uses charcoal in cooking, but she uses firewood, as well, especially if she can afford to spend longer time in cooking, like during the weekends. She narrates,

“I use charcoal because I am normally too busy to cook with firewood, but otherwise I cook with firewood and I think food prepared on firewood tastes better. I use firewood especially during weekends when I am less busy. I also cook using firewood when I feel like eating my most favorite traditional food, which is the millet bread made out of cassava and millet flour.”

She narrated how her household gets firewood from cut branches of trees at the university campus, or how, at times, she buys it. Charcoal stoves are placed outside the house in the compound, or they can be placed in the storage space inside the house at night or when it is raining. They are also placed on the splash apron (the small veranda around the house) of the house during good weather. Main methods of cooking are boiling and steaming. Mingling the traditional bread forms one of the major methods of cooking. Food can either be prepared, i.e. making it ready for cooking, inside or outside the house depending on the weather or time. Outdoor cooking takes place in her compound, next to a freestanding wooden rack for drying utensils (See the photo in figure 5.21).

**Utensils**
She possesses a mixture of various cooking utensils of traditional clay pots, and woven baskets, alongside modern aluminum saucepans. (See figures 5.23, 5.24& 5.27). She has regular plates, cups and cutlery for everyday use, some of which are plastic and some ceramic. The respondent possesses plastic buckets, jerry cans and basins which are used in fetching water and in dish washing.
Storage
The space that had been designed in the main house as a store is being used as a cooking space and a multi-purpose storage space, both for kitchen items and other household things. It had originally been designed with concrete shelves but the respondent has to add extra portable racks to accommodate her household items (Figure 5.23). Given the small size of the house, things have to be squeezed as the other two rooms, plus one smaller one are being used as bedrooms for the family of five. She stores her gardening tools in the outside kitchen, and a sack of charcoal is also, amidst other items, stored in the store cum kitchen.

![Figure 5.23 Storage of utensils](image1)

![Figure 5.24 Same storage space of charcoal as in figures 5.20 and 5.21](image2)

Washing up
Portable containers of water jerry cans are used in fetching water and carrying it to where utensils are washed and where food preparation takes place. Utensils are dried in the sun on the fixed wooden rack. Water is fetched from a free stand pipe in the compound (See figure 5.26). Utensils are temporarily placed on the house veranda after or before being washed. Portable containers are used in washing while the person doing the chores bends over as she does the washing. There are double concrete troughs designed and constructed for domestic use, way back in 1930’s, which are fixed in the compound space. They were then supplied with running water in the form of a fixed tap located in the middle; while the waste water could be properly drained away. Two neighboring households were then expected to wash their utensils.
communally, side by side. (See figure 5.25). On the contrary, the respondent shuns the whole arrangement as being absolutely unacceptable, and had installed a stand water pipe separately in her compound. The stand water pipe is connected to the National Water & Sewerage Corporation and steadily supplies the household with water (See photo in figure 5.26). The household separates the organic garbage and throws it in a pit in the garden.

Evaluation of the Kitchen functions by the respondent
The respondent prefers the food she prepares using firewood. One outstanding comment from her is how the food tastes better to her when she uses firewood in cooking. She adds that she uses specifically firewood over the weekends when she can take her time to prepare her traditional food specialty. She does not complain about the limited space of her store cum kitchen. She adds that she accepts the conditions as they are. She insists that the space is a kitchen but I observe that it had been designed and built to be a store. She describes how the concrete shelves are handy for her utensils and food storage. On gardening and home life, her response is,

“You are dirty and then you are forced to enter the house. There should be an inlet from outside where you can first clean yourself, for example like when you have been in the garden. Don’t you think that we are conditioned? They plan for you, and then you accept the conditions. We just accept.”

Asked what she would have changed in the design of the outside kitchen, and that space, where she cooks and at the same time uses as storage, she replies that she uses the kitchen (the store) for cooking on the charcoal stove. She mentions that she is satisfied with the small size, and says that if it had been bigger she would easily think of using the space for extra functions. She adds that she would prefer wooden shelves which occupy less space and may store more things. However, she admits that she has difficulty in standing up properly in that space. The respondent
emphasizes how the concrete shelves are inconvenient in various ways. She looks at the space of the outside kitchen as being adequate for the use of the three stones stove she uses in cooking, although it was not designed for such a purpose.

![Concrete shelves in storage-cum-kitchen area](image)

In regard to how she would like her kitchen to function, she replies that if she had the means, she would like her kitchen to accommodate everything (storage of items, adequate cooking space and proper accommodation for other related activities). Asked on what she thinks about having meals in the kitchen, she replies,

“If the kitchen is big enough and designed for that, it is better to have meals there because as you cook you put the food on the table, rather than carrying everything out. It would be better if the kitchen can be designed so that the family eats together in the kitchen area”

She would like to place the charcoal stove at the right level as cooking takes place, and also have a support for the saucepan. She stresses the fact that she would love to do cooking comfortably seated. The respondent expresses her desire to have a shed where she can rear a goat or chickens; however, the University administration cannot allow such an activity. She would also have stored her gardening tools in such a shed.

On cooking, she prefers to sit on a low stool, place the charcoal stove on the floor, and mingle the cassava bread in a source pan. She says that through experience she can maneuver the best postures to finally settle for the best positions as she cooks her meals. The respondent adds that she would prefer to do all her cooking indoors. She does not like the idea of having a detached outside kitchen where one has to carry food across the compound. In the case of firewood, of course, she said that it has to be kept far from the sleeping house. As for smoke and soot, the respondent replies that she is aware of the dangers of smoke and soot, but she pleads that given the conditions she is living in what can she do about it? She plays down its danger to health and
causes of respiratory diseases. She explains she was aware of better methods of blowing on fire to make wood fire burn better, by using a special device, rather than blowing directly with the mouth.

She also says that she needs closed storage space with shutters that can close properly, like cupboards, where she can place her various utensils. She points out lack of food storage for fresh food stuff and dry ones, as she does not want to mix them up together with other non food items. She would love to have a store which is attached to the kitchen space.

Figure 5.28 Veranda used as a seat

Figure 5.29 Veranda used for placement of utensils

Summary of Case 2

The premises had been designed and built way back in 1930’s during the colonial period for the University’s support staff, which was African. According to Atkinson (1950) African housing of the colonial era planned and located the kitchen far and detached from the main house for fear of fires, fumes and smoke, resulting from the charcoal stove cooking. The respondent narrates on how inconvenient it can be to practically coordinate food related activities between the detached kitchen and the main house. She does not use the spaces as were designed since she improvises spaces in her home for domestic activities including those of preparing and cooking food. This results in a high rate of spatial negotiation and re-interpretation by the respondent in carrying out her food related activities in the spaces available to her. Because of the economic conditions the respondent has to reproduce space to suit her own terms where food preparation, cooking and storage are concerned. Lawrence (1982) and Belcher et al (1972) write that the availability of resources also affect the preparing, cooking and consuming of food. The architect key informant points out how the life style of an urban dweller depends largely on the income level. The colonially designed detached kitchen and the storage in the main house are spatially negotiated and reinterpreted into other uses: the detached charcoal stove kitchen serves as a rental for extra income and the store doubles as a kitchen, as well. The detached charcoal stove kitchen located at a distance from the sleeping house and the shared dish washing area in the compound all reflect the kind of lifestyle the colonial designers intended and expected of the university support staff.
The respondent uses charcoal and firewood in cooking. She places her charcoal stove in the compound or inside the house when it is dark or during bad weather. The three stone stoves used in firewood cooking are also located in the compound. The respondent says if it was not for the demand on cooking time, she would be using firewood in cooking instead of charcoal. A UBOS (2009/10) report indicates household users of firewood as a cooking fuel to have increased in Kampala from 2.4% to 5.8% between the years 2005/6 and 2009/10. The respondent acknowledges that she is not empowered to improve the conditions in which she lives. The premises have good attributes of gardens of food crops, fruit trees and pleasant shrubs and flowers around them. The respondent has seized the opportunity of the fertile agricultural soil in Kampala to grow her own food crops in gardens surrounding her house. Her food habits include preference of her most favorite traditional food of bread mingled from a mixture of cassava and millet flour, cooked using firewood. The traditionalist academician suggests that the modernity of the urban dwellers in Kampala is rooted in culture. The architect key informant mentions the habits of some urban Ugandans who, for instance, would not consume ground nut sauce which is not pounded in a mortar. Lawrence (1982) writes on how important it is to understand and connect the place of origin and the culture of the people to the use of the built form. The respondent in this case interprets her meanings and values in the way she uses the spatial forms at her disposal. She is open enough about her cultural preferences and does not hesitate to reproduce the specifically designated spaces in her home into her spatial preferences.

Since the space in which she cooks has not been designed for the activity, it basically lacks well planned areas for food preparation, cooking and storage. In addition the space is too small to accommodate all the activities the respondent is carrying out there. The respondent requires more fresh air and light in the indoor space she cooks in. The shelves in the designed store space which is used as a kitchen have been blackened by smoke over a long period of indoor charcoal stove cooking. The space is squeezed and overstuffed. She also lacks adequate and conducive spaces for placement of her utensils as she prepares to wash them or after washing. The respondent draws water from a stand pipe located in her compound and washing up takes place in its close proximity. The area is not hygienic and needs improved sanitation. The double concrete basins, which was designed and constructed in 1930’s for dish washing for the two neighboring households, is not currently valid for use because of social cultural reasons. The evidence from the case clearly shows how the two households are not willing to use the shared washing up facilities in the compound. The respondent says that she prefers to have a private place of hers.

In the first place, the outside kitchen structure had been placed too far from the main house, given the distance a person had to walk to and from it while carrying food along. Storage space for gardening equipment as well as a washing area-where someone may clean up when coming from the garden are important in a situation where gardening is carried out. Another aspect that emerged from the case is that designers had to be careful on designing shared facilities for residents. Social cultural norms sometimes overrule other technical or economic ones.. The case
also had evidence that cooking in Kampala can still be carried out using firewood—although in this particular case the respondent lacked the proper firewood stoves and kitchen.

5.3.3 Case 3, a 2 bed roomed apartment
The case study is taken from the Buganda Road apartments which are located in the Kampala Central Business District, along Buganda road. They were built in early 1950's and were meant for middle class working people who were mostly Europeans at that time. (See figure 5.30)

Figure 5.30 Case 3, Buganda road apartments

After independence in 1962 Ugandan civil servants occupied them free of charge until 1995 when National Housing & Construction Corporation took them over and started charging rent. Some of the civil servants who lived in them opted to sell the interest (good will) in them and moved elsewhere. In 2010, National Housing and Construction Company ltd (the former NH&CCorporation) gave offers to sitting tenants to buy them off under the condominium Law. The status then at the time was that some sitting tenants bought them while others were selling them at “good will”. Some of those who owned them then had rented them out, mostly to Indian nationals who preferred staying in the city for security purposes. Most occupants were of middle income group. The rooms which had been meant as stores in the basements were then being sub rented to low income groups of people for accommodation at a low rate. The structures looked dilapidated then and needed serous repairs. The occupants of those apartments had an association called BUROFTA (Buganda Road Flats Tenants Association) which had an Executive Committee. That management was overseen by a smaller group of residents of every two blocks facing each other. This was headed by a block leader.

The apartment
The apartment is located on the third floor of one of the blocks in the estate of Buganda road flats. The apartment can be reached through one of the staircases serving the three-storied block. The entrance into the apartment passes through the lobby/passage which shares the space with a dining area, through which also one can access the toilet, the bathroom, the kitchen, and the sitting room/lounge. The apartment has two bedrooms accessible through a passage which leads
to the back entrance of the apartment through the fire escape staircase (See figure 5.31). This staircase also leads down to the basement level. The apartment was designed with three built-in-storage spaces, complete with timber shelves, which are fitted with shutters. The apartment has a store attached which is located in the lower ground/basement, accessible through the back staircase.

Figure 5.31 Case 3, apartment floor plan

The household
The respondent is a single parent in her fifties who has four grown up children. She is employed as a chief executive officer in an export company. Only one of her children still live with her, together with two other household members, one house maid and another relative (a young woman) who is being assisted in training for a short course. The respondent has been living in the apartment for twenty four years. The cooking is done by the house maid who is assisted by the other young girl. The respondent can also cook meals sometimes especially when she is free like during the weekends. The ready meals are first served into bowls and serving plates. The bowls are then taken to the dining table, where food is consumed. The respondent mentions how she, sometimes likes to take her meals or snacks while watching television in the sitting room. Then she places her plate of food, etc. on a serving tray and carries it to where she lounging. The household members take meals together but the maid and the young female resident take theirs in the kitchen, while seated on low stools. The apartment is well connected and supplied with water
The kitchen was designed in 1950’s during the colonial era, and it has not been modernized since then. It is a neat small kitchen with no modern built in storage cupboards or fittings. The respondent has repainted it in modern colors of light orange, beige and cream. It has small shelves fixed onto the walls where the occupant places the kitchen utensils (See the photos in Figure 5.32). She places her microwave oven on a stool, as there is no other available space. The kitchen is designed with a recess or a nook meant for the cooker, and the cooker unit is in place. There is a kitchen sink and the water supply is supplied by the NW&SC. The electricity supply is in place and well connected. The apartment is connected to the main sewer, just like the rest of the apartment units in the estate. There is also a fixed cantilevered concrete shelf which is designed for placement of food, etc as it is being served into bowls. One of the three built-in-stores in the apartment is situated in the kitchen space and it serves as a multipurpose store where some bulky fresh food stuffs are stored, as well as sauce pans and other household items. (See photos in figure 5.33). The kitchen has no direct daylight as there is no window opening to the outside. The main entrance kitchen door is half solid wood-half glass and that brings limited daylight to the kitchen space. The fixed window which is joined to this door also allows some daylight from the entrance lobby into the kitchen space (See photo in figure 5.32). There is an extra space which is not designed as a kitchen but serves as a cooking area; and that is the back staircase half-landing.
Food
Staple food consists of plantain/bananas, the type which is meant for cooking. Another type of plantains, locally known as “gonja” is for roasting, or frying. Other staple food is millet, cassava, sweet potatoes, pumpkins. Common sauces are of meat stews, ground nut sauce, stews made from peas or beans; and various types of vegetables are used for food accompaniment. A ghee relish (made from milk fat) is consumed. The respondent prefers to purchase some other non-traditional snacks from the nearby kiosks, such as samosas or doughnuts, instead of preparing them at home. The respondent also consumes porridges made out of soya, maize or millet. Various types of juices are also part of her diet.

Figure 5.32 Case 3, the apartment kitchen
Food Preparation and Cooking
Charcoal is the main fuel used in cooking because of its affordability in the household expenditure. She prepares some of her dishes inside the kitchen, and others outside the kitchen space, on the landing of the rear shared apartment staircase. She reasons that her neighbors never use that staircase so she has the opportunity to use the landing part of it. The added advantage is that her apartment is situated on the top most level, so as it turns out, it is just her and her immediate neighbor who use the rear, fire escape staircase; moreover, her neighbors permanently locked their rear door (See figure 5.34). In her own words she narrates,

“I do the cooking outside the kitchen—we prepare the food inside the kitchen but we cook it outside. I rarely use the electric cooker because of the electric bills. I only use the cooker in the morning for preparing breakfast. In the evenings we still use charcoal for cooking. We use the backside of the apartment since people do not pass through that side. The back door of my immediate neighbors is permanently locked so we use the stairs and the staircase landing. We place the charcoal stove on the staircase landing

The respondent explains how the household prepares the food inside the kitchen, but cooks it outside. Because of the high cost of the electricity, she says that she only uses her electric cooker in mornings to prepare the breakfast and other light meals; she uses the charcoal stoves to cook meals in the evenings. They place the charcoal stove on the landing and it is her house maid who does the cooking while she gets help from the second girl who lives in the apartment. She loves to pound her groundnuts using a traditional mortar and pestle, reasoning that the taste of the sauce from the nuts pounded in that way is very different and special from that where nuts are crushed using an electric appliance. She even goes ahead to describing how she prepares proper and tasty traditional groundnut sauce. Asked about how she manages to keep down the pounding noise made by the pestle and mortar she explains how she pads the floor where the mortar is placed. The apartment has no veranda or balcony but the staircase landing improvises for that

The maid sits on a low stool to prepare the food, for instance, but stands and bends over to wrap the bananas traditionally in their leaves and place them in a saucepan, which is placed right on the floor of the kitchen. The respondent explains,

“The house girl sits on a low stool as she cooks; but she stands while she is wrapping the peeled bananas with the banana leaves to make them ready for steaming. I use a lot of banana leaves .I have charcoal saucepans and I have those I use on the electric cooker; I do not mix them”.

If she is cooking on the modern electric cooker, she simply stands as the norm is. She explains the types of body movements she makes while cooking or preparing food to be the up and down movements which are made in pounding foodstuff; the circular ones made in mingling the traditional bread, such as millet bread, or she can make circular movements of stirring while preparing or cooking food.
**Utensils**

The respondent uses the woven African winnowers/trays for either winnowing or drying up foodstuff. She possesses the standard modern saucepans, and cutlery; and has a mortar and pestle (both iron). She has charcoal saucepans and she has those she uses on the electric cooker; she does not mix them. She possesses a traditional African pot which she uses in cooking, and uses a lot of banana leaves which she buys together with foodstuff when she goes to the food market. She has baskets of various shapes and sizes, as well as small plastic buckets where she keeps her dry foodstuff such as flour (See figure 5.33).

**Washing up and Storage**

She explains, “*We do all the washing up in the kitchen sink. We always store water in jerry cans in case of shortages and lack of supply*”. The respondent has built in storage cupboards complete with shelves which are used for large saucepans, bananas, potatoes and banana leaves.

![Figure 5.33 Case 3, kitchen storage](image)

Fresh bananas or potatoes are poured directly on the cement floor so that they keep cool and fresh in the hot tropical heat. Dry food stuffs are kept in small containers and stored on shelves. The storages are also used to keep saucepans and an assortment of other household items such as baskets, hurricane lamps, jerry cans and other containers. On storage she says,

“*My fresh food does not get spoiled if I place it on the floor; at least it lasts for one week. We put it on the floor, some on the shelves and some in the cupboards. We used to store charcoal sacks on the stairs, we now put it up there, but sometimes it gets stolen*”.

Utensils are stored in the kitchen built-in storage as well as on kitchen shelves. Bigger items can be either stored on shelves in the stores.
Evaluation of the Kitchen functions by the respondent

The respondent complains about the small-sized kitchen, and how she would love to work in a bigger one. She has no problem with its location of being near the front entrance to the flat, and next to the dining room and well connected to the dining room. She is satisfied with the storage spaces, however, she points out how old fashioned they are by being shelves instead of being modern cupboards and drawers which can be closed. She says,

“I think the kitchen is old fashioned, it is not spacious. It does not have space for a fridge or a dish washing machine; in all it does not have enough space. I think it was fancy in design, and not even well designed. I think I miss where to peel from, that is a space for traditional preparation of a matoke meal in the saucepan, to make it ready for the steaming process”.

She adds that she needs a space where she can properly mingle the traditional bread made out of maize flour or millet.

![Figure 5.34 Case 3, charcoal stove cooking at the staircase landing](image)

She longs for an airy space where she can keep her bunches of bananas because they get stolen when they are kept outside. She says,

“What is missing in the kitchen is a place where peeling food can take place, a place where one can properly do the wrapping of the banana leaves for preparing a matoke meal; and a place in which one can properly mingle a meal of millet or maize bread, a place for those activities which we carry out outside the flat. If we had space in the kitchen we would do them inside. I could do better with a more airy space where I can even keep banana bunches”. The kitchen space is squeezed. I would have loved to have a kitchen table inside the kitchen from which the workers,
for instance could have their meals. I would prefer to have another space, not located in the main kitchen, to carry out kitchen related activities”.

She needs large cupboards and shelves; and more light and ventilation in her kitchen. The sunlight is very poor in the kitchen space to the extent that electricity has to be used when it is not a sunny day. The respondent reports that if her kitchen was larger in size she would have loved to have a table placed there where domestic workers can have their meals. She would also prefer to have a separate well defined space for all other kitchen related activities. Such a multipurpose space can have enough light and she would use the space for pounding and peeling food stuff, or for the charcoal stove cooking. Another issue with which she is not comfortable with is how a worker comes into the apartment from the outside cooking area with dirt on her feet. On domestic workers she says,

“I have to educate these girls from the village on what to do. It is rather cumbersome to keep on repeating the education because when one goes, another new one comes- and this keeps on repeating”

She would love to have an intermediary space where dirt can first be cleaned off before entering the main area of the apartment.

Smoke and soot is a problem because the wind blows from the staircase area where charcoal stove cooking takes place, into the apartment.

“Smoke and soot is a problem because the wind blows it from the staircase cooking area into the flat. The soot particles find their way into the flat so I tell the house maid to light the charcoal stove right down at the ground level of the flat”.

She hopes that in the near future with some innovations taking place she will cook with a type of fuel which does not emit smoke or soot. She hopes to purchase a gas cooker when she gets the needed resources so that she can restrict cooking the traditional dishes on the charcoal stove to weekends only. She comments that if the apartment had been designed with a balcony then she would have used it for cooking.

**Summary of Case 3**

Since the apartment was constructed in 1950’s during the colonial regime, the kitchen design and fittings belong to that era, and hardly any alterations has taken place ever since. Original shelves are still in place for keeping utensils. A “nook” for placing a cooker which had been provided then in the kitchen wall is still in place. A fixed cantilevered concrete slab which had been designed in the kitchen is still being used for placing and serving food. The kitchen has good attributes in that some thoughts had been put into the functionality of the spaces, although the needs of the targeted users at that time were different from those of the users of today. The targeted users were probably meant to be either singles or young couples belonging to the white collar working class of the colonial era. The design of the kitchen in this case looks like it had
been concisely done with some considerations of the activities which were expected to take place then by the users. Ample storage space had been provided in terms of enclosed cupboards. However, these storage cupboards which have well fixed shelves may not prove to be very useful for storage of unprocessed raw food such as sweet potatoes, green bananas, pumpkins, etc which the respondent purchases. She stresses her need of keeping the raw food cool and airy. In search of such a solution she pours it straight on the store floor which may look untidy and unhygienic. Writings of Mother Anna (1940) refers to the African way of living as being primitive; hence the design of this apartment could not have taken any African way of living into consideration.

The respondent finds the kitchen to be too dark for use as it has no window and she has to use electricity during the day. The respondent’s most often consumed dish is the traditional plantains which necessitates her to cook it outside the kitchen because of the charcoal stove. Food preparation takes place inside the kitchen but the rest of actual cooking has to move out. The fire escape staircase area has been utilized as an outer kitchen area. She, hereby, carries out spatial negotiation and reinterpretation of the existing staircase area in order to fulfill the necessary food related activities. This creates inconvenience and loss of time in having so and many movements in moving up and down the steps so many movements and loss of time spent in cooking. Therefore she expresses her need of a more conducive space for preparing and cooking mainly traditional dishes. She complains of many unsatisfactory aspects of the kitchen design which include lack of sunlight, inadequate kitchen space, no kitchen window, etc. Here she by using the fire escape apartment staircase.

During the kitchen design evolution, the housing research in Europe considered easing the housewife’s work in the home by redesigning the kitchen area in order to minimize the movements as well as time spent in the kitchen (Bullock, 1988). The key informant on housing research in Sweden narrates on how the kitchen design developed in Sweden as housing research was carried out. In comparison to the current situation of this apartment design, the housing shows how it is not connected to the way of life of the present user, the respondent, therefore, smoke and flue from charcoal stove cooking and food roasting penetrates the apartment affecting the lives of the occupants. Nigel et al (1998) and other authors including Nyström, (1993, 1998); Westhoff, (1995) and Sarin et al, (1989) write on the dangers and health hazards which result from smoky do the cooking of the household. Westhoff (1995) argues that it is the social lives of females who are in danger because they do most of the cooking in the developing countries.

Employing house maids looks to pose a problem. The respondent narrates how she has to train a house maid afresh every time she gets a new one. The architect key informant mentions how hard it is to get a well trained domestic worker for an urban household. The architect talks of how the house wife can be away at work during the day and when she returns she may be too tired to do the cooking for the household. So employing a domestic worker is most likely to be indispensable. The traditionalist suggests that training of domestic workers is vital as designing an urban kitchen to suit an untrained worker is out of question.
5.4 Apartments designed in late 1960’s/early 1970’s.
Cases are taken from the Bugolobi housing estate which is located at Bugolobi hill-situated at approximately 7 kilometers from the central business district of Kampala (Figure 5.35). The apartments (872 housing units) were constructed in late 1960’s/early 1970’s during the reign of the infamous President Idi Amin by the then National Housing and Construction Corporation, which has since changed its entity to National Housing and construction Company Ltd. The apartments were, at that time, constructed as executive flats but they have had occupants of varying income levels to date, even when they are now privately owned by individuals having different income levels.

![A block of apartments in Bugolobi estate](image)

A number of Management Committees with Boards within the estate have been formed, after the apartments were sold off, and each board is responsible for a few blocks of apartments. The board takes care of the common facilities of those blocks such as car parking, security, garbage collection, gardening, roads and planning for future developments. As a result the general conditions of the apartments and the estate on the whole has noticeably improved ambience. Each apartment has its own electricity and water meter, but shares other common facilities within its establishment. Each apartment block has a specially constructed garbage area beside it where the residents of the block throw their garbage for regular collection.

5.4.1 Case 4, a 3 bed roomed apartment

**The apartment**
The 3 bed roomed apartment is located on the first floor level plan of a 3 bed roomed block of flats in the Bugolobi housing estate. It is accessed through the common staircase flight which is one of the four staircases that serve the block. (Figure 5.36). The apartment block lacks fire
escape flights of stairs, just like the rest of the blocks in the estate. The architectural floor plan allows an entry to the apartment through a small lobby from which accessibility can be made to the rest of the apartment. The apartment has been renovated after the occupant bought it from National Housing and construction Company ltd. She has refurbished it by fixing new doors and windows with mosquito mesh shutters. She has finished the floor with ceramic tiles which are easy to clean. The apartment is well supplied with electricity and water from the NW&SC. The plumbing system for wet areas of the apartment (WC, bathroom, kitchen) is working well as the sewage leads to the estate sewer which leads to a lagoon in the Bugolobi wetland below in the valley. Garbage is collected from the kitchen and thrown away in a garbage area which has been specially constructed beside the apartment block. A private firm hired for the purpose comes regularly to collect the garbage from the area.

Figure 5.36 Case 4, apartment floor layout

Household
The owner-occupier of the apartment is a single mother in her fifties, who works as a civil servant in the Ministry of Gender, Labor and Social Development of Uganda. She has two, children who are in their late teens and attending boarding secondary schools. They live with a live-in-house maid, who is in her twenties. The house maid does most of the cooking, being helped at times by the children when around. The respondent chooses the food to be cooked and the details of cooking but rarely cooks. The house is fully furnished with all furniture in place.
Cooked food is placed in bowls and brought to the dining table for consumption. The household eats together, with the maid inclusive, but sometimes the maid has her meals in the kitchen.

**Kitchen**
The kitchen space is entered through the dining place of the apartment. It is a narrow space having been designed and built that way (Figure 5.36). There is an adjacent utility area which the respondent has worked on to create an outer kitchen for charcoal cooking, in addition to the main one (See figure 5.36 and 5.37). She has fitted the space with storage cupboards to create badly needed storage space for bulky stuff. She has finished the worktop with a fireproof metallic base for placement of the charcoal stoves in use. She has fixed a window which allows in some daylight but little ventilation. She has also renovated the toilet which is allocated to this space. She has finished the main kitchen floor in ceramic tiles and painted the walls in a light colored paint to reflect the light. She has fitted in storage cupboards in the available space (See photos figure 5.39). She has a gas cooker as well as a fridge. The respondent’s kitchen is well fitted with a single basin-double drain steel sink, but there is an extra portable drainer for drying utensils.

**Food**
The main staple food is plantain/bananas (matoke), then others include cassava, sweet or Irish potatoes, yams, rice, pumpkins, and chapatti. Commenting on staple the food, the respondent says,

“Rice is not traditional yet it is now the staple food in my house. I like the traditional food. My staple food is matoke, and I like it steamed. Any other non-traditional food stuff includes cereals, chapatti, doughnuts, potato chips, etc. The children can take cereals but I take traditional beverages, such as tea with lemon grass, “mujaja” (a local plant)”

Other food stuffs are different types of meat, chicken, fish, ground nuts, peas, beans, and various vegetables. Lighter types of food known as snacks included doughnuts, roasted groundnuts, samosas, and potato chips. Hot beverages include different types porridge made from maize, soya or millet.
Figure 5.37 Case 4, the apartment kitchen floor plan

Food Preparation and Cooking
Cooking is done either on the gas cooker or on the charcoal stove (Figure 5.37). The charcoal stove has to be taken outside the apartment block, in order for the charcoal to be lighted, and it is brought back inside when the fire gets ready. This is to control and keep out the issuing smoke as the charcoal catches fire. The respondent prepares her main traditional dish of bananas by steaming it in banana leaves in a saucepan over the charcoal stove. Bananas are also boiled in another form in which they were mixed with different choice ingredients such as beans, peas, meat or groundnuts, to make local dish known as “katogo” Cassava is boiled, fried or steamed by placing it on top of the steaming bananas (matoke). Cassava flour is also mixed with millet flour to mingle the millet bread popularly known as “kalo.”
Figure 5.38 Case 4, peeling plantains in the modern apartment kitchen

Sweet potatoes are steamed on top of matoke, and Irish potatoes are either fried, or boiled; and pumpkins can be stuffed with beans, for instance or steamed over the bananas (placed and covered within the covered bananas in leaves over the charcoal fire.). Pan cakes locally known as chapattis ware made out of wheat flour, eggs, and other choice ingredients. Dried fish is mixed in ground nut sauce. Beans and groundnut sauces are served along with staple foods. Ground nut sauce is prepared by first roasting the nuts and then grinding them at home with an electric blender. Meat stews are common, and chicken is first roasted, and then prepared in stew form. Few snacks are prepared in the form of roasted groundnuts, potato chips, samosas, and doughnuts. Hot beverages include different types of porridge which is made from maize, soya or millet. The respondent says that she would have loved to consume other types of sauces but she does not do much cooking and the house maid does not know how to prepare them.

Utensils

The respondent has a regular assortment of utensils which are normally the western types of cutlery, plates and cups. She does not have any marked traditional utensils for use in the apartment, and according to her she does not prepare or consume much of the traditional dishes, apart from the steamed plantains.
Washing up
All washing up of utensils is done in the kitchen sink. Extra water basins are used to help in washing utensils. The respondent keeps jerry cans of water at stand by as at times the water supply could be cut off.

Storage
A bunch of bananas is normally placed in the outer storage space-cum-outer kitchen, leaning against a wall. Cassava is peeled and stored in the fridge, while fruits are kept at the dining table. Various types of flour are put in plastic bags and kept in cupboards, while the rest of the bulky food stuff is stored in the cupboards located in the outer storage/kitchen space. A lot of utensils are stored on top of the kitchen worktop. The respondent stores her sacks of charcoal in the outer charcoal stove kitchen.
Evaluation of the Kitchen functions by the respondent

The respondent considers the kitchen size to be small. Drawers are not big enough to accommodate bigger kitchen items, which are thus placed on the kitchen worktops. The housemaid complains that she lacks a stool on which she can sit and carry out her domestic chores.

The respondent says,

“The kitchen is badly designed. I would love to see a well designed kitchen with a chimney, with places where a gas cylinder is supposed to be and a cooker. I need a place where to put a working table. I would like to have a place I can hang towels, spoons and other things for immediate use. Peeling matoke can be done in the store (outer kitchen). I would not like it to be peeled in the kitchen (main kitchen)”.

Figure 5.40 Case 4, outer apartment charcoal stove kitchen

Figure 5.41 Case 4, cooking in the outer kitchen

The respondent takes precaution in case the fresh brown and sticky fluid that comes out of fresh green bananas spoils surfaces of the tidy, modern kitchen. The bananas can be peeled in an outer space and brought to the main kitchen. She, however, added that she needed an appropriate place
for food preparation. She expresses her desire to have the outer store/outside kitchen in a cleaner state, but in spite of the charcoal dust she uses it for cooking her food as long as her food is covered. Although she cooks her food in the outer kitchen she is not satisfied about it because of the dust the charcoal raises; however, she says that since she does not have any other alternative at the time to change the situation, she can ensures that she covers the food properly as it cooks. She suggests that food preparation would need a separate space, away from the main kitchen area. Nevertheless, she argues that she is generally comfortable with her outer storage/outer kitchen. She says that it offers her a better option because in any case charcoal stoves cannot be placed in the main kitchen, where she cooks on gas. On food storage she mentions how the present kitchen has no food store. She says,

“I would like to have a provision, an airy space, where I can put some fresh food stuff, like in a supermarket where they put potatoes, onions, tomatoes, etc. This kitchen does not have a food store which should be attached to the kitchen where we would like to have saucepans on shelves. The gas cylinder is out; I would like to have it in a drawer. We lack ventilation”.

The respondent suggests that the kitchen needs an extra store for more general items.

Commenting further on storage she adds,

“Matoke bunches need a store; I would like to have them in a charcoal store, an attachment with a lot of ventilation. We are supposed to light the charcoal stove out, but when I am not there the maids do it inside the flat. They also break the clay stoves on the stairs”.

She would like to store her saucepans on open shelves in a store; and also to have open big shelves for food, because of the hot, tropical climate. Food like potatoes, onions, tomatoes could be stored like that. On ventilation, the respondent comments that her kitchen lacks enough ventilation and light. She says,

“The sunlight in the kitchen is very little. The doors are not opened and the window is small. Then we have a small window in the store, small window in the kitchen, and the big sitting room window is very far”.

A fixed mosquito net had been fixed in the kitchen window and that slows down the air movement and limits the amount of light which filters through into the kitchen area. At times she has to use artificial light during the day to be able to see well.

Domestic garbage disposal is taken care of by collecting it in a bucket and throwing it away in a collective garbage area situated by the side of the apartment block. Here it is regularly collected by hired garbage collection trucks which dump it at the designated area.

Summary of Case 4
The kitchen size is very small and narrow. The shelves inside the modern cupboards are not designed with enough height to accommodate storage of larger kitchen appliances and other large
domestic items. The kitchen is well equipped with a modern fridge and a gas cooker; however the lantern lamps on top of the fridge imply the unpredictable power cuts of the electricity supply (See figure 5.39). The apartment kitchen storage space is not adequate and that necessitates the user to have many items placed on the kitchen worktop. High level storage cupboards can create more storage space for lighter items. The kitchen window is designed too small to bring in enough light. Ventilation is a problem in the kitchen. A kitchen food store is important but the apartment was designed without any.

The outer utility area was originally a good design idea because it was multipurpose in use, and there was a heavy duty cast iron sink which was useful, too, for laundry work. However, the respondent has reproduced this space by having an outer kitchen for charcoal stoves, nevertheless, ventilation and daylight need to be increased. Storage of charcoal next to the cooking area is worrying, but the respondent points out that it is a temporary measure. The respondent expresses her utter need to have a place where she can cook traditional dishes on a charcoal stove. She reproduces space by converting the existing utility area behind the kitchen into an outer charcoal stove kitchen. The respondent speaks of a number of unsatisfactory spatial needs in the kitchen, such as lack of airy and ample food storage, more storage for utensils, a better place for preparing traditional meals, adequate sunlight and ventilation in the kitchen, a proper storage for charcoal, and an extractor for smoke. This number of problems encountered by living in apartments in Kampala support the argument mentioned by two key informants that it is not possible to design an apartment for the traditional African way of life. On the other hand more apartment blocks are being constructed in Kampala most likely for commercial reasons and not responding well to social and cultural ways of living. The traditionalist academician raises the issue of the increasing cost of land in Kampala which calls for optimization of space in planning and development. This seems to create a clash of interests on what is commercially viable and what is socially or culturally logical and practical.

5.4.2. Case 5, a 2 bed roomed apartment

The apartment

This apartment is located on the ground floor of a 2 bed roomed block. (See photo figure 42.). It is accessible through a flight of four steps at the beginning of one of the main four staircases of the block.
Figure 5.42 Case 5, entrance to the apartment

The entrance to the apartment passes through a small lobby which leads into the sitting room, the dining room and to the rest of the apartment (See diagram figure in 5.43).
Figure 5.43 Case 5, the apartment floor plan

The occupant carried out selected renovations and repairs by replacing some doors but leaving the original windows. The apartment floor is not worked on as it remains finished in the original p.v.c floor tiles placed on cement screed floor. The furnishings are modest, consisting of the basic furniture of a household. The occupant did not fully carry out renovation, for instance the bathroom was partly renovated, and that means the old bathtub was replaced, and the floor finished with some new ceramic tiles but the bathroom walls remained painted as before. The respondent is a member of one of the estate management committees where the maintenance of common facilities is taken care of, as in case 4 above. The apartment is connected to both electricity and water, and garbage is disposed of in a similar manner as in case 4 above.

The Household
The occupants are a couple both in their thirties, the husband is an army officer and the wife is self-employed in retail merchandise. They have three children: two teenagers in secondary school and one nursery going child. The couple employs a live-in-housemaid who is in her twenties. The maid does most of the cooking but she can be assisted by the housewife, at times, and children prepare light snacks like doughnuts (locally known as “mandazi”) or French fries, when they are in their holidays. The housewife can be more involved in preparing supper in the evening, when she returns from her work. She has to be in charge all what takes place in the kitchen, even in her absence, in the sense that she controls what should be cooked. The household consumes their
meals either at the family dining table or casually while seated in the sofa sets in the sitting room. The maid may sometimes eat with the family, or take her meals in the kitchen.

**The kitchen**
The kitchen is accessed through the dining area (Figure 5.43). It has a stainless sink where utensils can be washed. The respondent has partially refurbished it after purchasing the apartment from National Housing and Construction Ltd. She has made some improvements on her kitchen by fitting in low and high level storage cupboards, and double basin-double drain sinks. The fittings are done in local timber, having been worked on by a local artisan (fundu) (See photo in figure 5.45a). She, however, did not work on the walls and the floor remained finished in the original terrazzo. She did not work on the outer utility space either, as it remained in its original state.

![Kitchen Floor Plan](image)

**Figure 5.44** Case 5, the kitchen floor plan including the outer utility area

Jerry cans are a common sight in the kitchen space because of their use when the water supply gets cut off. The respondent keeps a kitchen table, which, in her case, serves as extra storage space as well as a work table. The kitchen space cannot accommodate the fridge as it is placed in the dining area and the cooker is partly in the doorway to the outer space (Figures 5.45b and 5.47). A gas cylinder indicates use of gas for some occasions. Many items are placed or stored on top of the kitchen worktop and on the cupboards’ top. The storage space within the cupboards is rather limited both in size, and quantity.
Food
The staple food mostly consumed comprises of plantains/bananas (matoke). Then the main dishes include the millet bread made from a mixture of cassava and millet flours; cassava, Irish potatoes, rice, sweet potatoes and pumpkins. Sauces are made from meat, chicken, vegetables, and groundnuts. Fish can also be mixed in sesame with groundnut paste. Leafy vegetables are also consumed. Other sauces are made out of peas, beans, fish, and a variety of leafy vegetables. Types of sauces which require elaborate preparation are less often consumed as they are
preserved for “big” days, and that includes stews prepared in steamed special banana leaves; a
dish locally known as “luwombo”. On consumed food she explains,

“We mainly cook matoke. We steam it with banana leaves over a charcoal stove. We put on top it
cassava, pumpkins, potatoes which also get steamed. We deep fry “gonja” we also have the
katogo for the weekend or late at night when you are late and you do not have enough time to
cook for long. We make that (katogo) of offals or beans. We also deep-fry cassava. I have millet
only in the weekends when I have a visitor, say, from the village then I can prepare it. As for
maize we make kawunga (posho or maize bread) out of it. We also steam posho. We consume this
bread which we buy. We sometimes fry potatoes like we do cassava into chips. As for Irish
potatoes, we boil them, fry them, or make chips out of them. We steam pumpkins on top of food.
We eat chapatti, sometimes I buy them. I boil rice, fry it or steam it over the food”.

Frequent beverages include maize or millet porridge, tea, and a variety of fruit juices. For light
snacks the respondent prepares cassava pancakes, sesame balls, doughnuts, and sweet potato
chips. She also roasts soya beans or groundnuts; as well as grasshoppers when they are in season.
Nontraditional dishes consumed in the household is considered to be all fried food, macaroni or
spaghetti, chapatti, French fries and cakes.

**Food Preparation and Cooking**
Bananas are steamed in banana leaves, using saucepans and cooked over the charcoal stove. On
top of the steaming bananas, potatoes, cassava, pumpkins or greens are placed so that they can be
steamed together with the main meal. Stews are common and meat can be dried, too, and mixed
with vegetables or groundnut paste. She does not pound her food stuff, as she says,

“We do not do any food pounding. I do not have a mortar here. I buy already pounded ground nuts. We
identify people who do good ones”.

Chicken can also be prepared as stew, or charcoal roasted. On the whole, frequent dishes include
the local traditional steamed bananas, maize bread commonly known as “posho”, and bananas
mixed with an assortment of ingredients to make the dish locally known as “katogo”. On how or
where she prepares meals, she says,

“Sometimes I can sort out food stuff at the balcony or in the store area or in the kitchen. I can be
standing, yes; most of the preparation is done either standing or seated on a stool. Bending over happens
when you are mingling bread. I mingle bread when I am standing. I find it hard when I am seated. I do it
while standing; if I sit I won’t do it well. I cannot mingle bread using the cooker because it is too high”.

There are meals such as millet bread that she prepares on special occasions like once a month or
on Sundays, or when she has visitors from the rural area. Cooking is done by the housewife
helped by the house maid. Children can participate at times by cooking lighter meals. It is all
done inside the kitchen or in the outer storage/utility space, which remains unaltered as originally
designed and built. The respondent discloses that she does not allow the house maid to use the
electric cooker because of the electric power wastage, and the subsequent expense involved.
“We use the cooker for breakfast or late at night for warming up the sauce but the girl does not listen”, she says.

**Utensils**

On kitchen utensils she explains,

“I have mostly modern dishes, such as plates, glasses, etc. I have no woven winnowers, instead I use modern trays. I also use wooden mingling spoons. I used to have a pot but it was thrown in the garbage by my husband. I have “endiro” (a special basket for serving millet bread) only. I use the same saucepans both for charcoal cooking and for electricity. I have electrical appliances and I use banana leaves in cooking”.

She has electrical appliances, such as the electric kettle and juicer. In addition to these modern equipment she uses banana leaves in her cooking (Figure 5.46). Utensils are stored in the kitchen drawers, and those which can not fit there are left on top of the worktop or the high level cupboards.

**Washing up and Storage**

All washing up of kitchen items are done in the kitchen sink and dried up on the drains. The outer utility space which is adjacent to the kitchen is used as storage. She narrates,

“When there is excess food from the village I store it in the small store, I just improvise. Because of the small size of the flat we just improvise and pour excess food on the floor”

Fresh bananas, potatoes and pumpkins are all poured straight on the cement floor to keep them cool in the tropical heat. (See figure 5.46). This staple food is too bulky to store in the kitchen cupboards or in the fridge. Other dry food is stored in kitchen cupboards and drawers. Fruits can be placed on the free standing table in the kitchen. The outer toilet adjacent to the outer utility area is not in use, so the respondent reinterprets that space to be utilized as an extra storage space for sacks of charcoal.

**Figure 5.46** Case 5, storage of food and utensils in the outer utility space
**Evaluation of the Kitchen functions by the respondent**

The kitchen size is considered small and the respondent reports that the space gets easily filled up with kitchen items, which makes it hard to work in. Apart from that the respondent comments that she is satisfied with the location of the kitchen, making it easy to get food from the kitchen to the dining room or to the sitting room. She expresses her desire to have African pots for use, but circumstances do not allow it as she says that she lacks ample storage place not only for food stuff but for domestic items, and for food preparation, as well. She explains,

“I would like to have a bigger store. A food store/pantry is missing in the plan of the kitchen. I would love to have a bigger store where I could place my bigger utensils. We do not have baskets, pots, where can we place them? I would like to have bigger charcoal stoves but I have no place to fit them. I would love to have a place where I can place a mat and sit and peel food, but I have none”.

The outer storage space which is being used as an extension of the kitchen lacks sunlight, and it needs to be better organized. The respondent does not like the idea of having a dining table in the kitchen. She says,

“I prefer the dining table to be outside the kitchen. Does the guest eat in the kitchen? For us Africans we want to hide something from guests so that the guest does not see them. I would like to cook inside the kitchen according to our tradition. Food is not supposed to be exposed to passersby to know what you are cooking”

On food preparation she prefers it to be inside the kitchen, and not to be exposed on the veranda where passersby can note what she is preparing to cook.

The respondent considers the sunlight in her kitchen to be enough. However the outer space which is used as a store/outer kitchen lacks enough light. The original opening that had been designed to let in light and ventilation has been partly blocked.
Smoke and soot seems to be a problem arising from lighting the charcoal stove. It has to be taken right below the staircase or completely outside the apartment block in the parking lot in order to keep the smoke out. It is a nuisance to the neighboring apartments as it can easily spread around. She adds that she is aware of the dangers of smoke, but cannot help the situation. She says, “When we use the charcoal when roasting some food, it brings a lot of smoke in the house and congestion goes into the sitting room. It affects our health. We know the hazards but we cannot help it. Inhaling it is terrible”

The respondent expresses her need of improved charcoal stoves, and an improved kitchen lay out. She considers the kitchen in her apartment to be outmoded; having been designed and constructed in the early 1970’s.

**Summary of Case 5**
The small sized kitchen which was constructed in late 1960’s probably reflects the colonial and neocolonial forces which may have played a role in the overall design of the apartments. The kitchen space is not adequate for both the kitchen equipment and the activities which take place there. For example there is no appropriate space for the gas/electric cooker, except for placing it in the corner, being located partly in the doorway (See photo in figure 5.45b). The fridge cannot fit in the kitchen so it had to be accommodated in the dining area (Figure 5.47). According to Roschke et al, (2007) indigenous food habits have been affected and displaced by the globalized food system, and this may have consequently influenced the apartment design, in the way in which it had been conceived, planned and constructed. The approach did not take into account the
indigenous types of food which would be prepared and cooked there. The respondent steams plantains in the traditional way over a charcoal stove. The other types of food she prepares require her to steam it on top of the plantains. Cooking on the charcoal stove does not seem to be compatible with a lifestyle in an apartment. Two of the key informants mention how apartment designs are probably not meant for the African way of living. Charcoal cooking emits smoke which is a nuisance to both the household in the apartment and to the neighbors. It is also a pollutant to the general environment.

Storage of food and other items is a problem because of the small size of space and its incompatibility with some of the items which needed to be stored. Some plates, cutlery and saucepans could fit in the kitchen cupboards, but other items such as the woven winnower, baskets or cooking pot could not. The respondent reinterpreted the existing space to meet her needs as she has no alternative. She stores her charcoal sacks in a space designed as a second toilet; she places some domestic items and the banana leaves in an unused laundry heavy duty sink in the outer utility space, and at the same time she utilizes the same squeezed space to be as a cooking area for the charcoal stove. In addition, that space lacks adequate sunlight and ventilation.

The traditionalist/academician key informant suggests that modernity is rooted in culture. Probably because of the cultural upbringing the respondent mentions how she is not comfortable with a kitchen which is spatially open to the living area. Such a situation has a kitchen with visual contact with the living room, with no physical barrier in-between; which exposes visitors to details of cooking activities taking place in the kitchen. In the same vein she expresses her desire of having a comfortable place where she may sit on a mat and peel plantains, for instance. In addition she would have loved to use a pot in cooking, and also own other traditional domestic items such as winnowers and baskets, but the small sized kitchen space will not allow such.

5.5 Modern houses in Akright Kakungulu housing estate, designed in 2000’s

The Akright Kakungulu housing estate is demarcated with different areas in its planning and implementation stages for various categories of housing, called ‘villages.’ This is based on diversified housing designs and types targeted at different levels of peoples’ incomes. I have found this area worth considering for my study because of the diversity in housing designs, peoples’ income levels, perspectives and lifestyles, which produce rich information for research. I have been able to carry out research on two different houses in the estate, one being of a middle income household, while the other is slightly of a higher middle income household.

5.5.1 Case 6, the double storied house

The main house and supporting facilities

The double storied house is constructed on a quarter of an acre of land. (Figures 5.48 & 5.49). The building plans of the main house and the guest wing have been designed by an architect. The residence is relatively new, having been occupied in February 2009. The initial planned structures on the plot are the main house and the guest house which includes the servants’ rooms and a store.
room. (See the diagram in figure 5.48). These structures are surrounded by the property boundary wall made out plastered and painted concrete blocks. The owner has constructed the outside kitchen later, making the boundary wall to form the kitchen’s back external wall (because of the space scarcity).

The outside kitchen is a two roomed structure which is constructed and finished in raw brick. The structure’s roof is out of corrugated iron with a mono pitch. (See the photo in Figure 5.53). The servant’ rooms are part of the guest house which includes a store, as well. An underground concrete storage water tank has been constructed and is in use, as well as a high level one. A rain water tank is also in place to store the harvested rain water (See drawing figure 5.48). The property has not yet been connected to the National Water and Sewerage Corporation because the management of the estate has not yet completed all the required modalities. The occupant have to devise other means of bringing water to the property, buying some and storing in the underground tank from where it is pumped to the high level one and distributed to the premises for use (See drawing in figure5.48). Other smaller structures on the plot include a fixed free standing rack for drying utensils and a temporary multipurpose storage shed made out of corrugated iron sheets.

Figure 5.48 Case 6, structures on the plot
The ground floor plan has the kitchen, dining area, sitting room, food store, two self-contained bedrooms, a front veranda, and a kitchen back veranda (See figure 5.50). There are two entrances to the house, the main one which passes through the front double doors and leads straight into the sitting room, and the rear one which passes through the back door and leads through the kitchen. It looks like the front door entrance is rarely used as I only observed the constant use of the back door which leads through the kitchen. (See the diagram in figure 5.50)
The main house plan has been slightly altered during construction; however, I focused in this study on the alterations which have been done on the main kitchen plan. The initial dividing wall separating the kitchen space from the dining area has been reduced to a dwarf wall with a counter to create visual connection with the rest of the living areas. (Figure 5.50).

The room which had been originally designed as a toilet located next to the main kitchen has been altered during construction to create a kitchen store which eventually works as a multipurpose storage.

**Household**
The owners are a retired couple, both in their sixties. Their grown up children who are all in their 30’s live on their own. The couple has two domestic workers in addition to security man who guards the premises 24 hours. The man has been a high court judge while the lady has been a nurse-cum-banker. The couple has a house boy who assists the housewife in doing domestic chores, and there is a part time second domestic worker who takes care of other miscellaneous work such as the gardens, general cleaning and running errands. The housewife prepares and supervises meals; especially she has to make sure that the traditional ones are well done. The family takes meals together at the dining table, while the workers take theirs in their premises. The couple prefers their meals, as a priority, to be elaborately prepared and cooked in the traditional way.

**Kitchen**
There are two kitchens for the household: the main modern one which situated in the main house; and the outside one which is a detached structure. (See figures 5.48 & 5.51).

![Diagram of outside kitchen and the fixed wooden rack](image)

**Figure 5.51** Case 6, Plan of outside kitchen and the fixed wooden rack

The modern kitchen is well finished with ceramic wall and floor tiles which are easy to clean. It is fully furnished with modern appliances such as an electric cooker; fridge and a microwave oven (See photos figure 5.52). The open counter connects the kitchen space with the rest of the
adjoining spaces of the dining and living areas. The kitchen has a wide window which allows in adequate daylight and a second window right across the counter, which is located in the dining area and provides the much needed cross ventilation. The original plan of the kitchen has been altered by reducing the full wall (to a dwarf one) separating the kitchen space from the dining and living areas.

![Image](image1.png)

**Figure 5.52** Case 6, photos of the main kitchen

With the counter in place, ventilation and lighting for the kitchen seems to be satisfactory. The main kitchen has ample storage space created by the cupboards, both high and low level. A specialized kitchen equipment supplier had been subcontracted to install the kitchen fittings. There is a kitchen store which is at the time used for storing an assortment of domestic items and other related items, as well as food. The space for the kitchen store which is located adjacent to the kitchen space had been previously designed by the architect as a toilet but the client realized a need for a store, hence the change.

The outside kitchen structure is built out of burnt clay bricks which remain unplastered, and is roofed with corrugated iron sheets, unlike the main house which is roofed with burnt clay tiles. The structure is two roomed with each room having its own door opening; one room is used for cooking, while the second one is a store.

![Image](image2.png)

**Figure 5.53** Case 6, The outside kitchen
(See figure 5.53). Holes had been left out in one of the side walls of the outside kitchen mainly for ventilation and probably for light, as well. The space used for cooking has much simpler furniture than that for the main kitchen. There is a small table and a low stool which the respondent or the house boy uses while cooking. Food items are placed directly on the floor to get the cooling effect.

Food
On traditional food the respondent says,

“I do bring my millet from the village; I pound it, winnow it and take it to the mill to get flour. I can sit in the store, on the veranda or in the compound and prepare the millet by pounding, winnowing or sorting it. The way I prepare the traditional food is not really the proper way which I was taught. This being Kampala, I am unable to do all what is required; it is not possible as you cannot handle all what is original”.

The main traditional dish eaten is bananas (matoke). Other major traditional types of food are bread mingled out of millet mixed with cassava; the rest include potatoes, pumpkins, and rice. She says,

The most frequently cooked food is potatoes, cassava, gonja, pumpkins, and rice. I rarely prepare millet or maize bread. The millet is consumed like once in two to three months. I prepare special meals such as stuffed pumpkins once or twice in one year when it is Christmas or Easter. The most often consumed everyday meals are cassava, matoke, pumpkins, potatoes and gonja. I steam the matoke in banana leaves and I steam the pumpkins or the potatoes on top of the matoke. I mostly cook the main meals on the charcoal stove in the outside kitchen while I prepare the sauce on the cooker in the main kitchen.

The family brings excess food stuff such as a sack of potatoes or millet when they travel upcountry.

Food Preparation and Cooking
The respondent explains why she uses two types of fuel, “I use both electricity and charcoal in equal measure. I use the cooker to prepare different types of sauces at the same time. I use these two types of fuel because that is what is easily accessible to me. For instance now the electricity power has gone so I can use charcoal. If I do not have cash at hand I can go to my charcoal supplier and I get a sack of charcoal on credit.”
Preparing meals at times requires coordination with the main kitchen and related spaces such as the food store or dining area resulting in walking to and from the main house a number of times. For instance, I have observed her as she prepares a dish out of smoked meat while standing beside the worktop in the modern kitchen. (See photos in figure 5.54). Prior to that she had used the charcoal stove placed in the outside kitchen to smoke the meat, then has continued the process in the main kitchen, and goes back to cook it in the pot in the outside kitchen. She uses a kitchen table purposely made with a worktop finished in granite to ease her kitchen work. The use of space around the two kitchens includes the veranda of the main house where a domestic worker is observed seated while pounding ground nuts using a mortar and pestle. (See figure 5.55).

On cooking and serving food she comments,

“When food is ready, like the millet bread, I place it in the special millet basket (figure 5.56) while the matoke or potatoes are served on a plate. When I prepare sauce in the outside kitchen I pour it in a saucepan when it is ready, and I bring the saucepan to the main kitchen where I serve the meals from my kitchen table. If I cook in the pot, I pour the contents in a saucepan and bring it to the main kitchen. As for consumption we do it strictly in the dining room. We sit at the dining table as a family and eat together”.

The workers took their meals in the outside kitchen or in their quarters.
Cooking the traditional food of plantains requires the respondent or the worker to first peel the bananas, and then wrap them in fresh green banana leaves, before placing them in a saucepan. The saucepan is placed on a charcoal stove, for the plantains to steam (See photos figure 5.57). This type of cooking does not seem to fit in the modern kitchen because of what it is associated with. Lighting the charcoal stove requires one to be out in the open air where the smoke can easily escape. Some other food stuffs (potatoes, pumpkins, rice or greens are steamed over the main bananas dish (in the saucepan) as it cooks over the charcoal fire. Unlike in the main kitchen, items are placed on the floor in the available space as food preparation and cooking takes place. Charcoal stoves are placed on the floor necessitating the respondent to bend over as she prepares meals (See the photos in figure 5.54). Alternatively the respondent sits on a low stool to ease herself as she prepares meals over the charcoal stoves.

Cooking is carried out by the respondent and the house boy. The husband does not know how to cook although he only tries to participate a little when the children are visiting.

Locally bred chickens are slaughtered, at times, and this is done by the houseboy in the space beside the outside kitchen.

**Utensils**

The respondent has an assortment of both western and African traditional utensils which she categorizes into those of everyday use, those belonging to the outside kitchen, those for occasional use, as well as the special ones for use in the main kitchen. Her utensils include big woven traditional winnowers, different sizes of mortars and pestles, special baskets for serving
millet bread, as well as other types of baskets for everyday use (See photo in figure 5.56). She has charcoal saucepans, and a wide range of types and sizes of jerry cans.

The respondent elaborately described all other utensils she has

“*I have plates, various cutleries, wooden spoons used in preparing sauce, and for serving on the table. I have the woven African winnowers for the outside kitchen. There are bigger aluminum flat trays, and I have other different types of trays, such as the steel ones for carrying food to the table and I have wooden, local ones as well. I have mortars and their matching pestles of three different types....*” *I have a special basket for serving millet bread, as well as other types of baskets for other uses. I have plastic tins for the outside kitchen. I have jerry cans of different capacities ranging from 1 liter to 40 liters. I have various types and sizes of saucepans, such as those strictly for use on the charcoal stove in the outside kitchen*”.

![Figure 5.56 Case 3, baskets for serving the traditional millet bread](image)

**Figure 5.56** Case 3, baskets for serving the traditional millet bread

She makes it very clear how she has differentiated items meant for use in the main modern kitchen from those which are used in the outside kitchen.

**Washing up**

Washing utensils is done in the main kitchen sink. Utensils are drained in the drainer and when dry are stored in the cupboards. The respondent sometimes fetches water from the outside tap. The household is temporarily using the water which is commercially bought and poured in the water tank. This is because the process of connecting water from the (NW&SC National Water and Sewerage Corporation) has not yet been completed. Rain water is also harvested and stored in the underground water tank. Jerry cans are used in fetching and carrying water to the places where it was required. Dishes mainly used in the outside kitchen are washed outside and dried in the open on the fixed wooden rack close by (See figure 5.).
Storage
The respondent stores her food in stores and in the fridge. She brings certain vulnerable foods such as sweet bananas inside the main house store. Smaller amounts of food like vegetables, tomatoes or green peas are stored in the fridge. She says,

“I store the food in stores outside and in the fridge. I bring things like sweet bananas inside the main house store. I store vegetables, tomatoes or green peas in the fridge. We have a shed which is well roofed, having well covered sides which were purposely made for storing sacks of charcoal”.

She stores dry food in the food store. The household has a well constructed shed which is purposely put up for storing sacks of charcoal. Excess foods like potatoes are poured straight on the cool cement floor of the store situated in the guest wing. A bunch of bananas is placed on the floor of the outside kitchen to keep it cool. The items which are designed for the outside kitchen are stored there. Such items which may look less modern and more traditional or those which may look are too big to fit in the modern kitchen storage belong to outside stores.

Figure 5.57. Case 6, Scenes inside the outside kitchen where various items used in cooking are stored, for example for steaming food using banana leaves. The photos show a mixture of both traditional and modern utensils in use. Items are placed directly on the floor.

The respondent has a well thought out plan of handling the household garbage disposal from her kitchen. She sorts it out into organic and non organic stuff; and has different garbage containers inside the main kitchen as well as outside in the backyard by the perimeter fence. (See the photo in figure 5.58)
Figure 5.58 Case 6, garbage sorting bins

Evaluation of the Kitchen functions by the respondent
The respondent talks narrates,

“The main kitchen is big enough for me. Even the outside kitchen is enough for me; I can use a total of three charcoal stoves inside. I think the location of the main kitchen is proper. There is nothing I want changed; it is enough for me. The cupboards and drawer places are big enough, except the upper high level ones which are too high and out of reach for me to use. For the outside kitchen I put things on the floor because there are no shelves. I like to put bunches of bananas on the floor to keep it cool. I think my kitchen is properly designed and is spacious enough; and I do not have to make a lot of movements. It is well designed. I do not have anything lacking. I have everything I need”.

The respondent affirms how she was satisfied with the small size of the outside kitchen as that restricts her movements within that space. She did not talk of any inconveniences in the use of her kitchens.

Summary of Case 6
The architect’s planning and design of the building plans on the plot did not take into consideration all the activities that would take place in food preparation, cooking, and storage. The omission included the food store for the kitchen which is generally considered a vital element of the kitchen. All the spatial requirements for the local means and methods of cooking were left out as the architect planned and designed the structures on the plot. The architect could have probably been influenced by his world view. Pradhan (2008), while writing with reference to India as a former British colony, argues how the local stakeholders in building production may not probably take into consideration the local conditions because of the world views they hold. If they have a western perspective, according to her, it reflects on the architectural service provided. King (1995) writes on how there have been indigenous versions of modern house designs in
former British colonies, which seem not to address the cultural needs and values. On the other hand, the architect key informant of this study argues that the work of an architect in Uganda is difficult because, the majority of people don’t seem to be willing to pay for architectural services. Moreover, she says, the architectural profession is neither well understood nor appreciated by a segment of people in Uganda. According to her even educated people may not understand the meaning and value of the architectural profession. Notwithstanding such a situation, Uganda, and Kampala in particular, has a relatively short history of urbanization which I presume affects the priorities now being taken in individual housing production. In addition Uganda underwent a period of political-economic turmoil during the 1970’s and 1980’s, which has also affected the rate of development, including the construction industry. Therefore, the decisions and steps taken in acquiring the house plan and constructing the structures on the plot for this case may not have been thorough.

The outside kitchen did not feature in that initial planning and consequent approval of plans, in spite of its considered usefulness. The need of catering for traditional food cooking facilities looks to have been later realized by the owners as being indispensible, thus an outside structure was constructed to cater for such, which the main kitchen could not accommodate. It was a later addition and was even absent as the buildings were set out on site in relation to the plot boundaries. Probably because of the scarcity of available space and as an afterthought the property boundary wall formed one of the external walls of the outside kitchen structure. It, therefore, looks inferior to the main kitchen in terms of design, construction and finishes. There are no storage facilities, necessitating the respondent to place items on the floor. (Figure 5.). The need of a secondary kitchen looks to be indispensible as the architect key informant narrates. She mentions how some of her clients have requested her to design for them an outside kitchen, in addition to the modern one, in order to cater for traditional food preparation and cooking on charcoal stoves. Studies indicate that 75% of people in Kampala do cooking on charcoal stoves (UBOS 2009/10). Much as cooking on a charcoal stove is needed, the respondent uses an electric cooker, as well, depending on what is being cooked. The traditionalist academician mentions that the indigenous technology in Uganda needs to be developed. Maybe the omission of the structure is probably due to the aspect of the mixture of tradition with modernity wherein development of indigenous technology seems to be lacking. The owners modified the original kitchen plan by removing the solid wall separating the kitchen from the dining and living areas. This action was, maybe, motivated by a desire to be modern. The architect key informant mentions how, as a trend in modernity, socializing now takes place as one prepares a meal, and how it is accepted for visitors to be exposed to the activities in the kitchen.

The outside kitchen appears to lack storage fittings; and ergonomics were not even considered during its planning and construction. The respondent is noticed during the food related activities to be bending over to work; which does not seem to be healthy (Figure 5.54). Placing items directly on the floor seems neither tidy, nor aesthetic or hygienic. Provision of adequate lighting and ventilation is minimal, making it more difficult to work in the space when it is dark at night.
or when it is raining. The building of the outside kitchen as an afterthought looks to reflect its less importance in status than the modern kitchen in the main house since fewer resources have been spent on it. Moreover, On the other hand the occupants, being individual housing owners for this plot, had the liberty to more temporary structures on it to their advantage.

### 5.5.2 Case 7 the bungalow

The bungalow is located in the “rendezvous” village of the Akright Kakungulu estate, which is second in rank to the “professional” one. The plot is located on a much lower slope of the estate, but well accesses by one of the graded estate roads. The occupant of the house constructed their house by making use of one of the model architectural designs provided by the estate management, but rearranged some of the rooms as construction took place. The house is constructed out of brick which is plastered and painted (See photo in Figure 5.59.)

![Figure 5.59 Case 7, the bungalow’s frontage](image)

The house has 5 bedrooms altogether and is raised off the fore ground by a number of steps by approximately one meter (See figures 5.59 &5.61). The house sits on a quarter of an acre of land, and has a perimeter solid wall with a sliding metallic gate at the main entrance. There are no other significant structures on the plot except for a small latrine located in an extreme rear corner of the plot. The plot has a small garden of green shrubs and a few trees at the front, as well as a small area where children can play (Figure 5.60). At the back of the plot there is a water storage tank specially installed to harvest rain water from the house for multi household use. A well cemented trough is made adjacent to it so that water is well drained away. There is also a stand water tap connected to the NW&SC near the water tank. Although the premises are already connected to the National Water and Sewerage Corporation, the harvested rain water is there to supplement that supply-as the Municipal installation is still incomplete and not very reliable. The plot area where the house has been constructed has been graded leaving some higher ground at the back of the plot at its original level, about one meter higher than the graded ground. It creates a raised small garden for the household where local leafy vegetables, pumpkins, or tomatoes are grown. (See figures 5.60 &5.63). The harvested rain water tank has been installed and placed at
this higher raised level. The house is well wired and connected to electricity. The soil water (sewage) is drained into a specially designed and constructed septic tank on the premises. Household garbage is simply put in a bag, the organic ones being collected and thrown in a specially dug pit in the small garden at the back.

Figure 5.60 Case 7, the site lay out of the bungalow
The house has four rooms, plus a smaller room which is used as a study. It is accessed through sliding doors from a front veranda. One simply walks through the sitting/living room and passes by the side of the dining area to enter the kitchen. The house plan shows the proportional sizes of the rooms which clearly indicates the kitchen size in relation to the other rooms.

The Household
The owner-occupiers of the bungalow are a married couple, the husband in his forties and the wife in her thirties. They have been living there since May 2008. They have young children below the age of ten years, and they live with two young relatives and a house maid. The husband is an NGO Director for a developmental project, while the wife is a teacher by profession, but is at the time pursuing undergraduate studies. There are a total of five people living in the house. The husband works away from home, as his job description requires him to spend much time upcountry. There are no other house servants apart from the maid who can do the housework while being assisted by the relatives, and the housewife at times. The household eats meals together in the dining room; meals are not consumed outside the house. The maid does most of the cooking because the housewife is at the time pursuing studies, daily driving to and from the University, so she spends little time at home. However, she is the one to decide what should be cooked. When meals are prepared the household eat together, depending on who is present at the time. The house maid prepares the meals, with assistance from the housewife when she is present. The respondent (housewife) has this to say,
“If I get a maid who does not know how to cook local dishes, I do it. I program myself so that I am at home. My husband cooks sometimes some of these fast foods, like when he has learnt something new from somewhere, that is when he can demonstrate on how things are done; and when we learn, that’s the end of his participation in cooking”.

**Kitchen**
The kitchen room measures 11 square meters in area, and is located in the rear part of the house. It is accessible from the dining room through a flush door, as well as from the back through the back/kitchen veranda (See the diagram in figure 5.61). The rear kitchen veranda of the house serves as an extension to the kitchen of the house. There is no kitchen store but the kitchen is fitted with modern storage cupboards which have diverse sizes and shapes, and can accommodate utensils of various sizes and shapes (See photo in figure 5.62). The respondent hired services of a specialized kitchen supplier who installed the already made fittings into the kitchen area. The kitchen opens out to the rear veranda where part of cooking and storage space takes place (See photos figure 5.64). The rear door is made out of heavy metal for security reasons. It is a modern kitchen well equipped with a modern combined gas and electric cooker, fridge and quite a few of other electric appliances. The kitchen walls are finished in colorful ceramic tiles covering them up to the ceiling level. There is one medium sized window in the kitchen external wall, but there is a second one in the dining area, to let in light and ventilation. (See photo in figure 5.61.)
Food
The main staple food includes cassava, maize, beans, sorghum, millet, sweet potatoes, Irish potatoes, pumpkins, chapatti and rice. There are meats and poultry which include beef, goat meat and chicken. She narrates,

“Other food stuffs include a variety of green vegetables such as “malakwang” bbo, gobe, dodo, and cassava leaves. We prepare sauce from groundnuts, cow peas, sesame, soya beans and fish. Some delicacies include white ants, or grasshoppers which are prepared in special ways. There are also different types of tropical fruits, which are purchased from the local market”.

Figure 5.63 Case 7, vegetable garden at the back of the plot

Beverages include porridges made out of maize, sesame, soya and rice. She prepares various fruit juices and cold porridge out of millet or sorghum. The household gets some foodstuffs from upcountry. The respondent says, “When coming from upcountry my husband brings food like rice (we grow rice), cassava, Irish potatoes, etc.”

Food Preparation and Cooking
Cassava is prepared in many different ways—such as being boiled and mashed, and being consumed with various types of sauces. It is also prepared in form of cassava chips, cassava bread, cassava balls, it is deep fried; or boiled and cooled, and then dipped in beaten eggs, mixed with wheat flour and fried. Cassava can also be mixed with sorghum, all in flour form to mingle into bread. The respondent narrates on how she prepares the traditional bread,

Here in Kampala I mingle the “kalo” on a “sigiri” but in the village setting we use the three stone stove, so I have to kneel as I mingle it; but now here I feel comfortable when I am standing
and bending. If there is a maid who knows how to mingle she may do it sitting down (using a low stool). As for me if I sit down I feel like work is not moving”.

Bananas are either steamed or prepared as a mixture with other ingredients to form the local dish known as “katogo” which can be mixed with beans and then cooked together. Sorghum is mixed with millet and then mingled into bread. Sweet potatoes are boiled, steamed, deep fried, or roasted over the charcoal stove. Irish potatoes are boiled, mashed, baked or deep fried to make potato chips. Pumpkins are boiled, baked, steamed, stuffed, or mixed with plain sesame paste and then mingled either on the charcoal stove or over the electric cooker. Chapattis are prepared as a form of pancake over charcoal fire or the electric cooker. Rice, a common global foodstuff, can be boiled or fried. The respondent uses a variety of methods in preparing her meats, such as preparing it as stew, mixing it in vegetables, drying it and mixing it with groundnut paste. Chicken is prepared as stew, or is charcoal roasted, fried, dried and mixed with groundnuts, or mixed with sesame paste.

Figure 5.64 Case 7, food preparations and cooking at the kitchen veranda

The respondent describes in detail how she makes special dishes out of ground and dried white ants, mixed with different ingredients such as plant leaves or beans. She explains some of her food preparation and cooking as follows,

“We use “magadi” in cooking. We use a grinding stone to grind the peas; I have a grinding stone which I store in the kitchen. I also have a mortar and pestle; I place the mortar outside as I use it. The maid puts a “kavera” down and then she places the mortar on it. I use the mortar and pestle for pounding ground nuts and fresh white ants. I pound the white ants until they are soft then I make them into balls. I heat water to boiling point and I place the balls in the water, as they cook they harden….. As for matoke I do not know how to cook it well in banana leaves. We eat it in the form of “katogo”, mixed with ground nut paste or offals. We enjoy it better in that form. My favorite food is when I take “kalo” with fresh fish”.
Fish is prepared in stew form or dried and mixed with sesame or groundnut paste. It can also be sun dried, charcoal roasted, or deep fried. The respondent has so many various ways of preparing sauces, which include sauces made out of groundnut paste, and a variety of plant leaves. She makes a well known dish locally known as “malakwang” sauce. She can also prepare a local dish known as “akeo”, in sour milk, plus other sorts of mixtures of vegetables with beans or cow peas.

As snacks the respondent prepares pancakes from sweet bananas and cassava; samosas, sweet potatoes crisps, sesame balls with sugar, pan-roasted ground nuts, and sesame or soya beans. She also roasts grasshoppers or white ants, and steams groundnuts.

The cooking is done using an electric cooker or a charcoal stove. She uses the granite finished worktop of her kitchen, or the rear kitchen veranda to prepare the food. A house maid, the house wife, the mother in law (if she is visiting the home) or the older children in the family participate in cooking. The husband rarely does any cooking. Gas is barred from the home for the time being because of its vulnerability in use. The respondent possesses an electric and gas cooker (two in one), a charcoal stove and portable hot plates. The charcoal stove is sometimes placed on the floor in the kitchen if it is night time or in bad weather, or outside on the veranda. Here on the veranda food is prepared, cooked and even partly stored because the airy veranda serves better for the placement of the charcoal stove. Typical local stools are used as seats to ease the household chores. (See the photo in figure 5.64). Items can literary be placed on the floor of the veranda. The respondent particularly brings the stove inside the kitchen when she is cooking “anyoya”, an alur dish, which is a mixture of beans and maize. Charcoal is used for cooking hard foodstuffs which need a lot of fuel to be well done, such as dry beans, while electricity is used for lighter meals. The choice of the types of fuel is done in consideration of the socio economic circumstances, as well as convenience. Food can be served into bowls and taken to the dining table where it is consumed.

**Utensils**

The respondent’s kitchen utensils include a traditional African pot and a grinding stone, wooden spoons, a mortar and pestle, charcoal saucepans, various modern kitchen appliances, such as electric kettle, pressure cooker, coffee maker, rice cooker, and a blender. In her words she adds, “we have abandoned using some of them because of the high rate of consumption of electricity; we now mostly use the “sigiri”.” She also uses some local fresh banana leaves, the mingling stick, and some plastic baskets. She possesses modern kitchen sets of cutlery and plates.

**Washing up**

Washing up of kitchen utensils is done outside the house beside the free standing water tap (water is supplied by the National Water and Sewerage Corporation) at the cemented trough which is adjacent to the rain water storage tank. The waste water is drained away through a low cemented channel. Utensils can also be washed in the stainless steel sink in the kitchen. Since the sink does not have adequate drainers, an extra portable drainer is placed over the kitchen granite worktop to help in draining utensils (See photo in Figure 5.65). The water supply comes from harvested rain water as
well as from the National Water and Sewerage Corporation. An installed outside water tank is used in storing harvested rainwater (See figure 5.). Here is a high level tank, as well, used to store the supplied NW&SC water.

Figure 5.65  Case 7, washing up outside and inside

Storage
The house lacks a food store, though the kitchen is well fitted with modern high and low level cupboards. The rear kitchen veranda is multipurpose in use, as it serves as storage space, as well. Domestic items such as stoves which are not in immediate use are left there for storage. Some few amounts of food are stored there, as well. Fresh cassava is stored in the soil in the garden to keep it fresh. The smaller sizes of food, such as packets of sugar, salt; fruits vegetables, milk, etc. are the ones which fit in the cupboards and drawers. Storage of utensils is located in the kitchen cupboards which are considerably well designed with various sizes and heights to accommodate the different types of kitchen items. Sacks of charcoal are stored on the veranda of the latrine structure to shield them away from the rain.

Evaluation of the Kitchen functions by the respondent
The respondent laments that she finds her kitchen too small to comfortably work in. She complains that she prefers to have a wider and bigger kitchen to accommodate and cater for both traditional and modern food cooking. She explains, “I would like to have a spacious kitchen where there is a provision for where I can put my “sigiri”, like when it is raining outside”.

When asked about the appropriateness of the kitchen design, she replies that her kitchen is appropriately designed. When asked why it is so, she replies that it is because she considers it to have enough provision for storage (cupboard storage) and for serving her meals. She mentions that she prefers to do all her cooking inside a kitchen space, and does not like the idea of having a kitchen table inside her kitchen. She explains further why the idea of having a dining table in the kitchen is not welcome,

“Having a dining table in the kitchen depends on the population in the household. The family, like mine, is an extended family which is composed of adults and young children. Now I have
children who are below fifteen years old, so you may find that having a kitchen and the dining area in the same place would inconvenience me. Also, I don’t think that in the African setting, where I use a charcoal stove, it is possible to bring it where children are going to sit and eat, as the charcoal stove has smoke. Also charcoal gives off sparks as it burns. Then I am frying food using palm oil, if I am not careful I can get burnt. In addition, if I have visitors around, I think it would be inconvenient for them to be enjoying their tea while I am cooking. Then things happen such as the matoke getting burnt, etc. In the developed nations they don’t use a lot of stuff like us here in the African setting. We still have a long way to go”.

She complains about the fact that she cannot get “proper” and well done raw traditional foods from her home area which is located in the far north western region of Uganda. She asserts that the traditional food and utensils she buys in Kampala are of an inferior or lower standard than those purchased from her home area. She also talks of lack of a kitchen store. She narrates that the kitchen window happens to be too small to provide enough light and ventilation in the kitchen. The respondent is sure that her kitchen is free from soot and smoke, as charcoal cooking is done outside the kitchen and an extractor is installed in place.

The respondent emphasizes her need of an internal kitchen store, which is missing. She expresses her satisfaction about the connection of the kitchen veranda with the kitchen through the rear kitchen door; and finds no inconvenience in the relationship between the two spaces by virtue of the activities that take place there. She expresses the need to have a separate place where she could keep a goat or domestic birds. She complains of the kitchen drawers being almost air tight and lacking fresh air circulation. On storage she comments,

“I prefer to keep these kitchen cupboards open. The problem I have in the kitchen is lack of air circulation All the cupboards are closed. As for charcoal storage it is really a challenge especially during the rainy season. We put the charcoal bags under the roof of the latrine structure and use a “kavera” to cover them”.

On storage of traditional utensils and other bulky domestic items, the respondent comments that she does not possess noticeable traditional items.

Summary of Case 7
The free standing bungalow on a plot of land has advantages such as a vegetable garden at the back of the plot, and the rain water harvesting, which cut costs of urban living. The kitchen does not seem to have been well designed. It is too small to accommodate all the kitchen related activities which take place. The background of the housing conditions in Uganda and Kampala in particular may be the cause for the unusual priorities taken in design and construction of the house. Although an architect had been involved in the house design the respondent is not happy with the layout and size of the kitchen. The approach does not seem to have allowed a thorough scrutiny of the kitchen design, which resulted in seemingly unsatisfactory spatial solutions such as a small sized kitchen veranda, a small kitchen window and lack of a food store altogether, among others. The architect key informant suggests that the inherited British standards may ‘have
been responsible for the small size of the kitchen space and kitchen window. The small window lets in little light and hardly any ventilation. In that case the metallic door has to be kept open. So, in the cases of rain or at night the door has to be closed and that creates stuffiness. In addition, the facilities for preparing, cooking, and storing traditional food are lacking, especially so as the respondent indicates a special attachment and liking to such foodstuff. She mentions how she misses the fresh indigenous food stuff from her home area, which is situated in the far northern region of Uganda.

Although cooking is taking place in the outdoor space, the veranda is probably not to have been originally designed for that. It looks to be too small and narrow and is not protected from natural elements of the sun, heavy rain or even darkness. Cooking which takes place there looks like it is a matter of improvising. Here the respondent may have negotiated the cooking area to take place there. However, the idea behind the cooking on the charcoal stove in the open outdoor space can be commendable in consideration to the heat, dust, soot or smoke emitted. The connection between the outdoor cooking and the kitchen is within easy proximity with short distance in between. The tradition of cooking on a charcoal stove placed on the back veranda is mixes with the modernized state-of-the –art kitchen fittings, which had been supplied by an up- market kitchen producer. The cupboards are of a high quality, with various heights and widths to accommodate the different sizes of the domestic items. However they cannot store everything as some storage takes place on the veranda. The respondent mentions how she misses a food store which is had not been incorporated in the house design. Proper charcoal storage is also lacking although the respondent negotiated a space for it at the rear wall of the latrine. It does not look to be the best solution as the sack may easily get wet in poor weather thus inconveniencing the cooking.

5.5 Summary of the cases
The results from cases of the study on cooking practices, the design of kitchens and their use reveal a clash between tradition and modernity. All respondents cook traditional food and they use charcoal stoves yet the modern kitchens are designed for electric use. There seems to be obstructions between what the kitchens users are doing in handling all traditional food related activities and the ways in which the modern kitchens are designed. Charcoal use is the most predominant means of cooking meals in all the cases. Firewood as a cooking fuel is also in use but the kitchens are designed for electric use. Users have had to find ways of adapting these modern kitchens to their ways of preparing, cooking and storing their traditional food and utensils. The aforesaid summary is here below presented thematically in detail.

5.5.1 Food preparation and cooking
Activities for food preparation and cooking are carried out in the urban households with setbacks and difficulties, especially those pertaining to traditional food preparation and cooking. The pounding, using a mortar and pestle needs a ground floor which is firm and sound proof. The respondent in case 7 has to pad the floor for the mortar in order to reduce the noise, so an outdoor space, which is airy and open can work better for this activity. All the respondents purchase raw
unprocessed food stuff which needs to be worked on to bring it to the point of cooking. This needs space which corresponds to the social cultural disposition of the person preparing and cooking the food, such as a place where a mat can be placed for sitting on, or a platform at the right height where food, such as plantains can be traditionally prepared. Peeling raw food such as plantains, potatoes, cassava, or yams need space where the person in action is comfortably seated or bending at the right angle which is in line with healthy ergonomics. Postures which endanger health have to be avoided. The postures engaged in while mingling traditional meals such as millet or maize bread vary depending on the individual. The respondent in case 5 prefers mingling the bread while standing up; while the one in case 2 would rather sit on a low stool and mingle her meal in a sauce pan placed over a charcoal stove. The respondents in case 1 and 6 admit the discomfort felt in mingling millet bread over an electric cooker. Standing, bending over and working with items placed on the ground seem to be common in the case studies, a habit which is inefficient, unhealthy and unhygienic. Ergonomics needs to be observed; e.g. a low stool may be used while the charcoal stove is placed on a low platform at an appropriate height from the ground; or multiple charcoal/firewood stoves can be constructed in place at the proper height from the ground which is comfortable for a person to do circular movements (in mingling bread).

5.5.2 Cooking on firewood and charcoal stoves
From findings cooking using firewood in the households poses a number of problems. Although firewood use in cooking is reported to have increased in Kampala in recent years, and looks to be the most affordable, it is hardly sold in the city, and it is hard to find. Two households in the study use it but the proper firewood stoves are lacking. One respondent has attempted to construct firewood stoves using a chimney which has been already in place but poor workmanship has resulted in poorly working stoves which emit a lot of smoke to the surroundings. Findings indicate that firewood stoves are already on market in Uganda but professional input is required to properly locate them in the kitchen area. All this takes place in an environment where kitchen studies have been lacking. Professionally constructed firewood stoves ensure proper evacuation of smoke and flue. One respondent uses the outmoded three stone stoves in cooking, which are placed in the compound. The open fire is risky to children and pollutes the environment through soot and smoke emission. The health aspect negatively affected by such open fires cannot be overemphasized.

Cases indicate the general use in cooking of portable charcoal stoves in all the households. The placement of the stove requires the person doing the cooking to bend over as the stove is often placed directly on the ground. The lack of proper ergonomics result in aching backs and poor placement of the stoves also poses the risks of burning children. In these cases the stove is found to be placed in the compound or on the veranda of the house. Where there is no direct access to the outdoor space charcoal stove cooking requires a person to go outside to light it. The problem is aggravated in apartments where the person has to go down the steps and out in the open to light the stove. The smoke inconveniences every person around the area who comes in contact with it. The partly or all clay charcoal stoves stand the risk of being broken any moment they are dropped.
down unexpectedly during such movements, such as those made along the stairways of apartment blocks. Knowledge of improved charcoal stoves is widespread in Uganda but what is lacking is the incorporation of the improved types, and all what is associated with such use, into the kitchen space and proper placement and integration in relation to other activities for food preparation, and cooking, washing up and storage of utensils. Charcoal fuel has to be purchased and stored for use in the residences. The bas are bulky, dusty, and heavy making it difficult to find places for storage which are safe and out of sight and away from human circulation.

5.5.3 Storage
Almost all respondents have complained of inadequate storage spaces within their kitchens. Food stores seem to be indispensable facilities best located adjacent to kitchens. Storage of bulky unprocessed fresh foodstuff, like bunches of bananas, potatoes, cassava or pumpkins is done by pouring the food directly on the floor with the aim of keeping it cool in the hot weather. This storage and cooling method looks to be inefficient, untidy and unhygienic and needs to be improved on. In some cases food is placed in any available space which makes it susceptible to being stepped on or being contaminated with vermin. Food is stored mixed together with other miscellaneous domestic items which may not be hygienic or easy to access during food preparation. There is a need to keep such food stuff cool by allowing air circulation in it, so an alternative method of storage may be to use wide and open racks which are easily accessible through placement in strategic spaces adjacent to food preparation and cooking.

There looks to be indispensable domestic items such as sacks of charcoal which are both bulky and dusty. These are found to be stored in different spaces such as at the back of another structure, where the charcoal can get wet; or some other unsafe areas where the charcoal may be stolen. Also evidence indicates charcoal storage to be in the same area which is used for food preparation and cooking. This arrangement does not seem to be safe for the food items or other domestic stuff which may be covered in charcoal dust. In the same vein firewood storage needs an appropriate space where it needs to be kept dry and moisture free. Such fuel which is used in the charcoal and firewood stoves need to be stored in spaces adjacent to the stoves so that the activity flow is kept unbroken where possible. Storage for items used in traditional food preparation and cooking form an integral part of kitchen utensils. Such items which include mortars and pestles, winnowers, baskets, or clay pots and even grinding stones have unique shapes and sizes which do not seem to be compatible with western kitchen storage spaces of drawers and cupboards.

5.5.4 Garbage disposal
Traditional food preparation and cooking issue a lot of raw organic garbage which has moisture, is bulky and needs to be got rid of as fast as possible to avoid the decomposition and stench. This causes concern as the garbage collection system may not be very efficient, especially so where the garbage bags have to be placed on the roadside awaiting collection. The system of collection in the apartment blocks may look better in the sense that all rubbish is thrown in the special built up consignment awaiting the collection by the garbage truck. However, this method of gathering
all sorts of garbage as one lot and dumping it away in the allotted consignment needs to be addressed and improved upon. The respondents who have access to the outdoor areas attempt to sort the organic refuse and throw it in the manure pit in their gardens. However there is an issue of collecting garbage in consignment bags which are put outside the residence along the road to be collected. The method of collection needs to be revisited and upgraded as it is not aesthetic and environment friendly. This also may be linked with the way residences have been constructed such as the apartment blocks where all types of garbage are expected to be thrown together into the garbage skips or in the already demarcated built up areas by the side of each apartment block. Respondents in the cases seem to need sensitization and facilitation on implementing better methods of garbage disposal. As an innovation domestic incinerators are on the market in Uganda, which can be either communal ones for apartment blocks, or individual units for individual houses. Here organic waste can be burnt while the non-organic ones are collected for further recycling processes.

5.5.5 Apartment Blocks, specific problems
The evidence of the study indicates difficulty in living the current urban African lifestyles in the apartment blocks. All the households in the study do some of their cooking on charcoal stoves because of the social economic factors, which include a requirement to cut household expenditure on fuel consumption; and food roasting and cooking which has to be done on charcoal stoves. The nature of the apartment designs does not seem to go hand in hand with charcoal stove cooking. Besides that, the storage of bulky unprocessed traditional food stuffs may also be difficult to handle, unless the approach for apartment design takes the considerations on the outset; in which case it would require more space in order to cater for some of the cooking activities as indicated in the cases. Because of the escalating costs of urban land it does not look feasible to design apartments with bigger surface areas. At the same time designing communal cooking facilities may not work in view of the social cultural factors.

5.5.6 The kitchen
There appears to be a dissatisfaction of the modern kitchen users in modern houses. All cooking is not taking place there. The main kitchens are seemingly too small and not satisfactory for the cooking activities taking place. A common factor in the use of these kitchens is that their use seems to be preferred for only cooking lighter meals such as breakfast, or non indigenous dishes which include relishes or light snacks. Other kitchens in cases where houses are not recently built have their setbacks in being too small and inadequate for cooking activities, circulation and storage. It is necessary to cook using different types of fuels and stoves but the movements made in connecting to various areas of the household premises, cause inefficiency and disrupts the activity flow of activities. There is a general concern for a need of adequate daylight and ventilation in the kitchen areas. There is a high rate of negotiating and reproducing space in order to meet the respondents’ spatial needs. Spaces which were originally designed for certain purposes are now being used for totally different activities. Charcoal and firewood cooking has to take place outside the main modern kitchen, but the spaces for such seem not to have been seriously taken care of as one of the priorities in designing and construction of a home. Detaching
a charcoal/firewood kitchen from the modern kitchen is a necessity in consideration of the fire, smoke, etc. related to the nature of combustion for the fuels. However the aspect of insecurity of moving at night or during heavy downpour of rain may deter the activities taking place between the two kitchens. Also, the distances and movements covered in food related activities between those two spaces are tremendous, thus causing wastage of time and energy. In such instances the food related activities which include storage, washing up or food preparation seem to lack a smooth coordination which is caused by being scattered.

Probably the answer may lie in designing the kitchen with adequate space (this can vary with individuals and available funds). Attempts are to be made to centralize the kitchen functions and minimize distances covered in all involved activities. The kitchen is to be designed with an adjoining outer kitchen annexed to it for traditional food cooking etc; to have a pantry, or food store adjacent to it; to have cross ventilation and adequate daylight with enough sizes of windows. Proper ergonomics need to be observed in the design of fittings; the kitchen space looks better equipped to have built in recesses and/or nooks for the cooker, gas cylinder, fridge, freezer and a space for a microwave oven. Equipment and fittings need to be arranged as to ensure a continuous work flow. Both tradition and modernity are probably playing roughly equal roles in the urban kitchen design and use, so it may seem better to annex the charcoal or firewood stove kitchen to a modern one. Both kitchens may best be connected with an open but roofed veranda, while insuring all related facilities to be in close proximity and hierarchical order.

5.5.7 Architects’ decisions taken in design
The decisions and priorities taken in designing the residential premises under study seem to have affected the use of the kitchens. The cases indicate scattered kitchen activities taking place as food preparation, cooking and other related kitchen activities are carried out. The colonially designed houses reflect the segregated approach in design for the targeted categorical group of users, which were people from the colonizing nation. The main kitchen in the bungalow is small in size probably influenced by the modernist approach of the kitchen design of the era in 1940’s. It was designed for electricity use in cooking. Because the thinking behind the planning included the use of domestic servants, whose ways of living had to be separate and located in their quarters, it could not have envisaged the present day of the urban Africans’ ways of living, which has a different approach to handling domestic servants. These are part of the household, in a sense, through sharing meals, and joining the cooking processes taking place in the servants’ premises with the ones in the main house. The present day way of living, being different, seems to be out of touch with the designed spaces for cooking. The result is a high degree of spatial negotiation and reproduction. Hence the space does not correspond to needs of the present day user, although storage and other utility areas were at the time of design seem to have been well thought through. Similarly, the nature of the design for the colonial technical staff that was majorly African depicts the kind of lives the users were set up to lead. The shared facilities cannot work well with neighboring households due to their predispositions towards the limits of interacting with one another. The colonially designed apartment also indicates a similar colonial
design approach, where storage and other service areas were planned for the kitchen, but assuming that cooking is to be done on an electric cooker, regardless charcoal cooking. The colonial designs miss out spaces needed in indigenous food preparation, cooking, serving and storage.

The professional decisions taken in the recent housing do not seem to have taken realistic current issues in cooking either. The designs have had to be revised by the house owners as the houses construction took off, which seems to show that probably actual needs are not thought through beforehand. Also the lack of thorough planning of needed facilities in the kitchen spaces may indicate the hierarchical state of priorities chosen in putting up dwellings, which may probably be due to the economic state of current affairs. This evidence in cases shows that socio cultural and economic issues are probably overlooked in design. In such instances a bottom-up approach in design is likely to be of help where it is taken through engaging in participatory dialogues with users of the kitchen designs.

5.6 Concluding Remarks
The practices in the kitchens caused by decisions taken in using them raise a lot of issues on the designs of these kitchens in place. The stakeholders who are involved in planning and designing such kitchens seem not to have thought about the lifestyles of the people for whom they were designed. These challenges are further discussed in the following chapter with the aim of offering some recommendations for designing better functioning urban kitchens. This will be an attempt to address particular problems that have emerged out of these cases and suggest possible solutions to them.
6. Discussion and Recommendations

This chapter carries on a discussion from the preceding chapter of issues emerging from the studied cases. Views on tradition, modernity and culture are mentioned in relation to the empirical findings. The discussion expounds on the relevance and limitations of these concepts and how they relate to the major findings of the study. An effort is undertaken to come out with a few recommendations on how to design better functioning urban kitchens. An example is shown on how a better functioning urban kitchen may look like for individual housing. The chapter also suggests the direction in which future studies on urban kitchens may take. The methodology used in the study is reviewed in connection with the chosen study cases. A short conclusion ends the discourse on this domestic urban kitchen design study.

6.1 Tradition and modernity as reflected in studied cases

The studied cases have shown a variety of mismatches between ongoing everyday practice and kitchen design. The problems encountered in designs of housing in Uganda, and in Kampala in particular, may partly be attributed to the rapid urbanization taking place in developing nations of the world. Similarly, they might, as well, be related to the social political and economic unrest the country went through during the 1970’s and 1980’s, and the repercussion of those years on the national economy and development. The priority, for acquiring an urban home, may be to take what kind of housing is available, in order to get a shelter, rather than dealing with details, such as the kitchen design. Housing research in Uganda has not yet taken place to such a detailed level as kitchen design. Consequently house design today has followed the inherited designs of small sized kitchens which have equally small windows. As the evidence in the cases in new modern housing indicates, hardly any attempt had been made to adapt the initial approach of planning and designing of structures to the local conditions. The good attributes of outdoor spaces are not incorporated on the outset of house design in order to correspond to the ways of traditional food preparation, cooking, washing up and drying the kitchen utensils.

Abandoning the traditional ways of preparing and cooking food is not considered as an option, according to the informants in studied cases. For example, one key informant draws attention to the values found in traditional food diets and methods of cooking, and how it is presumably better in nutritional values than the fast modern diets. All the cases in individual housing have reinterpreted the outdoor spaces in close proximity to the kitchen for use in kitchen related activities as they meet their spatial needs. Traditional ways do not necessarily “belong” to the villages or rural areas as the evidence from cases indicate. In the studied cases, people show that they love their traditional food and they look determined to keep it as the major part of their diet. This attitude is supported by what the traditionalist academician suggests. The Ugandan society is rooted in the culture and is still a traditional one considering the types of food that are consumed, and the aspect of being an extended family other than being merely a nuclear one. Relatives of either spouse of a couple are part of the household, in some cases, and domestic workers are considered, to some extent, part of the household, too. According to one key informant culture
needs to be understood and appreciated. I concur with this informant that Ugandan modernity is rooted in the traditional culture, thus, a need to understand one’s identity. It looks to be more realistic to look at traditional ways objectively.

Modernity and westernization may still have an equal meaning to people and it is hard to differentiate between the two when it comes to practical issues, like designing and furnishing an urban kitchen. Judging from the cases and from some of the key informants’ views, it looks to be a necessity for the urban residents to own a modern urban kitchen and think of real practical issues later. Key-informants have pointed out how people have modern kitchens most likely for showing them off rather than for practical purposes. The contradiction is thus created in the spatial use of the modern kitchen, as well as in utilizing modern appliances for traditional food preparation and cooking. In most cases it is also found to be laborious to lead both types of lives that is, owning a modern electric kitchen but cooking meals on charcoal or firewood stoves.

Issues on culture and identity are complex as cultures meet and interact with each other. Western ideals as well as other developmental proposals need to be adapted to local conditions. People cannot be controlled on what they should be or how they perceive themselves. However, the public can be sensitized and guided from the stereo-type ways of perception through enabling strategies best implemented through policy making and governance. One particular aspect of kitchen design in Uganda is that the process of how one is preparing and cooking food is culturally considered private by a section of people, so it would rather be kept out of view. The activities in the kitchen are many and they may involve bringing in the charcoal stove to the kitchen area, so all these issues would rather be kept away from visitors’ view. In such a case kitchens which are open to the living area are not welcome, although they may portray a modern idea of kitchen design.

Some of the traditional methods of preparing food are still complex and time-consuming. They may be looked upon as inefficient in the changing world of modernity. In such cases innovations are required to upgrade the traditional techniques into appropriate technology. That is where some of the key informants are in agreement that indigenous technology has to be developed, thus bringing tradition to balance with modernity.

The change from tradition to modernity in practical ways of living is recommended to be gradual rather than abrupt and disruptive. This refers to the approach in designs of the urban kitchens which should be done with the aim of making the kitchens work in a better way in a mixed situation of tradition and modernity. A status quo approach in architectural design must cease to be followed, and instead plan and design for the contextual local conditions. The consumed food in the urban areas is not processed, like in the developed nations. It needs to be cleaned, peeled or cut before cooking. Accordingly, all these activities have to be reflected and catered for by the architectural kitchen design. The attitude towards traditional food and ways of cooking it need to be revisited so that the ignorance, misconceptions and bias in design approach do not continue to be repeated.
6.2 Important design issues
In general, many of the cases demonstrated that kitchen spaces were small and inadequate for all the activities which were taking place there and due to the design, were scattered in different locations and directions. Upon that cross ventilation was nonexistent and the daylight not adequate. Especially the charcoal cooking, necessitated by lack of other affordable and reliable sources of energy, turned out to be a strong force in forming the households’ adaption of their modern kitchens to more traditional ways. Also the general practice of buying and storing of large amounts of fresh foodstuffs caused problems in small modern kitchens. In the homes on plots, all the households had their ‘charcoal kitchens’ outside their main residential building. Several had constructed outbuildings where charcoal cooking and also storage took place. The households’ individual solution was to detach the charcoal/firewood kitchen from the modern kitchen, erecting the outside kitchen far away from the modern kitchen. This in turn led to poor coordination between two kitchens.

My observations imply that there is a lack of knowledge based design, as the on-going practices are not at all reflected in the design of modern kitchens. There is room for development of as well the design of kitchen spaces as of kitchen furnishings and tools. Here follows a summary of salient design issues as found in the studied cases, see table 6.1. The table gives an overview of more detailed design goals and suggestions for designs to facilitate certain functions and activities and is followed by comments and discussion of the different functions mentioned.
**Table 6.1** Summary of findings from the cases, with design goals and suggested new designs to alleviate problems

<table>
<thead>
<tr>
<th>Activities / Function</th>
<th>Observed design and practices</th>
<th>Problems / conflicts in practice</th>
<th>Design Goal</th>
<th>Suggestions for new designs</th>
</tr>
</thead>
</table>
| **Cooking with charcoal/firewood** | Portable open charcoal stoves  
Smoking meat, roasting foods on a charcoal stove  
No chimney (apartments)  
Chimney in place (outbuildings on one family home plots) | Open fire burns children; indoor air pollution; Stove placement problematic; Energy wasted  
Chimney badly constructed and smoke and soot escape | Diminish risks for fire burns  
Appropriate placement of the portable charcoal stoves | • Use improved to-date charcoal/firewood multi stoves;  
• Raise charcoal stoves to appropriate height- portable ones on a platform at the right height from the floor level  
• External outlet pipes to direct the flue away |
| **Smoke evacuation** | | | | |
| **Winnowing grains and seeds** | Avoidance of the action altogether, or struggles in trying to pad the bottom of the mortar to reduce the noise. | Generation of loud noise, air pollution, activities not fitting in indoor spaces | Diminish disturbing noise  
Facilitate the work by more ergonomic design | • Open spaces, in the compound where applicable, or a semi-open veranda adjacent to the kitchen  
• Put in place a seat (bench) in appropriate height for sitting while pounding |
<p>| <strong>Pounding food in mortar and pestle</strong> | Placement of items on ground while bending &amp; working; sitting on the floor &amp; peeling bananas in the modern kitchen | Standing, bending over &amp; working with items placed on the ground, neither efficient nor healthy | Ergonomics to be observed in design. | • Construction of a platform at the right height, where items can be placed. |
| <strong>Peeling and preparing traditional plantain meals</strong> | Consideration in current design for the activity non-existent; mingling the bread using a modern electric/gas cooker | Postures engaged in the activity do not work well using modern cookers; ergonomics not proper; charcoal stoves placement on the floor | Design should allow for doing circular movements comfortably. | • A low stool may be used while the charcoal stove/-s is placed on a low platform at an appropriate height from the ground |
| <strong>Mingling traditional millet or maize bread</strong> | Lack of proper placement of food and utensils, as serving from cooking pots to bowls/plates takes place | Bending over while standing and carrying out the chores with items placed on the ground unhealthy, and | Ergonomics to be observed in design | • A servery or worktop to be constructed (in a designed outer kitchen) at the appropriate height from the floor |
| <strong>Serving food prepared outside the kitchen</strong> | | | | |</p>
<table>
<thead>
<tr>
<th>Activities / Function</th>
<th>Observed design and practices</th>
<th>Problems / conflicts in practice</th>
<th>Design Goal</th>
<th>Suggestions for new designs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing up and drying bulky kitchen utensils</td>
<td>Outside fixed wooden rack</td>
<td>The rack for drying the items lacking proper location and waste water drainage</td>
<td>Allow room for drying of bulky and sooty items like charcoal sauce pans and pots</td>
<td>• Standing rack, to be located in the compound next to the stand pipe and waste water to be drained away through a simple channel. (Only possible in individual housing)</td>
</tr>
<tr>
<td>Water supply from different sources (like an outdoor free stand pipe and/or a harvested rain water tank)</td>
<td>Just a stand pipe fixed in the ground; and a rain water tank with a fixed tap but no proper water draining around it</td>
<td>No proper drainage as water pours around</td>
<td>Avoid muddy, churned up areas outside the kitchen</td>
<td>• Cement area, with a short up stand to control the water flow, around a stand water pipe or around the tap on the harvested water tank. • A water channel to drain waste water away to a soak pit</td>
</tr>
<tr>
<td>Storage of bulky fresh foodstuff</td>
<td>Food poured on cement floor to keep cool</td>
<td>Fresh food gets spoilt in hot weather, cannot fit in fridge This method of cooling is untidy/unhygienic</td>
<td>Keep fresh food cool and dry</td>
<td>• Design a specific storage space for fresh foodstuffs • Allow air circulation in the food; alternative method of storage- to use wide/deep &amp;open concrete shelves</td>
</tr>
<tr>
<td>Storage of bulky domestic items (like charcoal sacks, bundles of firewood, traditional utensils, jerry cans)</td>
<td>Placed in any available spaces; Placement on floor; Mixing the storage of different items in one space</td>
<td>Wastage of time, untidiness and inefficiency.</td>
<td>Categorize items and store them separately.</td>
<td>• Ample and appropriate storage space in-house or in the outer annexed charcoal/firewood kitchen • Charcoal storage to be separated from other storage. Food store to be separate</td>
</tr>
<tr>
<td>Garbage disposal</td>
<td>All types of garbage mixed and thrown away in one bag into garbage contained areas; alternatively thrown in a dug pit</td>
<td>Waste management is poor</td>
<td>Separate the fractions of garbage; recycle as much as possible</td>
<td>• Organic; compost or burnt in incinerators –communal incinerator for apartments, or individual on a plot. Non-organic garbage; to be collected for further sorting and management</td>
</tr>
</tbody>
</table>
Handling charcoal in cooking is tricky both in storage and in carrying it round the urban residential premises. One option of getting to grips with the challenge is engaging better cooking fuel for the stoves to replace charcoal, which has less air pollutants. The scope of this research has not allowed in depth investigation into the area of these sustainable cooking fuels, but strides have been made. Air pollution is then reduced for conserving the environment for better health.

The problems encountered in using charcoal for domestic use are well recognized in Uganda and the subject of energy efficiency has been often mentioned in different circles. Discussion of alternative sources of energy for domestic use is a topic that has been in the local Ugandan media many times. This includes solar energy which is viable and needs to be developed further and made available to where possible. According to one vision reporter of one of the Ugandan newspapers (Saturday vision, February 18th 2012), one hotel managed to cut its power bills by 60% through using solar power. In the same report, the mentioned hotel had plans which were underway to get locally made solar cookers and ovens. The opportunities in using the strong sunshine in Uganda are available for exploitation to reduce the high bills incurred through the use of electricity, which hampers households from using clean cooking fuel. However the predicament lies in the high cost of initial installation of solar panels as they are imported in the country. Tenywa (2012) reports that a possibility of offsetting such costs lies in using locally available materials for making solar panels. Briquettes can offer another alternative clean fuel for cooking meals instead of using charcoal. Already a project under RIDHAM (Rural Initiatives for Development Management) which operates locally in Uganda is recycling different sorts of byproducts such as beans stalks, grass, cassava stems, dry maize cobs, banana leaves and other types of garbage to make briquettes, reports Kakembo (2012). This product, if enhanced, can go a long

Ngatya, (2009) reports about a better cooker called sarai is on the market in Uganda which is used with briquettes made out of crop residues as fuel. The cooker is advantageous in cooking by being both smoke-free and fuel saving. Ngatya reports that someone who had used this cooker for one year told of a reduction in expenditure on charcoal of about 80%. The sarai cooker helps on reducing the air pollution which results from charcoal stove cooking, as well as time, costs and effort spent in preparing meals.

Efforts can be made to use improved types of charcoal cook stoves which have advantages of emitting less air pollution as well as cutting down costs in energy consumption. Lutwama (2010) writes about such stoves already installed and in use in one lady’s home. The use of such stoves also curbs accidental burns which occur in homes from open fires. The stoves can either use firewood or charcoal.

Biogas is a fuel which is already produced and used for domestic purposes in Uganda. Ayesiga (2011) reports that biogas has been in the country for a period of more than half a century, but it has not been commonly used, say, in lighting and cooking purposes in spite of its being a clean
fuel. However, Ayesiga continues to write that in the recent past a good number of people in peri-
urban communities are already aware of biogas use and are beginning to utilize it.

Kagolo (2010) writes about a farmer who has a successful biogas production plant on his land
which he uses for cooking and lighting, among others. However, it needs to be researched into to
determine how viable it can be produced for urban households for cooking purposes.

In all the study cases traditional food is cooked on ordinary charcoal stoves which are not
improved, and even on the basic three stone stove, while in the meantime experiments in charcoal
stove testing have been going on in Uganda. CREEP (Center for Research in Energy and Energy
for Conservation\(^6\)) which is located at CEDAT (College of Engineering, Design, Art and
Technology), Makerere University, has been dealing in cook stove testing, focusing on renewable
energy systems which include bioenergy and briquette making, among others. The cook stove
testing is done using various fuels such as wood, solar, biogas, briquettes, and liquid fuels. The
centre also endeavors to promote the use of solar power at household level. Amongst the
innovations of better performing cook stoves is the mwoto stove\(^7\), which is a CREEC innovation.
Such innovations need to be collaborated with the knowledge generated from this research in an
attempt to learn from other professions and end up with more holistic solutions.

As earlier mentioned improved cook stoves alone are part of the solution to the problems
mentioned in this research. Nevertheless, CREEC is generating useful information which, upon
dissemination, can be of value in light of the issues recommended for better kitchen designs in by
this study.

Kitchen storage spaces ought to be looked into more closely and in detail. These spaces must be
designed and fitted specifically for the specific items which need to be stored. For instance
special trays or drawers which allow adequate air circulation can be a good option for storing
large amounts of fresh produce; green banana leaves which are used in cooking need appropriate
spaces for storage. The same need applies to designing proper and adequate spaces for storing
traditional utensils, the likes of mortars and pestles, winnowers, African clay pots and grinding
stones. Big amounts of raw food stuffs are obtained from upcountry and brought to the urban
household when a member of a household returns from a rural area; hence, ample storage is
required for such food stuff.

Outdoor space is pertinent to food preparation, washing and drying utensils. Food has to be
sorted, winnowed, pounded or ground; and these activities need adequate light and air movement.
An outside water supply is handy in consideration of these kitchen activities. The stainless steel
sinks in the modern kitchens are not well suited for washing traditional utensils or any other big
or irregular types of kitchen appliances. This goes for the special charcoal saucepans or African
cooking pots which are usually sooty and need special cleaning. This is again possible where

\(^6\) website for CREEC \(\text{http://creec.or.ug/en/}\)
\(^7\) Website for mwoto stove \(\text{http://www.mwotostove.com/}\)
individual house plots are available for planning and designing of outdoor space. In several of the cases there are indications that keeping domestic birds and engaging in urban agriculture in the form of small vegetable gardens enhance the diets of the urban households. The connection between indoor and outdoor spaces is then important both for cultivation and for food preparation activities, and needs to be taken into account when designing homes.

The issue of garbage disposal still remains a challenge at the household level and beyond that. Mugagga, (2006) writes about solid waste management in urban areas of Uganda mentioning how it is one of the most problematic environmental issues to be managed. The traditional food preparation generates a lot of garbage, just as how all the key informants commented. At the household level, the evidence from the studied cases indicates so, and the question remains on how best to manage or handle it. It is part of a bigger problem, as Mugagga argues that the nature of the waste is very organic, and the practice of separating the waste is very rarely carried out. He writes, “…..in recent periods it is estimated that banana peelings and other forms of organic matter account for 70-80% of waste generated in Kampala”(Mugagga, 2006: 4). People need to be sensitized on separating the types of waste so that it is possible to recycle it afterwards. Kampala Capital City Authority as the local authority in charge can introduce better working methods of helping people improve management of the solid waste at household level as well as improving the handling at the municipal level.

6.3 Recommendations

Kitchens should be designed with adequate space, which of course can vary with individuals and available funds. To centralize the kitchen functions and minimize distances covered in all involved activities should be a goal. If there are plans for an adjoining outer kitchen for traditional food cooking, it ought to be annexed to the main building. Both kitchens ought to be connected with an open but roofed veranda; all related facilities to be in close proximity and in order to facilitate the work. The kitchen must have a pantry or food store adjacent to it; as well as have cross ventilation and adequate daylight with enough sizes of windows. Proper ergonomics are to be observed in design of fittings; the kitchen space should have built-in recesses and/or nooks for the cooker, gas cylinder, fridge, freezer and a space for a microwave oven. Equipment and fittings should be arranged as to ensure a continuous work flow.

To better illustrate what these recommendations may mean for kitchen design one example is presented in figure 6.1. It shows a possible hybrid kitchen for a one family house on a plot. The charcoal kitchen is here an annexed part of the main building, on the condition that stoves are of a modernized and secure type. Storage spaces for charcoal as well as for food stuffs are adjoined, to facilitate a smooth flow of activities.
The outcome from this research is to be shared with architects in practice so that they are aware of the problems in design of urban kitchens. This may be done in various fora such the architects where a topic of interest to the profession is presented by an expert and discussed. The information has to be disseminated amongst other stakeholders in the construction industry, especially developers who may be lacking knowledge on the better designs of urban kitchens. In that way they will get better services and this will be an opportunity for them to learn more about the meaning and value of the architectural service.

6.4 Future Research

The reality of having tradition mixed with modernity calls for revisitation of the design approaches of the modern urban kitchens in Uganda in many aspects. Future research in this area may involve looking into creating a continuous flow of activities linking spaces for traditional food preparation and cooking with those in the modern kitchens. This may look a bit complex at the beginning because of the unrelated types of fuel in use, and also given the fact that outdoor spaces are also used in food preparation, washing and drying utensils. Charcoal and firewood stoves need to be used at a safe distance from the main house for fear of fire hazards. However with the modern improved stoves this is envisaged to be achievable as open fires have to be avoided. However these challenges offer a rare opportunity in research for an area that is not yet investigated.
More models for the proposed solutions on the urban kitchen designs within a similar context to this study may have to be produced so that investigations into functionality are carried out further by getting the urban households to participate more in these studies through actual cooking in different models of full scale kitchens for testing the designs. Experiments are required to be carried out in the laboratory, and that may involve inputs from other disciplines, besides architecture. The scope of this study has not allowed broader exploration and deeper analysis of other urban kitchen designs for traditional food preparation and cooking in other developing countries, especially in Africa. Consequently future kitchen designs may look into that area with the aim of probably getting further information and insight for better functioning kitchen design in Uganda.

6.5 Closing comments
The findings in this study reflect activities in the study cases. These cases are not statistically representative for the middle income urban group of people in Uganda. I am well aware that the food preparation and cooking activities may be done slightly differently in other households of the same group of people in Uganda on the whole, and in Kampala in particular. Nonetheless, the most important pivotal issues remain the same, not contradicting, for instance, my earlier observations and the views expressed by key informants. I selected the cases mainly with the aim of getting rich information so I chose people who were likely to yield much information needed to answer the research questions. Those people were very willing to participate in the research as they understood the benefits of the study’s outcome. The respondents in the studied cases were convenience samples as it turned out that different people whom I had approached earlier with the intent of interviewing them neither understood the study nor the aim of the research. I had to pick those individuals where there was trust between me and them; people who were interesting to talk to and who had views to share, which were important to the study. They were willing to let me go around their kitchens freely, taking photographs and measurements. I first chose the types of housing I would have as cases before choosing the respondents. These were chosen in different ways. For instance, for the new housing estate, I first made some few trips to the housing estate where I met and talked with the managing Director of the estate company who had offices in the estate. I got acquainted with some few individuals who knew more about this estate and its population and were ready to guide me around it. I first tried out some owner/occupiers but the attempts were not successful. I ended up with the two respondents whom I had not known beforehand but were very willing to participate in the research. I interviewed the women of the households, not the men or the domestic workers, though I could ask the domestic workers a few words here and there as they went about their chores. Respondents in the other house types were chosen as convenience samples; having first identified and chosen the types of houses they lived in.

At the inception of this study the kitchen, as a place where food related activities take place, has been introduced as an important and well known area in a home. The focus of the research has been centered on how the urban domestic kitchen functions by looking at the practices of the
users, within the Ugandan context. In every society food is an important aspect of life; accordingly, certain values and meanings are attached to it (Lawrence, 1982; Christie, 2008). I have looked at the roles of tradition and modernity in the use of the kitchens vis-à-vis the kitchen designs which are in place. An architectural design, I should imagine, is expected to meet the purpose it is created for in the best way possible, more so, in a home. In this study I have looked at the expectations of what well-functioning urban kitchen would require through literature review of existing kitchen studies, which indicate a requirement of researching the social cultural aspects of life in order to arrive at more holistic designs. As far as food is concerned the urban Ugandan society looks to be still traditional judging from the evidence from the study cases which shows the raw and unprocessed food which is obtained for preparing and cooking. These types of food are in comparison with the “modern” kitchens which are in place. The word “modern” (footnote: The word “modern” is very relative depending on what perspective one looks at it. In this case I mean that the kitchens may have been conceptualized following modern designs, though they may not have state-of the-art furnishings or appliances. There are many factors affecting the urban lifestyles; and this study has not been able to exhaust all of them by carrying out investigations into how they affect the urban kitchen design. Even so, inasmuch as there have been no previous kitchen studies in Uganda, I have, through this study, been able to highlight the basic requirements of a well-functioning urban kitchen.

The merge of tradition with modernity in the Ugandan urban kitchen has to be catered for spatially in order to bring the two phenomena to a harmony. I have attempted to offer a few recommendations in design in order to bring this to effect. The people working in the urban kitchens attach values and meanings to their food practices but the situation is more of a hassle than desired because of the disharmony existing between tradition and modernity. In this respect the bid in getting better functioning kitchens also reduces the struggles the people who prepare food go through by suggesting ways of easing their chores.

It is hoped that through this study, the relevance of social cultural factors in architectural design will be realized by both those who plan and design the built environment, and in particular the kitchens within urban housing in Uganda.
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Website for CREEC [http://creec.or.ug/](http://creec.or.ug/)
Website for mwoto stove [http://www.mwotostove.com/](http://www.mwotostove.com/)
Interview guide, semi structured interview on the urban kitchens

Food preparation and cooking

1. What types of food do you prepare in this household?
2. Who prepares it?
3. Where in or around the kitchen do you prepare it?
4. What types of fuel do you use?
5. What types of stove(-s) do you use?
6. What types of traditional utensils do you have in use?

The Kitchen

1. What is kept in the kitchen?
2. How do you store food and raw food stuffs?
3. How do you store fuel?
4. What other spaces are connected to the kitchen, and cooking?
5. Detail the kitchen space
6. What comments do you have on the kitchen in general?
7. Comment on the design of the kitchen

The following to be noted:-

- Design of space
- Resources
- Technology
- Use of the kitchen area.
- Ways of preparing and cooking food.
- Storage areas
- Utensils
- Needs-psychological, physical, cultural
- Tastes
- Identification of kitchen design
- Social values
APPENDIX 2
Interviews with key Informants

Interview Guide No1 (Ass Prof X- academician)

Introduction of the researcher and the topic.
What are your credentials?
What boards are you serving on or you have served on, international and local?
What are the major outstanding issues/problems you have encountered in regard to the local versus the foreign (culture and development)
What are your personal experiences as a professional/academician cum traditionalist?
How do you think we could handle the issues of tradition and modernity in the changing modernizing world-specifically in a developing country?

The kitchen
What parameters could you consider in an appropriate kitchen in Kampala?
What do you say about the various fuel types and stoves in use in Kampala?
What are your views about the people who do the actual cooking, the food preparation, etc. in the domestic kitchens?
How do you think we could combine the use of various fuels and stoves in a modern, appropriate kitchen?
Why don’t people use their kitchens for preparing and cooking traditional food?
How useful do you think western kitchens are to urban dwellers in Uganda?
Do you know of any professional fora where various professionals can meet and exchange views on practical issues regarding ways of life and lifestyles for urban dwellers in Kampala or elsewhere in Uganda?
If you have paid some attention to a cross section of middle and high-income households in Kampala what major issues would you raise as far as housing design, use of space and lifestyles are concerned?
What areas of housing design for urban households would you consider a priority? (bedrooms, sitting room, study, kitchen, toilets, bathrooms, library/archive, stores.
Have you come across any useful innovations in the area of domestic urban kitchens for developing countries?
What groups of income levels do you think benefit from such innovations?
Tell me about your views on tradition and modernity urban, and their impact on the current urban lifestyles.
How do you think lifestyles have been impacted?
How should the balance be maintained if people have to c the importance of the local culture?
How can we tackle the influences from the western world?
What do you think should be done to improve the way of living in regard to the kitchen in the urban households, considering all the activities involved?
Interview Guide (Architect Y)

Introduction of the researcher and the research topic
What are your credentials?
How long have you practiced architecture?
What Boards are you serving on?
What major issues/problems have you generally encountered in practice as an architect and also as a woman architect?
What major types of building types have you worked on?
What about residential building types?
What are your experiences as the first Ugandan woman architect?
What are your views on the “modern” houses springing up around Kampala?
What do you think about appropriate designs?

The Domestic Urban Kitchen
How is it designed?
Who is involved?
How are the spaces determined? Dimensions; Fittings; equipment/gadgets.
What is the domestic kitchen designed for?
How are the various sizes, types, and etc. of equipment, stoves, and fittings, determined?
What about the use of various types of stoves, fuel? What do you say about that?
How do you think we can combine such various types of stoves, which use different kinds of fuel in the designed kitchen space?
How do you think we could solve the problems encountered in the domestic urban kitchens activities: soot, smoke, open fires, ventilation, heat, appropriate storage, affordability?
Looking at the types of food consumed in urban households in Kampala, why don’t people use their modern urban for preparing traditional food?
What parameters, do you think, we could consider in designing appropriate domestic urban kitchens?
What is your opinion on the usefulness of the modern/western kitchens to urban dwellers in Kampala?
Do you know of any professional for a where various professionals such as engineers, architects, social scientists, teachers and others can meet and exchange ideas on practical issues regarding ways of living for instance for urban dwellers in Uganda?
Interview Guide No.3 (Dr Eng. Z)

Introduction of the researcher and the research topic
I have heard about your achievements in innovations in the area of appropriate technology for Uganda. Will you please brief me about these innovations, particularly in the area of housing?

Whom do you target to benefit from your work?
What are the outcomes of your work?
How do you evaluate the work you have done?
What problems do you encounter in urban households concerning your work?
Which of those problems seem to be chronic or hard to solve?
Which areas of urban households do you focus on?

The Urban domestic Kitchen
What innovations have you come up with in regard to the kitchen?
Explain how your stove works and where it is placed
(The design of the stove, the use, and any problems encountered?)
What are the advantages and disadvantages of the stove?
What about the issue of affordability?
What groups of income levels are benefiting from your innovations?
What are your views on tradition and modernity and their impact on the contemporary urban lifestyles?
What are the pros and cons of that impact on lifestyles?
What do you think should be done to improve the people’s way of living as far as the urban kitchen design and the activities involved are concerned?
What are your views generally on the current domestic urban kitchen designs?
What should an appropriate urban kitchen look like?
What parameters in design should be used in designing those kitchens?
Do you have any additional information or comments?
Interview Guide No 4 (Mr W, Retired Chief Health Inspector KCC)

Introduction of the researcher and the research topic
What are your credentials? (The positions you have held before your retirement)
Concerning housing-what kind of income groups did you interact with while you worked in KCC?
What are your views on the current Bylaws in use? (Enforcement, accuracy and appropriateness)
What did you find out about the domestic urban kitchens during your tenure as the chief health inspector (their trend in design and use)?
What do the Current Building Bylaws say on the domestic urban kitchens?
What was the situation like in health and sanitation in the kitchens?
Which income levels do you think have been mostly benefiting from the KCC health and sanitation services?
What are your views on tradition and modernity? What are their impacts on the urban lifestyles?
What do you have got to say on the way of life for Kampala urban dwellers (ordinary people) as far as the kitchen and involved activities are concerned?
What do you think about the current domestic urban kitchens in Kampala?
What parameters should be looked at for designing an appropriate kitchen?
How do we solve problems of soot, smoke, open fires ventilation, heat, and affordability?
Why don’t people in Kampala use their kitchens for preparing and cooking traditional food?
What major problems in regard to health and sanitation did you come across in your career?
What do you say about the equipment and gadgets, fittings, dimensions, worktops, cupboards, drawers, shelves etc found in the kitchen spaces?
Why do people spend so much money on kitchen construction, especially on finishes, yet they do not carry out all the cooking activities there?
What are your views in regard to traditional food? (As far as cooking, storage, preparation, and garbage disposal activities are concerned?)
Do you have any additional information or comments?