

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

COLLEGE OF ART AND SOCIAL SCIENCES

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF GEOGRAPHY AND RURAL DEVELOPMENT

URBANISATION OF THE RURAL LANDSCAPE: ASSESSING THE EFFECTS AND
COPING MECHANISMS IN PERI-URBAN KUMASI.

JANET AFUA ABRAFI ADOMAKO

A THESIS SUBMITTED TO THE DEPARTMENT OF GEOGRAPHY AND RURAL
DEVELOPMENT IN PARTIAL FULFILLMENT FOR THE AWARD OF THE MASTER
OF PHILOSOPHY (MPHIL) DEGREE IN GEOGRAPHY AND RURAL
DEVELOPMENT.

MARCH, 2013

DECLARATION

I hereby declare that except for references cited, which have been duly acknowledged, this thesis is the result of my own research. It has never been presented anywhere either in part or whole for the award of any degree.

Janet Afua Abrafi Adomako

(PG 3528109)

(Student)

Signature

Date

CERTIFIED BY:

Mr. Kabila Abass

(Supervisor)

Signature

Date

Mr. Kwadwo Afriyie

(Supervisor)

Signature

Date

Dr. (Mrs.) Eva Tagoe-Darko

(Head of Department)

Signature

Date

DEDICATION

This work is dedicated to my siblings, nephews and nieces, most especially, to my late sister and nephew, Martha Aboagyewaa and Frank Owusu Appiagyei respectively.

KNUST



ACKNOWLEDGEMENT

Thanks go to the Almighty God for making it possible for this project to become a reality. I am indebted to a large number of individuals who contributed in diverse ways to the success of this study.

It would have been impossible to undertake this research without the scholarly insights and suggestions from my two supervisors, Mr. Kabila Abass and Mr. Kwadwo Afriyie. Their constructive criticisms and tireless support and comments have put this work in its right perspective. I express my deepest appreciation to their efforts.

My profound gratitude to Dr. Eva Tagoe-Darko, head of Geography and Rural Development Department, Dr. Alexander Yao Segbefia of Geography and Rural Development Department, Dr. E. M. Osei Jnr of the Department of Geomatic Engineering, Mr. Divine Odame Appiah, Dr. Seth Agyemang and all the lecturers in the Department of Geography and Rural Development for their support and encouragement in diverse ways.

My sincere gratitude to Mr. Lawford Boateng Acheamfour of Ghana Statistical Service; Mr. Joshua Tetteh, Assistant Development Planning Officer, KMA; Mr. Joseph Kwame Sarfo, Development Planning Unit, Bosomtwe District; Odefoo Amoaye II, the chief of Appiadu; Nana Appiah-Kubi I, the chief of Deduako-Kodieokrom; Honourable Alex Wiafe Akenteng Jnr, the Assemblyman of Appiadu; Mr. Collins Agyei, the Assemblyman of Deduako; Mr. Lewis Opuni Frimpong, the Assemblyman of Esereso and all respondents who participated in the study.

Special thanks to all my friends especially Patrick Osei Darko, Felix Uba, Rashida Ayuma, Angela Naa Atswei Adjetey and Charity Dzifa Amable for their diverse support. I am greatly indebted to David Amoako-Atta, Benjamin Ankomah, Obed Menkah-Menta, and Dorinda Saawah Saah for their support throughout the work.

ABSTRACT

The growth of suburbs has been the clearest expression of expanding urban areas. Diverse opinions have been expressed about the effects of the horizontal expansion of urban areas on the adjoining rural areas. While one school of thought sees urbanisation as a destructive agent depleting rural resources and displacing rural livelihoods without providing alternatives, another school of thought argues that urbanisation provides opportunities that promote growth and development in the adjoining areas through transformation in local economies leading to greater entrepreneurship. This study explores the effects of urbanisation and coping mechanisms in peri-urban Kumasi. Three communities within a 20 km radius from the city were selected to represent peri-urban Kumasi. Household survey, key informants interviews and focus group discussions were used as data collection tools to assess the situation. Quantitative data analyses was done with SPSS, and the results presented in the form of tables, graphs and charts while direct quotations from respondents were used to present qualitative data. Moreover, satellite images were analysed to establish the relationship between urbanisation and land cover changes.

The results from the study revealed that the expansion of Kumasi has presented constraints and opportunities to people living in peripheral villages. Key among the problems identified were land use changes from agricultural to residential buildings with negative implications for agriculture. The research has shown that there has been a reduction in the number of people engaged in the agricultural sector. However, while agricultural activities are increasingly declining, new livelihood types are evolving in response to urbanisation. Increase in non-farm job opportunities, infrastructure development and greater access to knowledge and skills in the study areas are noteworthy. Trading has become an important income generating activity, especially for women in the communities studied. The evolution of new livelihood activities has culminated in the adoption of both farm and non-farm

livelihood strategies including diversification, intensification and migration to cope with the effects of urbanisation. It was discovered from the study that interventions from local and traditional institutions are in the form of providing infrastructure facilities such as roads, classroom blocks, among others to support residents. However, these interventions are targeted at the general population and not with the primary aim of supporting households whose farmlands have been converted to houses.

Drawing on the results from the study, the study suggests that any future interventions should better integrate and develop farm and non-farm livelihoods through the adoption of a more pro-active, holistic and systematic approach to minimise the negative effects of urbanisation on peri-urban household livelihood through research, capacity building/skill development, development of alternative means of livelihood and implementation of the national urban policy and Land Administration Programme.

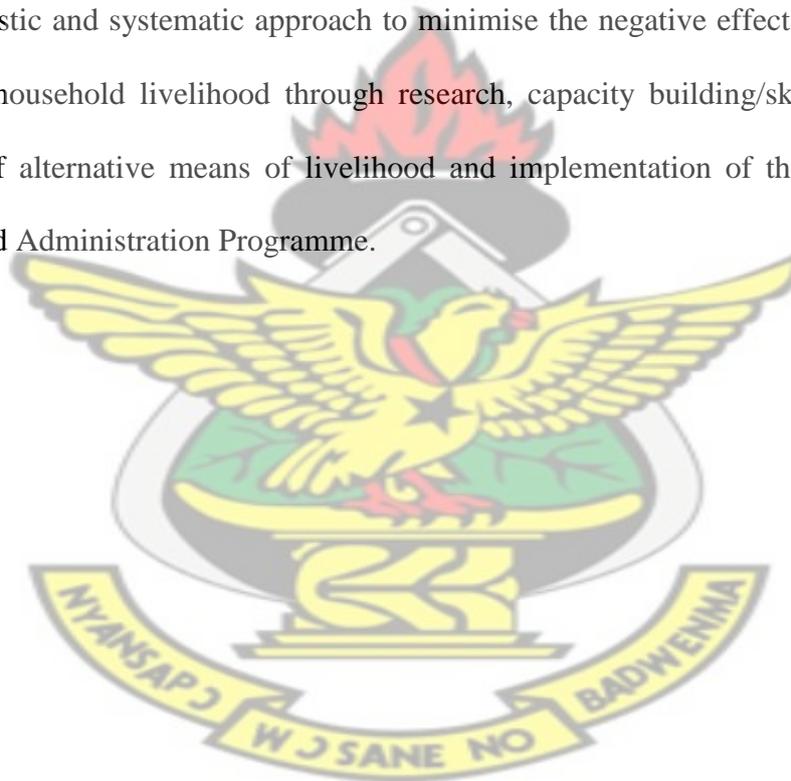


TABLE OF CONTENT

Title Page.....	i
Declaration.....	ii
Dedication.....	iii
Acknowledgement.....	iv
Abstract.....	v
Table of Content.....	vii
List of Tables.....	xi
List of Figures.....	xii
List of Plates.....	xiii
CHAPTER ONE: BACKGROUND TO THE STUDY.....	1
1.1 Introduction.....	1
1.2 Problem Statement.....	4
1.3 Study Objectives.....	7
1.4 Propositions.....	7
1.5 Methodology.....	8
1.5.1 Types and Sources of Data.....	8
1.5.2 Method of Data Collection.....	8
1.5.3 Sampling Method and Selection of Communities.....	9
1.5.4 Techniques of Preparation and Analysis of Data.....	11
1.5.5. Satellite Images Analysis.....	11
1.6 Justification of the Research.....	12
1.7 Limitations.....	13
1.8 Scope of the Study.....	13
1.9 The Structure of the Report.....	14
CHAPTER TWO: LITERATURE REVIEW AND CONCEPTUAL ISSUES.....	15
2.1 Introduction.....	15
2.2 Global Overview of Urbanisation and Major Causes.....	16
2.3 Urbanisation in Africa.....	18
2.4 Urban Growth and Rural Urbanisation.....	21
2.5 Defining the 'Peri-Urban Interface'.....	24
2.6 Effects of Urbanisation on Peri-urban Areas.....	27

2.6.1 Environmental and Health Effects of Urbanisation	28
2.6.2 Economic Effects of Urbanisation	29
2.6.3 Social Effects of Urbanisation	31
2.7 Livelihood Strategies	32
2.7.1 Classification of Livelihood Strategies	33
2.7.2 Agriculture as a Livelihood Strategy	36
2.7.3 Diversification as a Livelihood Strategy.....	37
2.8 Institutions and Policy Interventions in Urbanisation Process	40
2.8.1 Institutional and Policy Interventions at the Global Level	41
2.8.2 Institutional and Policy Interventions at the National Level	43
2.8.3 Institutional and Policy Interventions at the Local Level	45
2.8.4 Socio-cultural Institutions	46
2.9 Conceptual Framework.....	47
CHAPTER THREE: BACKGROUND OF THE STUDY AREA	62
3.1 Introduction.....	62
3.2 Location and Spatial Extent	62
3.3 Condition of the Natural Environment	63
3.3.1 Climate and Vegetation.....	63
3.3.2 Geology and Soil.....	64
3.3.3 Relief and Drainage	65
3.4 Conditions of the Built Environment.....	65
3.4.1 Physical Infrastructure	65
3.4.2 Agricultural Land use	66
3.5 Demographic Characteristics.....	66
3.5.1 Population Size, Growth Rate and Density.....	66
3.5.2 Age and Sex Structure	68
3.5.3 Spatial Distribution	68
3.5.4 Household Sizes/ Characteristics	69
3.6 Main Economic Activities	70
3.6.1 Trade (Commerce)/Service Sector.....	70
3.6.2 Industrial Sector	71
3.6.3 Agricultural Sector.....	72
3.7 The Kumasi Peri-urban Interface (KPUI).....	73

CHAPTER FOUR: EFFECTS OF URBANISATION AND COPING STRATEGIES IN PERI-URBAN KUMASI.....	77
4.1 Introduction.....	77
4.2 Demographic Characteristics of Respondents	77
4.3. Effects of Urbanisation on Peri-urban Livelihoods.	79
4.3.1. Negative Effects of Urbanisation on Peri-Urban Livelihoods.....	79
4.3.1.1 Urban Expansion and Land Use Change	79
4.3.1.2 Urbanisation and Changes in Household Economic Activities	86
4.3.1.3 Urbanisation and Effects on Economic Wellbeing	90
4.3.2 Positive Effects of Urbanisation on Peri-urban Livelihoods	92
4.4 Strategies Adopted to Cope with the Effects of Urbanisation.....	103
4.5 Alternative Livelihoods	117
4.6 Conclusion	120
CHAPTER FIVE: URBANISATION: INSTITUTIONAL EXPERIENCES AND INTERVENTIONS	121
5.1 Introduction.....	121
5.2. The Experiences and Interventions of District Assemblies in Urbanisation Process	121
5.2.1 Experiences of District Assembly Officials in Urbanisation Process.....	122
5.2.2 Interventions of District Assemblies in the Urbanisation Process.....	126
5.3 The Role of the Chieftaincy Institution in the Urbanisation Process.....	130
5.4 Conclusion	134
CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	135
6.1 Introduction.....	135
6.2 Summary of Research Findings	135
6.2.1 Effects of urbanisation on peri-urban livelihoods.....	135
6.2.2 Coping Strategies	136
6.2.3 Alternative Sources of Livelihood Opportunities	137
6.2.4 Strategies Adopted by Institutions to Support Displaced Indigenes.....	138
6.3 Conclusion	139
6.4 Recommendations.....	140
6.4.1 Short-term	140
6.4.2 Long-term	141
REFERENCES.....	143

APPENDICE151

APPENDIX 1: Structured Interview and Questionnaire Schedule for Sampled Household
Heads..... 151

APPENDIX 2: Structured Interview for District Assembly Personnel and Assembly Men . 159

APPENDIX 3: Structured Interview for Chiefs..... 161

APPENDIX 4: Interview Guide as used in the Focus Group Discussion..... 163

KNUST



LIST OF TABLES

Table 1.1: Population and Sample Characteristics of the Selected Communities	10
Table 1.2: Categories of Respondents from the Selected Communities.....	10
Table 1.3: Land-Cover Classification Scheme Used in the Study.....	12
Table 4.1: Distribution of Respondents by Sex, Level of Education and Age Group.	78
Table 4.2: Household Size of Respondents	79
Table 4.3: Proportion of Land Cover type from the 1986 Landsat TM Image Classification.	80
Table 4.4: Respondents' views on the Relationship between Kumasi's Expansion and Loss of Farmlands.....	84
Table 4.5: Effects of Urbanisation by Nature of Settlement.....	95
Table 4.6: Effects of Kumasi's Growth on Respondents' Sources of Livelihood by their Educational Background	96
Table 4.7: The Effects of the Expansion of Kumasi on the Livelihood of Respondents from Gender Pespective.....	98
Table 4.8: Effects of Kumasis' Growth at the Community Level	100
Table 4.9: Respondents' view on Changing Agricultural Practices	103
Table 4.10: Access to Financial Assistance from Relatives	107
Table 4.11: Additional Income of Respondents	108
Table 4.12: Respondents' Coping Strategies to Urbanisation	112
Table 4.13: Reasons for Adopting a Particular Livelihood Strategy	113
Table 4.14: Outcomes of strategies Adopted by Respondents	115
Table 4.15: Relationship between Respondents' Level of education and how they ensure Sustainability of their Livelihood	117
Table 4.16: Respondents' Views on the Relationship between the Growth of Kumasi and New Job Opportunities.....	118
Table 4.17: The kind of Opportunities Presented by the Growth of Kumasi	119

LIST OF FIGURES

Figure 2.1: DFID’s Sustainable Livelihood Framework (Source: Hiadar, 2009).....	50
Figure 2.2: Effects of Urbanisation and Coping Strategies: A Conceptual Framework.....	53
Figure 3.1: Study Area in National Context	75
Figure 3.2: Map of Kumasi Sub-Metropolitan Areas showing the Study Areas	76
Figure 4.1: Proportion of Land Cover Type from 1986 and 2007 Landsat TM Images Classification.....	83
Figure 4.2: Previous and Current Main Source of Income of Household Heads	90
Figure 4.3: Respondents’ View on whether there has been a Change in their Income in the last 5 years.....	93
Figure 4.4: Respondents’ View on what Farmers Resort to when they Lose their Farmlands	105
Figure 4.5: Occupational Activities of Other Members of the Household of Respondents ..	106
Figure 5.1: How the District Assembly Supports Respondents.....	129
Figure 5.2: How Chiefs Support Respondents in Strategising their Livelihood.....	133



LIST OF PLATES

Plate 4.1: The Extent of Land Cover Types of KMA in 1986	81
Plate 4.2: The Extent of Land Cover Types of KMA in 2007	82
Plate 4.3: The Extent of Land Cover Changes in KMA between 1986 and 2007	83
Plate 4.4: Vegetable Cultivation as a Livelihood Source	102
Plate 5.1: Poor Waste Management at Esereso.....	125

KNUST



CHAPTER ONE

BACKGROUND TO THE STUDY

1.1 Introduction

The world is increasingly becoming urbanised with about half of the world's population already living in urban areas (Thomas, 2008; Olujimi, 2009; Satterthwaite *et al.*, 2010). The first part of the unprecedented urbanisation which occurred in what is now referred to as the economically more developed countries during the industrial revolution is currently underway in less developed countries. Although urbanisation is a global phenomenon, different factors have instigated its process in different geographical areas, regions and countries. Whereas urbanisation in the more developed countries was a consequence of economic development, the story is different in developing countries. In developing countries, it is rather demographic factors which drive urbanisation process. The driving forces behind the rapid urbanisation in Africa today are the twin processes of rural-urban migration and natural increase within towns and cities (Songsore, 2009; Thuo, 2010).

Generally, urbanisation is the growth in the proportion of a country's population living in urban areas (Thomas, 2008). In 1950, about 30% of the worlds' population lived in cities and is projected to rise to 61% by 2030 (Trzyna, 2007). The current statistics seem to suggest that almost every country in the world has experienced some form of urbanisation, and the process is proceeding unabated, especially in, Africa. Rakodi, (1997 cited in Thuo, 2010) argues that it is “almost a truism that the planet's future is an urban one, and that, the largest and fastest growing cities are primarily in developing countries”. This statement is proving more accurate, particularly, in Africa looking at the alarming rate of urban growth.

Since the second half of the twentieth century, African countries, especially those in sub-Saharan Africa, have experienced rapid urbanisation. The rate of urban growth in Africa is

very alarming and the continent is said to have the highest rate of urbanisation globally, at 4.4% per year (Gwebu, 2004). In the year 2000, owing to the combined effects of rural-urban migration and rapid rates of natural increase, 38% of the continent's population lived in urban areas and the proportion is expected to increase to 47% by 2015 (Thuo, 2010). Urbanisation in Ghana is not different from other African countries. In 2000, 43.8% of the population constituted urban dwellers with a growth rate of 2.6% per annum as against 23.1 % in 1960 (GSS, 2000). Though the rate of urbanisation in Africa is projected to rise to over 50% by the year 2030, Ghana has already achieved this with 51.5% of its population already living in urban areas (United Nations, 2008). The population growth rate of the country now stands at 2.7% per annum (GSS, 2009).

Urban growth has extensive consequences on the natural environment as well as the livelihoods of people living in peripheries of urban centres (Aberra and King, 2005). This is because it is inextricably intertwined with the rural fringes or the peri-urban areas where urban growth encroaches on agricultural lands and surrounding villages (Gantsho, 2008; Thuo, 2010). Thus urban population growth results in increased population densities within established urban areas as well as in the outward thrust of urban agglomerations (peri-urban regions) (Mandere *et al.*, 2010). This means that urbanisation transforms peri-urban settlements from distinctively simple rural mode of life to a more complex, partly urban mode of life (Edusah, 2008).

It is generally and quite essentially observed that the natural physical environment suffers greatly from the peopling of the peri-urban areas (Chirisa, 2010). A key challenge to the urbanisation process is the rapid conversion of large amount of prime agricultural land to urban land use (mainly residential construction), mostly in the urban periphery thereby causing rural land prices to escalate (Owusu and Agyei, 2007; Gantsho, 2008). Since many

cities are situated at the heart of rich agricultural areas or other lands rich in biodiversity, the extension of the urban perimeter evidently cuts further into available productive land and encroaches upon important ecosystems (UNFPA, 2007). This alters the physical environment within rural areas in the form of land cover change and habitat loss. These areas suffer some of the worst consequences of urban growth, including pollution, rapid social change, poverty, land use changes and degradation of natural resources. The environmental challenges posed by conversion of natural and agricultural ecosystems to urban use have important implications for the functioning of global system (UNFPA, 2007).

In the peri-urban area, the process of land use changes from agricultural to residential and industrial goes hand in hand with transformations in the livelihoods of different groups- with the poorest often losing out (Tacoli, 2004). Whilst the wealthy are able to shed off rural attitudes in response to urban challenges, the poor in peri-urban areas are slow in doing so (CEDEP, 2005). However, urbanisation does not only present constraint to people living on urban fringes, it also creates opportunities by providing means of access to basic amenities and diversifying peri-urban economies. Thus urbanisation creates opportunities in wage employment and trading for people in peri-urban areas, and provides them with access to services and infrastructure (Aberra and King, 2005). The areas are consequently transformed into complex monetised urban economies and integrated into the urban system (Adu-Ampong *et al.*, 2008; Aberra and King, 2005). As a result, a more simple and rural agrarian economies take on urban characteristics owing to the trickledown effect of urban development. As rural areas become urbanised, multiple livelihood sources evolve. In other words, land use changes from agricultural to non-agricultural resulting in diversified livelihood sources.

Although there have been numerous geographical studies on rural-urban linkages, particularly effects of urbanisation on rural socio-economic and ecological systems, few

studies examine the impacts of urbanisation from the perspective of households and how they develop their coping strategies. The dearth of holistic studies on how the peri-urban households cope with the effects of urbanisation accounts for the limited ways to mitigate the negative effects of urbanisation, and develop the opportunities that urbanisation presents. The study assesses the effects of urbanisation in peri-urban Kumasi and coping strategies adopted by residents.

1.2 Problem Statement

A considerable concern has been raised about the rate at which African cities continuously encroach on agricultural lands in peripheral villages. This is because majority of African population living in rural areas depend on agriculture for their livelihoods. This is particularly so in Kumasi where the process of urbanisation is already encroaching on agricultural lands and transforming the livelihoods of people living in peripheral villages. This has come about as a result of increasing demand for land in peri-urban Kumasi since rent value within the city is relatively higher as compared to peri-urban areas. The consequence of which is the increased use of farmlands for housing and sand winning which, most often, results in environmental degradation (Edusah, 2008). The outward expansion of Kumasi in non-contiguous manner exposes indigenous villages previously located in rural areas to all sources of vulnerability, including irreversible conversion of agricultural land to urban use, pollution and land degradation which poses a serious threat to peri-urban livelihoods (Aberra and King, 2005). Though the implications of Kumasi's growth are multi-dimensional in nature, a set of inter-related changes have intricately enmeshed in the physical, social and economic make up of Kumasi peri-urban areas.

The social dimension of Kumasi peri-urban change manifests in changes in the composition of peri-urban population as a result of in-migration of particular groups of people (e.g. the

middle and upper income groups). A community which was once dominated by homogeneous group of people now exhibits heterogeneous characteristics. The population has been recomposed leading to a change in the nature of community life, power structure and development of new class system and individualism. Community solidarity and common values shared by residents have been transformed; social structure is now disproportionately biased towards those who, in terms of their wealth, power and influence, are influential in decision making process.

The expansion of Kumasi has greatly changed the peri-urban landscape from biotic cover classes to man-made abiotic cover classes. Since rent value in peri-urban Kumasi is relatively low as compared to the core of the city, these areas form tenure hotspots. In response to this demand, chiefs are in a rapid pace converting agricultural communal land to residential land, which they lease to others leading to increasing insecurity for community members (Ubink, 2006). The conversion of natural and agricultural ecosystems to urban use have altered the serene natural landscape and depleted peri-urban resources rich in biodiversity. Another major environmental challenge facing Kumasi peri-urban dwellers is the use of peri-urban resources such as land, water or air as sinks to dispose of waste. Most often, this situation results in environmental degradation which poses serious health problems to peri-urban dwellers.

Critical to note is the economic transformation which accompanies peri-urbanism. The environmental and social effects of Kumasi's expansion are manifested in the growing polarisation of non-farm occupational employment caused by constant conversion of agricultural lands to urban use. Land use changes currently occurring in communities surrounding Kumasi are strongly threatening the traditional livelihoods (farming) of peri-urban dwellers whose livelihoods depend on natural resources. Agricultural employment is

declining as a result of reduction in the quality and quantity of agricultural land available for farming. Peri-urban areas are therefore no longer dominated in employment terms by farmers since farmlands have been converted to urban use. The new development is leading to increased transformation in peri-urban livelihood and the transition process is moving from a typical agrarian source of livelihood to a more monetised urban economy. Peri-urban inhabitants, previously dependent on natural resources for their livelihoods, therefore have to cope with the growing urbanisation and adjust their livelihood strategies accordingly (Edusah, 2008).

It is believed that Kumasi Peri-Urban Interface (KPUI) presents countless opportunities that are identified and utilised in different time and space for the benefits of the inhabitants (Quashie-Sam *et al.*, 2005). However, majority of the peri-urban dwellers (especially the poor indigenes) who depend heavily on natural resources for their livelihoods are worse affected when such resources are lost or degraded as a result of urban expansion (Dávila, 2002). Land for large scale agriculture is not easily accessible in the Kumasi peri-urban interface because of rising demand for land for urban use. The displaced poor farmers are made more vulnerable to urbanisation process because farming, their main source of livelihood, has been destroyed as a result of urban expansion. Moreover, a study conducted by Ubink (2006) in nine peri-urban areas in Kumasi indicates that the indigenes whose lands have been reallocated and converted to urban development are most often not compensated. This affects the security of their livelihoods as no alternative source of livelihood is developed to absorb the displaced farmers. In spite of the growing literature on the effect of urbanisation on their adjoining areas, the effects of urbanisation on households and how they strategise to cope with the effects in the study areas remain critical issues to be looked at. The questions that this study seeks to answer are:

1. What are the effects of urbanisation on peri-urban livelihoods?

2. How do the peri-urban indigenes cope with the effects of urbanisation?
3. What are the potential alternative sources of livelihood opportunities that urban growth presents?
4. What are the interventions adopted by Chiefs and District Assemblies to support the people whose livelihoods have been affected?

1.3 Study Objectives

The general objective of the study is to explore the effects of urbanisation and coping mechanisms adopted in peri-urban Kumasi. Specifically, the study has the following as its objectives:

1. To assess the effects of urbanisation on peri-urban livelihoods;
2. To examine the strategies adopted by peri-urban indigenes to cope with Kumasi's growth;
3. To identify potential alternative sources of livelihood opportunities that Kumasi's growth presents; and
4. To examine the interventions adopted by Chiefs and District Assemblies to support indigenes whose livelihoods have been affected.

1.4 Propositions

The following propositions will serve as a guide to the study:

1. The rapid urbanisation of peri-urban Kumasi is responsible for occupational changes;
2. Urbanisation causes changes in livelihood strategies; and
3. Livelihood strategies reduce the extreme effects of urbanisation.

1.5 Methodology

1.5.1 Types and Sources of Data

The data for the study included demographic characteristics of respondents, effects of Kumasi's growth on respondents' livelihoods; alternative livelihood sources; strategies adopted by respondents to cope with Kumasi's growth and land cover change. These data were collected through a combination of both qualitative and quantitative research methods obtained from primary and secondary data sources. Primary data collection methods included Focus Group Discussion, questionnaires and interviews with household heads, key informant interviews, and observation. The secondary information was obtained by consulting other research papers, journals, articles, reports from government departments and e-materials.

1.5.2 Method of Data Collection

The data was collected by administering questionnaires and face-to-face interviews with heads of households. The household was the key unit of analysis where only indigenous heads of households were interviewed. Household was defined as 'a group of people living and sharing meals cooked from one pot' and taking individual and collective decision within domestic units. This excludes family members living elsewhere (Preston, 1994 cited in Brook and Dávila, 2000).

Moreover, two focus group discussions were held for the three communities, based on gender (men and women) with a minimum of eight and maximum of ten in each group. The discussions were facilitated by the researcher and a research assistant aided by a recorder. Interview guide was designed for the FGDs and used as a checklist during the discussions. The focus of the discussion was to explore the effects of urbanisation, how the effects of Kumasi's growth are managed and ways of making the strategies adopted by residents sustainable. Principal actors were also interviewed for additional but detailed information on

their experiences and responses to peri-urbanism. The principal actors included Chiefs, Assemblymen and officials from the District Assembly (DA). In addition, field observation of livelihood activities of residents within the three communities was carried out.

1.5.3 Sampling Method and Selection of Communities

Three peri-urban communities within 20 km radius from the city were purposively selected to represent peri-urban Kumasi. The selection was based on the co-existence of rural and urban livelihoods, proximity to Kumasi and the fact that these are places where multiple livelihood types are evolving in response to the effects of urbanisation. The selected communities were Esereso, Deduako, and Appiadu which were used to represent various spatial locations of the peri-urban continuum: urban, intermediate and rural respectively. These classifications are based on the level of exposure to urban influence and the proportion of the population engaged in the agricultural sector since one of the criteria for delineating urban areas is based on the proportion of the labour force employed in non-agricultural activities (Gantsho, 2008; Thomas, 2008).

The study made use of snowball and purposive sampling techniques to identify the respondents due to unavailability of records on the number of people who have lost their farmlands to urban use. Moreover, snowball sampling was used to identify the indigenous residents in the community due to the heterogeneous nature of the population consisting of migrants (newcomers) and indigenous residents. The indigenes were defined as people who have stayed in the selected communities for not less than twenty years and had birth right to communal land. The essence was to explore past and present situations (changes that have taken place through time) in order to direct future livelihood strategies in peri-urban areas. The total household population of the three communities (1,811) was the source of the sample frame (Table 1.1). Due to time constraint and unavailability of adequate resources, a

total of 150 households were used as the sample size for the study. Fifty (50) households were selected from each community to interview (Table 1.1). Respondents identified were classified according to their major economic activities or source of livelihoods in order to compare their responses. The categories were farm and non-farm (occupations other than agriculture) employment.

Additional information about the experiences and responses to peri-urban change was purposively collected from other stakeholders including two (2) Town Planners, one from each district (KMA and Bosomtwe District); three (3) Assemblymen, one from each community; and two Chiefs, each from Deduako and Appiadu.

Table 1.1: Population and Sample Characteristics of the Selected Communities

Community	Population (2000)	Total number of households (2000)	Sample selected from Community
Deduako (Urban)	3,111	571	50
Esereso (Intermediate)	4,871	931	50
Appiadu (Rural)	2,114	309	50
Total	10,096	1,811	150

Source: GSS (KMA, 2011)

Table 1.2: Categories of Respondents from the Selected Communities.

Categories	Esereso	Appiadu	Deduako	Total
Farming	15	25	20	60
Non-farming	35	25	30	90
Total	50	50	50	150

Source: Field Sample Survey, 2011

1.5.4 Techniques of Preparation and Analysis of Data

Quantitative data collected were processed and analysed by using Statistical Product for Service Solution (SPSS, V 17.0) and Microsoft Excel to generate frequency tables, cross tabulations, bar graphs and bar charts. Qualitative data was recorded, transcribed and used as integral parts of written text to better understand patterns, and relationships between variables. Direct quotations from respondents were also used to analyse qualitative data.

1.5.5. Satellite Images Analysis

In addition, Two Landsat images of path 194 roll 055 were obtained from ITC/ KNUST Imagery Data Base to detect land cover changes. These included 1986 image from Thematic Mapper (TM) sensor of Landsat 5-Satellite and 2007 image obtained from Enhanced Thematic MapperPlus (ETM+) sensor of Landsat 7-Satellite. KMA and its periphery were subset from the two scenes. The 1986 image was imperial while the 2007 image was in metric (metres). Using the 2007 image as reference, the 1986 image was reprojected.

The images were geometrically and radiometrically corrected. Moreover, the two images were normalised for the purposes of change detection. The satellite images were already georeferenced in the War Office Spheroid and Transverse Mercator Projection System. The ERDAS imagine 9.2 software was used for image pre-processing, classification and accuracy assessment. The supervised maximum likelihood algorithm was used to classify the 1986 and 2007 images. Eighty well distributed sampled data sets were taken from the field as training sets for the images from which signatures were generated for image classification. Although KMA is characterised by complex and heterogeneous land cover types, the images selected were classified into only four classes namely vegetation, urban, water and farmland since the purpose of the study was to detect the extent of urban encroachment on farmlands and vegetative cover (Table 1.3). The extent of each land cover type of the two images was

analysed quantitatively in hectares to establish the relationship between urbanisation and land-use change.

Table 1.3: Land-Cover Classification Scheme Used in the Study

Land cover	Description
Urban	Built-up areas including settlement within the urban core and periphery with or without patches of vegetation, bare grounds, infrastructure, paved and unpaved roads
Water	Rivers, wetlands and other water bodies
Farmland	Areas with cultivated agriculture
Vegetation	Areas with dense forest, shrub forest, undergrowth and other vegetation cover types

Source: Author's Description, 2011

1.6 Justification of the Research

Although rural-urban linkages have been extensively explored by many studies, however, limited studies exist on the implications of urban expansion on peri-urban livelihoods and the strategies adopted to cope with the effects. This is due to the fact that many academic studies and development efforts by governments focus on areas which are entirely rural or urban in nature, neglecting the peri-urban interface (PUI) and the negative economic, social and environmental effects. There is therefore the need for empirical research such as this to be carried out to highlight on the need to direct attention to the peri-urban interface.

The outcome of this study would serve both practical and academic purposes. Practically, this work presents information that can assist policy makers and planners to formulate and evaluate development strategies that seek to address effects of urban expansion on peri-urban livelihoods and also to bring to focus areas of needed interventions. Thus local and

international organisations interested in helping local people to better cope with the effects of urbanisation will benefit from this study.

Academically, the study adds to knowledge by examining the effects of urban expansion on the livelihood of the peri-urban communities and strategies adopted by indigenes to cope with urban expansion. The findings of the study will also serve as a reference material to any other person who will undertake similar study in the field.

KNUST

1.7 Limitations

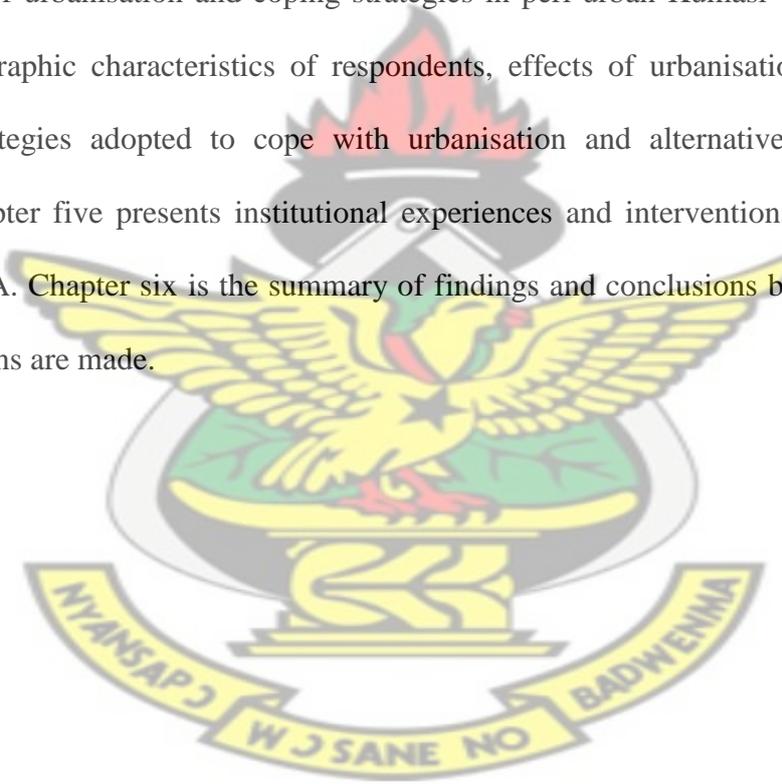
Due to the high incidence of illiteracy in the study areas, the researcher had to translate the questions into the local language for them to understand. This problem was overcome by translating the information into the local language and recording the information for transcription. Moreover, many studies have pointed out that, respondents are reluctant to provide accurate information on variables such as income level for fear of paying high taxes. This study was not free from these limitations. But to mitigate this problem as much as possible the researcher tried to convince respondents about the objectives of the researcher and assured respondents of the confidentiality of information.

1.8 Scope of the Study

The research covered three peri-urban communities in Kumasi. These included Esereso, Deduako and Appiadu. It was a survey of only a percentage of the population of the three peri-urban communities in Kumasi which was generalized for the entire population of the three communities. Although peri-urban areas, effects of urbanisation and coping strategies are dynamic and diverse across geographical areas, this study emphasized only on household level situations in the context of the three peri-urban communities in Kumasi.

1.9 The Structure of the Report

This study is organised into six chapters. The first chapter deals with the general background of the study which discusses key research issues, research questions and objectives for the study as well as the data collection methods. Chapter two is a review of relevant literature on urbanisation, effects of urbanisation on peri-urban areas, livelihood strategies and institutional interventions in urbanisation process. Chapter three presents an overview of the study area with a description of the natural environment, economic activities and demographic characteristics of KMA. Chapter four analyses the results of the field research on the effects of urbanisation and coping strategies in peri-urban Kumasi where key issues such as demographic characteristics of respondents, effects of urbanisation on peri-urban livelihood, strategies adopted to cope with urbanisation and alternative livelihoods are discussed. Chapter five presents institutional experiences and interventions in urbanisation process in KMA. Chapter six is the summary of findings and conclusions based upon which recommendations are made.



CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL ISSUES

2.1 Introduction

Differing opinions have been expressed about the process of urbanisation in Africa. Many people are of the view that rapid urban growth in Africa is often in conjunction with inadequate governance systems, infrastructure development, environmental degradation and land administration and most often, lack of industrial and economic growth which have led to what is often called the African urban crisis (Yankson, 2006; Rakodi, 2005 cited in Mandere *et al.*, 2010). Satterthwaite *et al.* (2010) however argued that it is not urbanisation that is the cause of such problems but the inadequacies in the response by governments and international agencies. Osmanu *et al.* (2010) attributed these challenges to the failure of government to deliver infrastructure services necessary for providing adequate living standards.

In conjunction with the linkages between rural and urban areas, there have been numerous geographical studies on the impacts of cities on surrounding areas. The logic is that the advancement of the urban front affects rural areas. Most of these impact studies have tended to concentrate on the changes in the structure of land use morphology particularly the changing land use pattern and the resultant planning problems (Xie *et al.*, 2007; Lei and Bin, 2008; Olujimi, 2009), impacts on the environment (Trzyna, 2007), and rural-urban linkages (Tacoli, 2004, Gantsho, 2008). This chapter reviews literature on the general view of urbanisation with particular reference to Africa and Ghana, the effects of urbanisation, livelihood strategies in the peri-urban area and the role played by institutions and policies in shaping peri-urban livelihoods. Finally, the chapter also deals with the conceptual framework which provides theoretical basis of how peri-urban dwellers strategise to cope with the effects of urbanisation process.

2.2 Global Overview of Urbanisation and Major Causes

Globally, the proportion of the population living in urban areas is increasing. For the first time in the history of humanity, half of the world's population lives in urban settlements (UNFPA, 2007; Thomas, 2008). UNFPA (2007) projected that the number and proportion of urban dwellers will continue to rise quickly and urban population will grow by 4.3 billion by 2030 and most of the urban growth will be in developing countries. Unfortunately, most of the rapid urban growth is taking place in countries least able to cope, in terms of the ability of governments to provide, or facilitate the provision of, urban infrastructure, in terms of the ability of urban residents to pay for such services; and in terms of resilience to natural disasters (Mutizwa-Mangiza, 2009).

A major concern has also been raised about these global estimates. Trzyna (2007) argued that these estimates are based on national definitions of 'urban' that use different criteria and on numbers that sometimes derive outdated or questionable census data. For instance, the official census definition for an urban centre is a settlement with a minimum population of 2,500 in the United States; 300 in Iceland; 30,000 in Japan and 5000 in Ghana (Owusu, 2005; Woods, 2007; Songsore, 2009). While there is a general agreement that urbanisation is the growth in the proportion of a country's population living in urban areas, there is less agreement about what constitutes an urban area, and there is no common definition of the word "urban" since different countries use different criteria to delineate urban areas (Thomas, 2008). Moreover, there is a general notion that population size and density alone are not sufficient to define urban areas. The permissible census definition of urban settlement implies that once villages grow to attain the minimum threshold population, they qualify to be re-classified as urban centres. In addition to the use of population, urban areas have been defined in terms of land use types and industrial categories (Gantsho, 2008). Thus an urban area may be defined as an area characterised by social, economic, and institutional activities

which are predominantly based on the manufacture, production, distribution, or provision of goods and services other than agricultural uses, or the extraction of natural resources in unprocessed form, or low density residential development.

Another major issue raised by Trzyna (2007) concerning global estimates was that when data are disaggregated by world region, they show marked differences in the level and pace of urbanisation. For instance, in the Americas, Europe and Oceania, the proportion of people living in urban areas is above 70% while Africa and Asia have 39% and 48% respectively (United Nations Population Division, 2008). Although the level of urbanisation is low in developing countries, most especially in Africa, Olujimi (2009) argued that nearly all global demographic growth is mostly concentrated in developing countries. Urbanisation as defined by Olujimi (2009) is the process of spatial concentration of urban population, and according to Trzyna (2007) urbanisation has long been one of the major forces shaping the world. But what are the main causes underlying this increasing concentration of urban population and its consequential changes on rural landscape? The causes of urbanisation can be classified into three main components: natural increase, migration and city annexation into the surrounding rural areas (areal expansion) or reclassification of rural areas as urban (Thomas, 2008, Olujimi, 2009, Satterthwaite *et al.*, 2010). Though these factors play a leading role in urbanisation process, researchers have identified different factors operating in different geographical regions at different times. For instance, while Satterthwaite (2005) argues that the immediate cause of urbanisation is the net movement of people from rural to urban areas in low- and middle-income nations, Thomas (2008), is of the view that the main cause today is generally natural increase.

Deblj (1996 cited in Olujimi, 2009) expressed a different opinion about the cause of urbanisation. He posited that while urban growth depends on the natural increase of the total

population that is already urban; the growth of a city's population through the natural increase has minimal effects on the process of urbanisation. Consequently, proportional increase in the population of urban dwellers is largely due to transformational forces of rural-urban migration and area expansion.

As urban population increases, there arises a competition for space, either for residential purposes or other urban use. High rent value, coupled with limited access to land within the city, has caused an increase in the demand for agricultural lands surrounding cities. In many countries, the increasing demand for land is affecting peri-urban areas, where urban expansion is already encroaching on agricultural lands and small villages located between rural and urban centres (Thuo, 2010). This implies that economic value of rent within the city is comparatively higher than areas outside the Central Business District (CBD). This is in keeping with the classical bid rent model, which depicts that land rents at the centre are very high but the transport costs are low therein and vice versa (Chirisa, 2010). Thuo (2010) also attributed the rising demand for peri-urban lands to high rents at the core of the cities and legal flexibility in land use planning in the rural-urban fringe. Urban growth is already engulfing the surrounding agricultural lands and small villages. The conversion of agricultural land to residential uses is leading to the rapid transformations in the agricultural production, spatial structure, social structure, land ownership and land market in these areas.

2.3 Urbanisation in Africa

Although the proportion of urban dwellers has dramatically increased, yet the level and rate of urbanisation vary significantly across geographical regions and countries. Africa has the lowest level of urbanisation, approximately 39% in 2007, compared to 48% in Asia, 72% in Europe, 78% in Latin America, and 81% in North America. However, the rate of urbanisation

in Africa since 1950 is the highest among all the continents in the world (Gwebu, 2004; Gantsho, 2008). The rate of urbanisation in Africa is expected to double between 2000 and 2030 (UNFPA, 2007). In the year 2000, due to the combined effects of rural-urban migration and rapid rates of natural increase, 38% of the continent's population lived in urban areas and the proportion is expected to increase to 47% by 2015 (Thuo, 2010).

Looking at the current rate of urbanisation in Africa, it is projected that over 50% of Africans will live in urban areas by the year 2030 (United Nations, 2008). The driving forces behind rapid urbanisation in Africa today are combination of rural-urban migration and natural increase within towns and cities themselves (Songsore, 2009; Thuo, 2010). Urbanisation process in Africa is so distinct from other continent principally because Africa's urbanisation is accompanied by absence of industrial expansion. This is because many cities in Africa were developed as colonial administrative or trading centres rather than industrial and commercial zones equipped to support large populations (Keiser *et al.*, 2004). For this reason urbanisation in Africa is not driven by radical transformations in agricultural productivity and industrialisation as witnessed in the developed countries. As a result of this Africa's urbanisation has been termed demographic rather than economic urbanisation (Songsore, 2003).

Rapid urban growth without corresponding industrial expansion has created problems in most cities in Africa. Olujimi, (2009) expressed that most of the big African cities are faced with the problem of rapidly deteriorating physical and living environment. The deterioration manifests itself in the form of slums, urban sprawl and squatter's settlements, increasing traffic congestion, flooding and erosion, deteriorating infrastructure and short falls in service delivery among others. Satterthwaite *et al.* (2010) on the other hand expressed that it is not urbanisation that is the cause of such problems but the inadequacies in the response by governments and international agencies. Inability of governments to overcome the challenges

instigated by the growth of cities has made many development partners often see urbanisation as a problem. Yet, no nation has prospered without urbanisation, and there is no prosperous nation that is not predominantly urban (UNFPA, 2007; Satterthwaite *et al.*, 2010).

Despite the problems that exist in African cities, the cities are still seen as the best option for migrants. According to UNFPA (2007) cities concentrate poverty, but they also represent the best hope of escaping it. This is due to the fact that urban areas provide many potential advantages for improving living conditions through the economies of scale and proximity they provide for most forms of infrastructure and services (Satterthwaite *et al.*, 2010). This makes urban populations more structurally privileged over their rural counterparts (Maxwell *et al.*, 2000). As Satterthwaite (2005) stressed, the mega-cities may appear chaotic and out of control, but most have life expectancies and provision for piped water, sanitation, schools and health. It is therefore a known fact that the presence of better facilities in these cities account for why Africa records the highest urban growth rate globally.

Urbanisation in Ghana is not a recent phenomenon. Its origin predates the arrival of the European. However, while the scale of urbanisation during this period was quite small, the process assumed a new impetus and dynamism during the European colonisation and the introduction of Western economic enterprise with its market economy which favoured urban concentration (Owusu, 2005). The growth of towns and cities in Ghana has been rapid since the attainment of nationhood about five decades ago (Edusah, 2008). In 2000, 43.8% of the population constituted urban dwellers with a growth rate of 2.6% per annum as against 23.1% in 1960 (GSS, 2009; Otoo *et al.*, 2006). This growth was facilitated by the move by colonial and post-independence governments to initiate and achieve acceptable growth and development through massive infrastructure development and industrialisation using urban places as nodes. This created polarised development in cities and triggered unprecedented urban expansion. Ghana's population is estimated at about 23.9 million (Osmanu *et al.*, 2010)

with a growth rate of 2.7% per annum and urban population at 4.4% (GSS, 2011). Urbanisation process in Ghana is not different from other African countries. While United Nations predict most African countries to be urbanised by 2030, Ghana has achieved this with 51.5% of its population currently living in urban areas (United Nations, 2011). Songsore (2009) observed that the rising trend in urbanisation in Ghana has been driven by the following demographic processes: rural-urban migration, natural increase in towns and cities and re-classification. According to him, the growth in the large number of urban places over the years would seem to suggest that re-classification is quite significant even though the two dominant elements driving urbanisation process have been rural-urban migration and natural increase within towns and cities themselves.

2.4 Urban Growth and Rural Urbanisation

The growth of suburbs has been the clearest expression of the expanding urban areas. Enabled by improving transport systems and infrastructure, lower density residential areas on the edges of cities complement the high density inner city, and the beginning of long process of selective out-immigration (Herbert and Thomas, 1990). Rapid urban growth has occurred twice in historic time and geographic space. The ‘first wave’ of urbanisation started in the developed world in the 18th century prior to the industrial revolution and the ‘second wave’ is characterised by huge increases in urban population in poorer countries (Waugh, 1995; Thomas, 2008) in the second half of the 19th century. During the ‘first wave’, migrants were attracted by the prospects of higher wages in urban industry and greater employment opportunities in towns and cities (Woods, 2007). The recent rate of urbanisation is faster and greater than that of the developed world. This is more evident in Africa which records the highest urban growth rate globally. Whereas urbanisation in developed countries was accompanied by industrial development, sub-Saharan African cities experience rapid urban

growth without any industrial development, rather urban growth in most sub-Saharan African cities has resulted in sprawling on the fringes of most cities (Songsore, 2003; Chirisa, 2010).

Urban growth involves urban population increase and territorial expansion of cities. It is the process of gradual transformation of a 'rural' to an 'urban' environment (Mends and Meijere, 2006). According to Mancebo (2009) the traditional form of urban growth presupposes the appearance of suburban spaces in the immediate vicinity of the town, having with it such strong organic and structural links that they sometimes end up being incorporated into it. He further stated that the continuous extension of urban areas with suburbanisation is replaced by peri-urbanisation which is characterised by high dispersion of housing in areas previously qualified as rural where newcomers import an urban way of life. For simplicity, UNFPA (2007 cited in Chirisa, 2010) classified the outward expansion of the city into residential suburbanisation and peri-urbanisation. It involves population growth in metropolitan and urban fringe areas and the afterward spread of growth into a more rural periphery. This implies that the initial outward growth of the city involves deconcentration and decentralisation of population and economic activities in suburbs. However, the continuous territorial expansion of the suburbs beyond the transitional zone to incorporate small towns and villages is peri-urbanisation. According to UNFPA (2007), whereas residential suburbanisation has its roots in cultural aspirations and has been promoted by official policies, urban growth by peri-urbanisation in contrast is largely unplanned and without direction. This is because peri-urban areas are mostly beyond or between legal and administrative boundaries of central cities and hence city planners consider these areas as areas outside their jurisdiction. As a result, the process of urbanisation can be, to a great extent, unplanned, informal and illegal, with frequent struggles over land use (UNFPA, 2007).

The increasing urbanisation of the rural landscape is a stage in the urbanisation process which most communities experience at a point in time. It involves population concentration in the city/town and its outlying rural areas and outward physical expansion of the city front. Despite the widely held belief that flows are always rural-to-urban, migration from the urban to the rural areas is increasing (Tacoli, 2004). Towards the end of the 20th century, most developed countries, especially in the United States, experienced population turnaround which was labelled by Berry (1976 cited in Woods, 2007) as counter-urbanisation. This largely involves migration from large urban centres to small urban centres or from urban to rural areas (Satterthwaite, *et al.*, 2010). According to Songsore (2003), this trend of movement was also witnessed in Ghana following the economic crisis of the late 1970s and early 1980s, with its devastating effect on urban real incomes. However, the migration of people from urban centres to towns did not result in deconcentration of industries and employment; rather investments have continued to be concentrated in the core metropolitan areas (Owusu, 2005, Satterthwaite *et al.*, 2010).

The process of urban growth, largely in non-contiguous transitional zones between countryside and city, is increasingly being referred to as peri-urbanisation. The growth of cities in the developing world is dynamic, diverse and disordered- and increasingly space-intensive (UNFPA, 2007). A concern has been raised about the need to build compact cities instead of decentralised cities. Due to the present expansion of the urban population across a wide area of Ghana, Nsiah-Gyaabah (n.d.) proposes the construction of high-rise buildings and promotion of commercial development in specific zones, which would depend on effective, appropriate technology and resources in order to save prime land for agriculture. However, according to UNFPA (2007), no consensus has been reached and disagreement often arises over the sources of sprawl.

Although the growth of cities is a global phenomenon, the trend of urbanisation varies across geographical regions. Whereas counter-urbanisation is the dominant phenomenon shaping the developed world today, urban sprawl according to Chirisa (2010) characterises most African cities. Urban sprawl involves urban spill over in a patchy and discontinuous growth in the peripheral areas. According to UNFPA (2007) urban sprawl results from the combination of different types of pressures on territorial expansion. For purposes of simplicity, these can be classified into two groups: residential suburbanisation and peri-urbanisation. Urbanisation in Africa has generally been more rapid and chaotic with deficiencies in regulation and infrastructure development (Mandere *et al.*, 2010). Mancebo (2009) attributed the outward expansion of the city to two major factors. Firstly, the improvements in and spread of public transport enable people to reside easily outside the city. Secondly, the improvements in people's living conditions accelerate an increase in the demand for dwelling space and at the same time, the car has become available to everyone which significantly increases individual mobility. For instance, in North America, the intensive use of the automobile for daily commuting was both a cause and a consequence of urban sprawl (UNFPA, 2007).

2.5 Defining the 'Peri-Urban Interface'

The peri-urban interface (PUI) has been variously termed and defined. There is no single satisfactory definition of the peri-urban interface and different definitions are understood to apply in different circumstances due to its dynamic nature. They may even change in the same location over time (Narain and Nischal, 2007) with the rapid urban growth. For instance as cities expand, the surrounding peri-urban areas also grow. Thus, areas that were peri-urban become urban and areas that were rural become peri-urban. This means that the nature of the peri-urban interface is constantly changing, leading to a variety of livelihood and natural resource problems specific to the PUI (Gregory, 2005).

Rapid urban growth no longer supports the traditional simplistic divide between ‘urban’ and ‘rural’ (Simon *et al.*, 2004 cited in Gregory, 2005). Usually, the difficulty of having a clear definition of the PUI stems from the fact that the area is constantly changing with increasing urban pressures and also in reality, they often merge into urban and rural areas. The nature of the peri-urban interface varies considerably according to the patterns of urbanisation, the economy and the geographical position of urban centres (Aberra and King, 2005). According to Mandere *et al.* (2010), a number of alternative terms have been used to describe the same geographical area. The most frequently used terms are urban fringe, periphery, inner rural and commuting zone.

The word ‘peri-urban’ can be used to denote a place, concept or process (Narain and Nischal, 2007). Most of the definitions used to define the ‘peri-urban’ are informed by either one or a combination of these words. Narain and Nischal (2007) defined the peri-urban as follows: “As a place, it can be referred to rural fringe areas surrounding cities. As a concept, peri-urban could be seen as an interface of rural and urban activities and institutions. As a process, it could be thought of as the two-way flow of goods and services and a transitional stage between rural and urban”. Mandere *et al.* (2010) in their study defined peri-urban areas as those areas which are in transitioning between the urban and traditional landscapes as determined by daily commuting distance to the CBDs of the nearby city and or town. Brook and Dávila (2000) highlighted the importance of conceptualising the peri-urban as a series of interactions between the rural and urban systems, characterised by flows of produce, finance, labour, information and services among others. Aberra and King (2005) described the peri-urban area as a complex zone spatially located between urban and rural areas where people’s livelihoods are under constant pressure from urban expansion.

All the above definitions point towards conceptualising the PUI either as a process, a place or a concept. Thus the peri-urban areas are zones located between rural and urban areas

characterised by the meeting of rural and urban activities or intense flows of goods, people and capital between rural and urban areas. However, Gregory (2005) is of the view that the peri-urban concept attempts to move understanding beyond definitions considered solely in terms of geographical location and spatial land use. This is because conceptualising the PUI either as a geographical location or spatial land use will not give any meaning because of its inherent dynamism and patchiness.

Peri-urban livelihood dynamism is a key feature of the definition which was given by Abera and King (2005). Thus how livelihoods are constantly being transformed from a simple agrarian source of livelihoods to multiple sources of livelihoods. The complex nature of the peri-urban interface informed the view expressed by Hudala *et al.* (2008) who pointed out that the process of peri-urbanisation is characterised by changing local economic and employment structures, from agriculture to manufacturing, rapid population growth and migration, rising land values and mixed land use. They further noted that peri-urban interface has unique features including substantial dependence on metropolitan centres, capital accumulation and dynamic co-existence of urban and rural livelihoods. Peri-urban areas encompass a wide range of activities, including farming, husbandry and cottage industries, together with industrial expansion, land speculation, residential suburbanisation and waste disposal (UNFPA, 2007). The diverse land use stem from the fact that most often, the population here comprises of heterogeneous groups including original residents; farmers; migrant residents; recreational users; industrial users; natural resource users; investors and speculators; developers and builders (Thuo, 2010).

Marshall (2008 cited in Chirisa, 2010) maintained that the whole framing of peri-urban both as a process or concept is analytically flawed. He observes that when regarded as a place: "...the peri-urban becomes a site of expulsion from the city to make way for visions of modernity, but can also be seen as a threatening urban fringe, where communities become

associated with health and environmental hazards which require some form of control. When regarded as a process it can be seen as a transition zone, where for example, the retirement of rural activities are inevitable and therefore require little attention.” On the contrary, Narain and Nischal (2007) argue that an attempt to define the peri-urban as a process helps to better understand the peri-urban as the existence of both rural and urban characteristics and the linkages between the rural-urban and the flow of goods and services.

2.6 Effects of Urbanisation on Peri-urban Areas

Cities do not exist in vacuum. They are constantly interacting with their adjoining rural areas. The Rural-urban linkages have been extensively explored by researchers and diverse opinions have been expressed about the nature of interaction that exists between urban and their peripheral villages. The arguments advanced by most researchers are along the lines of Modernisation and Dependency theories on the basis of the conception of cities as growth poles or conception of urban bias in rural development respectively (Satterthwaite and Tacoli, 2003). These ideologies have prevailed in development thinking since the second half of the twentieth century. The emergence of the growth pole theory in the 1960s and 1970s saw the activation of cities as growth centres with the notion that growth will trickle-down to the adjoining areas (Gantsho, 2008). As a result Modernisation theory was equated with urbanisation due to the emergence of the growth pole theory. However, in the 1970s and 1980s, Populist revision of Modernisation theory and neo-Marxist theory reversed the view that cities are engines of growth and development, noting that urbanisation in Africa was not necessarily associated with industrialisation, but was an extractive—even “parasitic”—process that undermined agriculture and rural development (Baker and Pedersen 1992 cited in Maxwell *et al.*, 2000, Satterthwaite and Tacoli, 2003).

Based on the dichotomous views about the nature of urban function in rural development, a concern has been raised about the need to clearly establish the linkages between rural and urban areas. According to Aberra and King (2005), the linkages between rural and urban areas can be beneficial as well as increasing inequality and vulnerability of those groups with least assets. Dávila (2002) is of the view that depending on the nature and intensity of the relationship between urban and rural areas, the livelihoods of the poor will be negatively or positively affected by a number of processes. This means that rural-urban linkages are spatially and socially differentiated. Thus there are marked differences in the effects of urbanisation among different people in different socio-economic groups across different geographical areas. The issue of the quality and quantity of asset base of household members play a critical role in an attempt to either mitigating the negative effects of urbanisation or developing the opportunities that urbanisation presents.

Development practitioners argue that urban growth has brought both positive and negative impacts on the developmental, demographic, environmental and social situation in cities and their peripheral villages with differing effects (UNFPA, 2007; Edusah, 2008). The effects of urbanisation are discussed in subsequent sections.

2.6.1 Environmental and Health Effects of Urbanisation

Many of the environmental pressures that urban activities impose on the surrounding area involve either urban demands for rural resources or the use of rural land, water or air to dispose of waste/pollution (McGranahan *et al.*, 2004). Environmental effects of urbanisation manifest in the alteration of the serene natural landscape including agricultural land and forest. Some peri-urban areas also become sinks for urban liquid, solid and sometimes airborne wastes. In view of this, environmental degradation becomes inevitable in the

expansion of the built environment since most often; no attempt is made to protect the environment from urban expansion.

Waste disposal and environmental degradation associated with exploitation of environmental assets like water, sand, wood among others make people vulnerable and susceptible to diseases and contaminations. Specific health hazards arise when agricultural and industrial activities are mingled with residential use. For instance, lack of regulation of lands and their use can endanger the health of poor people who settle or reside there, because they may be exposed to hazardous substances in the air, the water they drink and the food they grow (UNFPA, 2007). Chirisa (2010) asserts that most peri-urban zones in Africa are places of possible disaster outbreaks in terms of diseases outbreaks and other social hazards due to their general lack of planning and institutional integration. According to UNFPA (2007) if cities persist in the uncontrolled expansion of urban perimeters, indiscriminate use of resources and unfettered consumption, without regard to ecological damage, the environmental problems associated with cities will continue to worsen.

2.6.2 Economic Effects of Urbanisation

Urban growth has extensive consequences for the natural and built environment as well as livelihoods of people living in the peripheries of urban centres. The ever increasing pressures on peri-urban land, brought on by rapid urbanisation, have led to growing polarisation of non-farm occupational employment and gradual squeezing out of farming as a means of livelihood in peri-urban communities (Aberra and King, 2005).

Land use changes are foremost among changes occurring around cities (Mends and Meijere, 2006). Many studies have established that, the indigenous peri-urban dwellers whose livelihoods depend on natural resources are the victims of increasing outward expansion of

the city as they mostly lose their farmlands to non-agricultural uses (Davila, 2002; Ubink, 2006; Edusah, 2008). Urban expansion inevitably covers some agricultural land while changes in land values and land markets around cities often result in land left vacant as the owners anticipate the gains they will make from selling it or using it for non-agricultural use (Satterthwaite *et al.*, 2010). In effect the peripheral villages are adversely influenced by growing demand for natural resources which eventually leads to the displacement or decline in agricultural employment. For this reason, peri-urban dwellers whose livelihoods depend on agriculture are made more vulnerable to the extreme effects of urbanisation as Lei and Bin (2008) projected that there will be no land for future use if urbanisation is not controlled.

Moreover, with urbanisation, rural spaces on the fringe of urban centres are exposed to all sources of vulnerability and poverty typical to urban livelihoods including integration into a monetised economy and access to fewer safety nets (Aberra and King, 2005). The rise in cost of food coupled with high rent cost in peri-urban areas serve as a constraint on peri-urban livelihoods. This is due to the rapid influx of migrants into peripheral villages and the consequential conversion of agricultural lands to non-agricultural uses leading to the reduction in the quantity and quality of land for farming (Thuo, 2010). Reduction in land sizes consequently affects agricultural productivity extensively which will lead to low food production and a rise in cost of food in the peri-urban area.

There is clear evidence that urbanisation can play a positive role in social and economic development. Historically, the statistical association between urbanisation and economic growth has been strong. Today, cities generally have greater potential than rural areas for reducing poverty. Cities are the main site for economic growth in most countries and account for a disproportionately high share of national economic production. Countries that are highly urbanised tend to have higher incomes, more stable economies, stronger institutions and are

better able to withstand the volatility of the global economy (UNFPA, 2007). On the positive side, the peripheral settlements are exposed to strong urban influences such as access to markets, services and urban job opportunities (Edusah, 2008). Urbanisation creates livelihood opportunities for people in the peri-urban interface whilst also enabling them to access services and infrastructure. Peri-urban residents who have been displaced can benefit from urbanisation by engaging in petty trading and wage labour or cultivating higher value agricultural produce to supply urban demand (Aberra and King, 2005).

KNUST

2.6.3 Social Effects of Urbanisation

Peri-urban areas are socially dynamic in nature wherein social forms are constantly created, modified and discarded. They are areas of social compression or intensification where the density of social forms, types and meaning increases, fomenting conflict and resolution (Jaquinta and Drescher, 2000 cited in Narrain and Nischal, 2007). Population recomposition is one of the key characteristics of peri-urbanisation where small farmers, informal settlers, industrial entrepreneurs and the urban middle class may all co-exist in the same territory, although with different and competing interests, practices and perceptions (Narrain and Nischall, 2007).

The traditional form of social network serves as a major social capital in the peri-urban interface. For instance, in the analysis of social capital in India, Brook and Dávila's (2000) study revealed that extended families with many members often living in one house play an important role in providing opportunities and contacts. The traditional social institutions such as the extended family and kinship networks which promote communal living, strong family ties and basic support to members are increasingly being replaced with greater individualism and single family system. Thuo (2010) established in his work that the breakdown of family

ties and loss of communal cohesion have affected the initiation and management of community projects, caring for the dependants such as orphans and elderly and also increase in crimes and other social vices in the Nairobi rural-urban fringe. The cohesion among community members is weakened because newcomers are not tied to local customs and norms.

Urbanisation does not only serve as a destructive agent, while traditional institutions are breaking down, new modes of interactions are emerging. According to (Thuo, 2010), churches have become a new space of communal get-together where members meet to support each other in times of need such as during bereavements, weddings or sickness. This has proved to be important in promoting collective action by the various community groups and also in providing necessary support to various members of the community. People can also fall on colleagues at the work place, association members, school mates, various internet social networks for support or access information.

2.7 Livelihood Strategies

Diverse livelihood portfolios are viewed as a critical component of household economies in developing countries (Cinner and Bodin, 2010). This is a typical characteristic of peri-urban households since they are influenced by both rural and urban economies. The peri-urban interface could be understood as a heterogeneous mosaic of natural ecosystems, productive or agro-ecosystems, and urban ecosystems affected by material flows demanded by both urban and rural systems (Narain and Nischal, 2007). As a result of the interactions between rural and urban areas, peri-urban dwellers are exposed to a wide range of livelihood options and choices including farm and non-farm based activities that are undertaken in order to achieve their livelihood goals. Peri-urban dwellers rely on occupational sectors such as agriculture, salaried work, informal economic activities such as trading, construction, among others. For

this reason high proportion of households have rural and urban components to their incomes and livelihoods and as a result, individual members engage in different activities in different locations while sharing resources and assets (Satterthwaite *et al.*, 2010). Examining how households access, and depend upon a diversity of occupational sectors is a central theme in many development studies and is often discussed in the context of poverty, urbanisation, household risk, conservation, and coping strategies (Cinner and Bodin, 2010).

The effects of urban expansion have a profound impact on improving or worsening the livelihood conditions of peri-urban dwellers. Urbanisation can be expected to bring about changes in the livelihood strategies of households in villages close to the urban areas (Brook and Dávila, 2000). As a result a variety of livelihood activities are undertaken to mitigate the negative effects of urbanisation or take advantage of opportunities presented by urbanisation. Most often, the numerous geographical studies that seek to establish the linkages between rural and urban areas ignore the effects on peri-urban households and how they construct their livelihood strategies in response to urbanisation process. Most peri-urban households devise their coping strategies based on the nature of the impacts that urbanisation presents.

2.7.1 Classification of Livelihood Strategies

Livelihood strategies include a range of activities designed to build asset bases and access to goods and services for consumption (Farrington *et al.*, 2002). They are pattern of behaviour adopted by the household as a result of the mediation processes on the household assets. As an intrinsic part of the assets-activities-outcomes cycle, livelihood strategies are generally adaptive over time, responding to both opportunities and changing constraints (Morris *et al.*, n.d). To respond effectively to opportunities or constraints, individual members of the household must have the capacity to exercise choice and access opportunities using the resources at their disposal. This is also influenced by the quality and quantity of assets that

individuals, households or communities are able to mobilise. The choices opened to people are reflected in the way they use their assets and determining their well-being (DFID, 1999).

Livelihood strategies have been variously classified. Most of these strategies aim to spread risk through income-enhancing or expenditure reducing (Farrington *et al.*, 2002). It is also critical to note that the strategies or their patterns of activities adopted are not static, but rather are frequently subject to review, adapted to take advantage of opportunities or mitigate risks, or substituted to cope with contingencies (Morris *et al.*, n.d). According to Morris *et al.* (n.d), Elli's classification of livelihood strategies is premised on the observation that for majority of rural households in SSA, farming alone does not provide sufficient means of survival. He divides his classification into natural resource and non-natural resource based activities including both on-farm and off-farm activities undertaken to generate income (monetary and non-monetary contributions to household consumption) additional to that from the main household agricultural activities. Ellis' (2000 cited in Morris *et al.*, n.d) classification is based on the sources of livelihood activities undertaken by rural households.

Within the PUI, Gregory (2005) broadly categorised peoples' livelihood activities into cash based and non-cash based activities. Non-cash based activities such as household food production, fuel, fodder or medicinal herb collection or access to building or artisanal materials depended on free access to communal natural resources (or ancestral land ownership for subsistence food production in India). Depending on the time limit of a particular activity, Farrington *et al.* (2002) and Brook and Dávila (2000) classified livelihood strategies into coping and adaptive strategies. Coping strategies have been defined as 'a short term response to a specific shock' and adaptive strategies as a 'long-term change in behavior patterns as a result of a shock or stress'. The former motivation might be associated with a wide income-earning portfolio to offset all future types of shock or stress, whereas the later would more likely be a narrower, rehearsed response to a particular type of common shock or

stress. According to Farrington *et al.* (2002) many of the strategies, particularly coping strategies, which are reactive responses to shocks while solving short term problems for some of the household may worsen their vulnerability in the long term and may immediately worsen the conditions of some of the household (e.g sending children to work rather than to school).

Rakodi (1999 cited in Farrington *et al.* 2002) distinguishes between the following types of strategy according to the nature of the activities that they are involved:

- Investment in securing more of an asset which promotes security and also allows for diversification or intensification of activities;
- Substitution of one asset for another which may compensate for the declining availability or quality of natural capital by increasing inputs of physical capital;
- Disposal which includes sale of assets such as livestock, land or jewellery, to compensate for a consumption shortfall or to release funds for investment;
- Sacrifice – for example, not investing time and resources in fostering reciprocal social relations, thereby reducing future ability to draw on social capital; sacrificing children's ability to earn adequate income in the future by withdrawing them from school because of the inability to pay fees.

Although livelihood strategies or components of livelihood strategies have been widely classified according to different criteria, however the most frequently cited typology of livelihood strategy is given by Scoones (1998). He identified three broad types of livelihood strategies which cover a range of options and activities open to rural people: agricultural intensification/extensification, livelihood diversification and migration. Agricultural intensification or extensification strategies depict the continuous dependence on agriculture either by intensifying resource use through increased labour and capital investment per given area of land or using more land for cultivation or grazing. Diversification is basically

broadening the range of off-farm income earning activities. Migration involves moving away to seek a livelihood, either temporarily or permanently elsewhere. These classifications are not necessarily mutually exclusive and trade-offs between option types and the possibility to combine elements of different options will exist (Morris *et al.*, n.d).

2.7.2 Agriculture as a Livelihood Strategy

Urban expansion has a significant impact on farming systems in the surrounding peri-urban and rural areas, where agriculture is often the residents' traditional and primary occupation (Tacoli, 2004). Many people in peri-urban areas gain more of their livelihood from agriculture (including livestock rearing, aquaculture, forestry etc.) through processes of intensification (more output per unit area through capital investment or increases in labour inputs) or extensification (more land under cultivation) (Scoones, 1999). Urban intrusion into rural-urban fringe is eating into agricultural land and thus leading to the reduction in the quantity and quality of land for farming (Thuo, 2010). According to Thuo (2010), in the peri-urban Nairobi, since most of the land has been sub-divided either due to *in situ* increasing population or immigration leading to land demand for residential purposes, most families have been left with small portions of land for cultivation. High demand for peri-urban lands and land commodification make it difficult to cultivate on a large scale and the cultivation of cash crops is economically unviable (Thuo, 2010).

Although there has been pressure from the peri-urban expansion due to immigration which has contributed to decreasing land holding sizes, agriculture still remains a critical economic activity in peri-urban areas (Mandere *et al.*, 2010). In a situation where farming is affected by various factors that make it economically unviable, farmers respond in a variety of ways including diversifying crop production, change in crops grown and looking for off-farm jobs (Thuo, 2010). In response to the declining agricultural land, most farmers change their mode

of farming by shifting from traditional extensive agriculture towards intensive agricultural practices where crops with shorter gestation period as well as with high market value are cultivated as a survival strategy (Mandere *et al.*, 2010, Thuo, 2010). The intensification of production is stimulated by the increasing demand from urban markets and consumers for high-value crops and perishable horticulture. Aberra and King (2005) discovered that farmers in peri-urban Kumasi respond to the pressures on land by adopting short term coping strategies such as reduction in fallow periods. As a result, food crops and vegetables are mostly cultivated. For instance, Aberra and King (2005) indicated that crop production continues to be a significant source of subsistence for Kumasi peri-urban interface inhabitants, both as a major and supplementary source of income.

2.7.3 Diversification as a Livelihood Strategy

With the expansion of the urban front, peri-urban dwellers are left with no other alternative than to switch from land-based livelihood activities to alternative income generating activities that do not require land. The traditional occupation of majority of residents in peri-urban areas can officially be classified as agricultural or rural in character. However, with the increasing urbanisation, the traditional rural sector can no longer function as a major income generating activity in the peri-urban areas (Hudala *et al.*, 2008). The findings of Mandere *et al.* (2010) revealed that agriculture still remains one of the predominant economic sectors in peri-urban Nyahururu in Kenya, however its economic value is significantly declining as a result of declining number of households that engage in agriculture as full time economic activity. The increasing pressures from urban expansion compel most people to adopt non-farm income generating activities as a coping strategy. Poor people, hitherto relying on the natural resource base for survival, have no other alternative than to engage and rely on new income generating activities (Adu-Ampong *et al.*, 2008). This has been one of the means by

which peri-urban households minimise risk and raise income in order to meet household needs. For instance, according to Thuo (2010), most families in Nairobi peri-urban areas formerly relying on farm for food and income turn to look for non-farm jobs within their locality or elsewhere with the declining agricultural opportunities due to land conversions and population increase. The same story is told by Aberra and King (2005) in peri-urban Kumasi. They explained that farmers in KPUI seek to diversify into non-farm livelihood activities in response to urbanisation pressures.

In peri-urban areas, many people diversify to a range of off-farm or non-farm income earning activities to supplement household income. It may be undertaken by choice for accumulation or reinvestment purposes, or of necessity either to cope with temporary adversity or as more permanent adaptation to the failure of other options (Morris *et al.*, n.d). However, Tacoli (2002) is of the view that the nature of diversification can vary widely, according to who undertakes it- wealthy or low-income households, urban-based or rural-based, etc. According to her, among low-income households, diversification is often a survival strategy for risk minimisation and income stabilisation. On the other hand, among higher-income groups, diversification is often accumulation strategy aiming at maximising profits by investing across sectors.

Decreasing incomes from farming, especially for small-scale producers who, because of lack of land, water, or capital, are unable to intensify and switch to higher value crops, means increasing numbers of rural residents engage in non-farm activities often located in urban centres (Tacoli, 2004). With diversification becoming the norm of the day, individuals are more likely to engage in multiple activities rather than rely on only one, and that there will often be variations over time, either seasonal or related to individuals' life course (Tacoli, 2004). The adoption of multiple sources of income is meant to complement the dwindling earnings from farming (Thuo, 2010). Diversification involves wage work in agricultural, non-

agricultural activities, non-farm self-employment and remittances from urban areas and from abroad (Brook and Dávila, 2000).

Migration forms a central component of livelihood diversification (Hussein and Nelson, 1998). It may be voluntary or involuntary, temporal or permanent. Most often, people are compelled to migrate when they cannot gain a secure livelihood in their homelands. As a critical strategy to secure off-farm employment, it may rely on and/or stimulate economic and social links between areas of destination and origin. Migration will have implications for the asset of those left behind, for the role of women and for on-farm investments in productivity (Morris *et al.*, n.d). One important aspect of non-farm is that landless poor and people with no skill in farming can engage in it. Diversification of livelihoods can be both positive and negative: positive if diversification makes livelihoods more secure and reduces adverse impacts of seasonality, but negative if diversification results in lower agricultural productivity (Brook and Dávila, 2000).

According to Barrett *et al.* (2001), multiple motives prompt households and individuals to diversify assets, incomes, and activities. He asserts that diversification is influenced by both “pull and push” factors. The first set of motives comprise what are traditionally termed “push factors”: risk reduction, response to diminishing factor returns in any given use, such as family labour supply in the presence of land constraints driven by population pressure and fragmented landholdings, reaction to crisis or liquidity constraints, high transactions costs that induce households to self-provision in several goods and services. Tacoli (2004) described this type of diversification as a survival strategy for vulnerable households and individuals who are pushed out of their traditional occupations and who must resort to different activities to minimise risks and make ends meet.

The second set of motives comprises “pull factors”: realisation of strategic complementarities between activities, such as crop-livestock integration, specialization according to comparative advantage accorded by superior technologies, skills or endowments (Barrett, 2001). In line with these set of motives, Tacoli (2004) was of the view that wealthier groups with better education and skills can be pulled by new opportunities, and their accumulation strategies aim to draw maximum benefits from the changing context. Increase in residential land uses and particularly with city population moving into the peri-urban area brings some opportunities into the area. People moving to the area create business opportunities for the indigenous residents and other groups such as former farm labourers in that they present needs that must be met daily (Thu, 2010). The proximity of peri-urban areas comes with it availability of job opportunities to the indigenous residents, who are being edged out from their farming activities by land conversion and the problems associated with it.

2.8 Institutions and Policy Interventions in Urbanisation Process

To appreciate the processes through which peri-urban transformations occur, it is always important to understand and distinguish between institutions and their policy interventions as according to Nsiah-Gyabaah (n.d), urbanisation process is driven by market forces and government policies that lead to simultaneous process of change in livelihoods, land use, health and natural resources management including water, soil and forest. Institutional interventions determine the choices that are opened to people to pursue their livelihood strategies. One important way in which institutions and policies do this is by influencing the extent of men’s and women’s access to or control over assets (Farrington *et al.*, 2002). According to Farrington *et al.* (2002), the urban poor are linked into structures of governance through their dependence on the delivery of infrastructure and services by city institutions, as well as through the impact of meso and macro level policies. This implies that different

institutions shape peri-urban livelihoods according to their level of operation and the scale of application. These actors range from the global and national to the local levels of government institutions. Farrington *et al.* (2002) refer to these actors as levels of government institutions and public policies, as well as private sector practices and policies, and civic, cultural and economic institutions that operate in society, which together help to determine and set parameters for the livelihood strategies which are open to poor men and women.

2.8.1 Institutional and Policy Interventions at the Global Level

Over the years, the potentials of urbanisation have widely been recognised and appreciated. It has been established that cities are important generating centres of economic growth and their efficient management is crucial to the rate of economic growth of any country since they have the capability of improving people's well-being. It is also important to note that failure or inability to effectively manage the growth of cities will make people more vulnerable and increase incidence of poverty. UNFPA (2007) maintains that urban mismanagement often squanders urban advantages and the urban potential for poverty reduction. Gantsho (2008) is also of the view that if a city is well-planned and managed efficiently, it can relieve pressures on surrounding rural areas. The concern raised recently is about urban renewal which aims at the effective exploitation of the productive potentials of cities. This has called for the interventions of government and international agencies to design policies that can improve on the effects of urbanisation and promote the sustainability of the current growth of cities. Urban areas provide many potential advantages for improving living conditions through the economies of scale and proximity they provide for most forms of infrastructure and services (Satterthwaite *et al.*, 2010).

The growth of cities according to Xie *et al.* (2007) is both the integral part and outcome of globalisation. In identifying globalisation as one of the pre-eminent forces of our time, it is

conceptualised not as the movement of goods, people and capital around the world, but as the advanced inter-connection and interdependence of localities and the world (Woods, 2007). The intrusion of global forces particularly attract investments to the peri-urban economy and connect them to global cities as the emergence of world economy and globalisation of advanced telecommunications strengthen global politics and economic success of national governments, multinational corporations, international donors and agencies. The continued global economic integration and relationships between countries and political affinities allow for the establishment of effective enabling environments and channeling of resources and technical support which in effect influence spatial distribution of towns and cities. According to Uphoff and Buck (2006), any attempt to resist can lead to exclusion from the opportunities and potentials opened up by globalised markets.

The spatial distribution of towns and cities according to Satterthwaite *et al.* (2010) influences the geography of the non-agricultural economy since it is where industrial and service enterprises have chosen to locate. According to Cohen (2004), globalisation as driven by an astounding rate of technological change, particularly in the areas of transport and telecommunications has radically reduced the need for spatial proximity and reshaped the organisation, management and production firms and industries. Improvement in transport and telecommunication have practically reduced distance barrier and decisions regarding the location of people and industries are no longer a problem. According to Satterthwaite *et al.*, (2010) this has made it possible for the separation of the production process from those who manage and finance it.

The livelihoods of people living on peri-urban fringes are subjected to the influences of global trade (example price fluctuations) and migration of labour since peri-urban economies are considered as integral part of a wider economic system. Recent experience from many parts of Africa shows that growing population pressure and development of market

economies have given rise to significant changes in land tenure practices and these have increased pressure on land and raised the monetary value of land, undermining its social, cultural and spiritual significance. The spread of modern communication technology evident in the introduction of cell phones and internet has also increased the connectivity and quality of information that peri-urban dwellers have at their disposal. The danger regarding this view is that local elites can capitalise on it and dominate (Uphoff and Buck, 2006).

2.8.2 Institutional and Policy Interventions at the National Level

In the Ghanaian context, virtually all national policies seem to tip towards global economic policy and the policies are usually informed by the prevailing ideology or paradigms of economic development at any given time (Adu-Ampong *et al.*, 2008). For instance, growth and development strategy implemented in the early post-colonial period which saw massive industrialisation and infrastructure development in the major cities in Ghana was due to the conception of cities as engines of economic growth and development. According to Gantsho (2008), the conception of cities as growth poles resulted in cities activated as growth poles and strategically located points in a region were artificially induced as growth poles. Since the growth of cities during the early post-colonial period could not trickle-down to the peripheral regions, according to Adu-Ampong *et al.* (2008), the 1970s saw the implementation of Integrated Rural Development Programme focusing on agricultural change since urbanisation was considered as a parasitic process leading to under development and the neglect of agriculture. Most of the policy interventions in the country only address spatial problem without the attempt to integrate rural and urban components of development interventions. Based on the interaction and linkages between rural and urban areas, Satterthwaite and Tacoli (2003) argued that it is essential that policies and programmes

reflect the importance of the ‘urban’ part of rural development and the ‘rural’ part of urban development.

The continuous implementation of policies (such as the Integrated Rural Development Programme and Urban Water Supply and Sanitation), with rural or urban focus, often lead to the marginalisation of the development priorities of the PUI. This is because these interventions do not directly address issues related to PUI. It is also important to note that even though the policies have specific spatial dimensions, they have a considerable impact on the ability of peri-urban households to build their livelihood assets and strategies since according to Satterthwaite *et al.* (2010) a high proportion of households have rural and urban components to their incomes and livelihoods— so they are better understood as multilocal, as individual members engage in different activities in different locations while sharing resources and assets. Tacoli (2004) also expressed in her study that macroeconomic policies linked to reform and adjustments indicate that the sharp reduction in subsidies to agricultural inputs has affected the incomes of small-scale, under-capitalised farmers in most nations whilst the retrenchment of workers in the formal sector has deepened financial insecurity in the urban centres. At the same time, the increase in the cost of food and the introduction of user fees for education and other services have forced many households to seek cash incomes through employment diversification.

The views expressed by Tacoli (2004) and Adu-Ampong *et al.* (2008) suggest that the attempt to attain sustainable livelihood in the PUI by the poor is more often than not adversely affected by institutional structures like government institutions and private sector. The effects and the responses vary from one location to another and even within households of different categories of people. It is therefore argued pro-poor policy interventions should be adopted because it has the potential for building the security of poor households’ livelihoods (Farrington *et al.*, 2002).

2.8.3 Institutional and Policy Interventions at the Local Level

Local governance systems and institutional set-up play an important role in defining the nature of the relationship between urban centres and their surrounding region, although this needs to be situated within the broader context of national and supranational fundamental changes in social and economic structure (Tacoli, 2002). The linkages between the poor and the city institutions are significant in determining their access to resources and decision making (Farrington *et al.*, 2002). Satterthwaite and Tacoli (2003) were of the view that local governments should have a key role in the identification of local needs, opportunities and constraints, and be able to act on them. The local government system is argued to be more responsive to local needs and aspirations. For this reason, local government in Ghana has the responsibility to ensure the overall development of their district through capacity building and provision of basic services. It should be noted however that international organisations and national governments support local actions through creation of enabling environment and channeling resources. Local government institutions are the real actors when it comes to addressing local needs and priorities and provision of safety nets to mitigate factors of insecurity and instability. This move is linked both to democracy for its own sake and the state's attempts to devolve responsibility to the poor to pay for their own infrastructure and services (Farrington *et al.*, 2002).

However, according to Farrington *et al.* (2002), local and municipal governments are criticised to be weak, because they are unable to address the needs of the poor and in some cases actively exclude and discriminate against them. Moreover, there is a frequent struggle over land use in the peri-urban area because city planners consider most of these areas as areas outside their jurisdiction since the areas are mostly beyond or between legal and administrative boundaries of central cities (UNFPA, 2007). The absence of planning in the peri-urban area with fragmented land holdings sometimes act as sources of vulnerability to

peri-urban indigenes since conversion of land use from agriculture to non-agricultural use is hardly regulated.

2.8.4 Socio-cultural Institutions

The livelihood in the peri-urban area is strongly linked to natural resources especially land which is available to all community members and many people depend on this resource to make a living. Social and cultural institutions can have a major impact on poor households' access to resources (Farrington *et al.*, 2002) since land tenure system in Ghana is strongly intertwined with the chieftaincy institution (Edusah, 2008). For instance, most land in Ghana is customary land, of which traditional authorities are the custodians and administrators (Ubink, 2006). Customary land management poses a serious threat to livelihood conditions in the peri-urban area since the growing occupation of new entrants in the KPUI has increased the demand for land for residential purpose. According to Ubink (2006) chiefs take advantage of the increasing demand for land in the peri-urban area to convert agricultural communal land to residential land. The commercialisation of land in the peri-urban area leads to increasing insecurity for community members which renders them immediately or ultimately landless because they lose their agricultural land (Ubink, 2006). Farmers are most of the time left with no alternative livelihood or compensation. According to Ubink (2006) some chiefs in Kumasi peri-urban area claim that land belongs to the royal family and they had only given this land out for farming purposes, to temporary caretakers, and can reclaim it when its use is changed to residential, without compensation. Such chiefs assert that farmers do not lose any land, since they did not own the land.

A brief paper by International Institute for Environment and Development (IIED) (2006) recognised that changes in land tenure security are taking place at different levels. At the micro-level, intra-household competition between men and women and between generations

often lead to the edging out of women and young men from control over productive resources, and family property is effectively privatised by older men. On a larger scale, the paper reports that the encroachment on common land by commercial agriculture and the marginalisation of smallholders, for example by large scale foreign investors, are widespread phenomena. Such processes may often be backed by the state when it perceives pastoral and smallholder land use to be 'backward and unproductive (IIED, 2006).

The literature reviewed so far indicates that no specific policy or intervention exists to reconcile the indigenous peri-urban farmers who lose their farm to urban use. On the contrary, a review of alternative livelihood projects in some communities in Ghana by Temeng and Abew (2009) revealed that farmers who have been displaced by the activities of mining companies are compensated and re-established. They however commented that these companies did so because they were increasingly pressured by growing international advocacy groups to minimize the negative impacts of mining activities on the environments and the local people. Therefore any interventions that seek to mitigate the effects of urbanisation and help local people better cope with the effects of urbanisation needs to consider how to empower the local people economically and the sustainability of such interventions.

2.9 Conceptual Framework

The concept of livelihood has gained widespread currency from development agencies and analysts in recent years. Livelihood thinking dates back to the work of Robert Chambers in the mid-1980s which was further developed by Chambers, Conway and others in the early 1990s. The term 'sustainable livelihood' came to prominence as a development concept in the early 1990s, drawing on advances in understanding of famine and food security during the 1980s (Hiadar, 2009). Since that time, a number of livelihood approaches have been

developed to mediate the poor from external shocks and stresses. Example is the DFID's Sustainable Livelihood Framework (SLF) developed in 1999, which has been adopted and modified by a number of organisations such as FAO, CARE, UNDP among others. For the purpose of this study, the DFID's Sustainable Livelihood Framework has been adopted, modified and used as a key point of reference (Figures 2.1 and 2.2).

The approach focuses on poverty reduction interventions on empowering the poor to build on their own opportunities, supporting their access to assets, and developing an enabling policy and institutional environment (Hiadar, 2009). The sustainable livelihood approach facilitates identification of practical priorities for actions that are based on the views and interests of those concerned but they are not a panacea. It does not replace other tools such as participatory development, sector-wide approaches, or integrated rural development. However it builds upon the strengths of these approaches (Serrat, 2008, Hiadar, 2009). The framework also seeks to understand the multifaceted nature of poverty and improve on the livelihoods of the poor through the various resources and capacities needed to escape poverty. It is based on evolving thinking about the way the poor and vulnerable live their lives and the importance of policies and institutions (Serrat, 2008). The attractiveness of the framework stems from the fact that it is development objective, analytical framework and has a set of principles at the core. The principles that underpin the framework are

1. It is responsive and participatory in drawing ideas from various stakeholders, be it public or private.
2. It is dynamic and sustainable.
3. It provides a more holistic approach to better understand the range of resources and capabilities which are used to build livelihood strategies and outcomes.
4. It is people centred rather than governments or resources. It places people's views and priorities at the centre of analysis but they are not a panacea.

5. The framework can also be applied at a range of different scales—from individual, to household, to community, to regional and even to national levels to assess the livelihood outcomes at different levels.
6. The approach identifies the vulnerability context of the poor where shocks and stresses that influence livelihoods of the poor are identified.
7. Incorporation of the poor, women as well as those in rural areas into research and development programmes.

Livelihoods are based on income (cash, kind, or services) obtained from employment, and from remuneration through assets and entitlements (Buechler, 2004). The definition of livelihood has widely been cited in development literature and as Carswell *et al.* (1997 cited in Scoones, 1999) pointed out: “definitions of sustainable livelihood are often unclear, inconsistent and relatively narrow. Without clarification, there is a risk of simply adding to a conceptual muddle...” However, a widely accepted definition is the one given by Chambers and Conway (1992) in Brook and Dávila (2000):

A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, both now and in the future, while not undermining the natural resource base.

Scoones (1999) further disaggregated the above definition into five elements. The first three focus on livelihoods, linking concerns over work and employment with poverty reduction with broader issues of adequacy, security, well-being and capability. The last two elements add the sustainability dimension, looking, in turn, at the resilience of livelihoods and the natural resource base.

Figure 2.1: DFID’s Sustainable Livelihood Framework (Source: Hiadar, 2009)

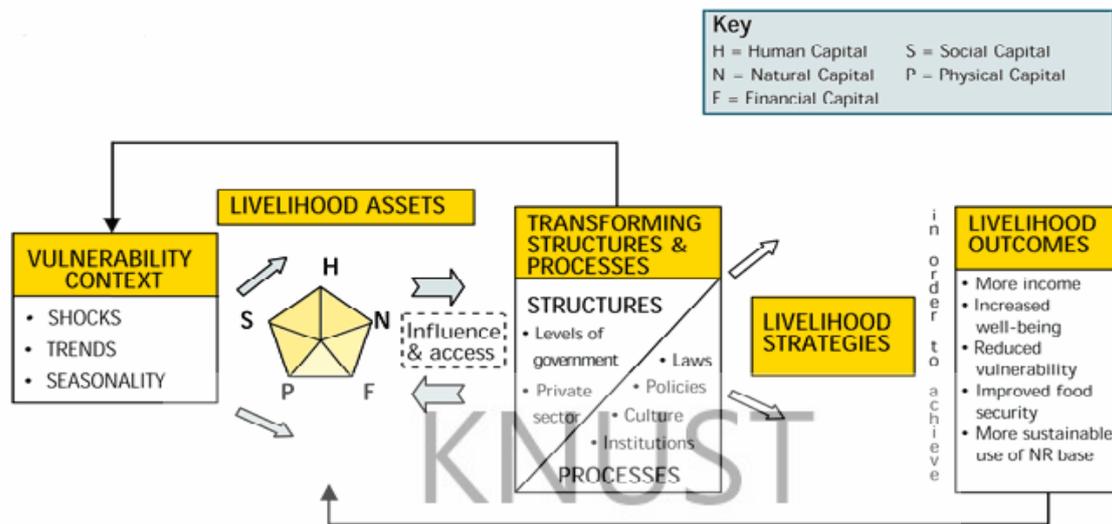


Figure 2.1 depicts three key factors that affect people’s livelihoods: vulnerability context; access to capital assets and ability to put the assets to productive use; and policies, institutions and processes that shape and influence livelihood strategies and priorities that people define as their desired livelihood outcomes. Vulnerability context shows the external environment or factors that contribute to the incidence of poverty. The elements which make up the vulnerability context include shocks, trends and seasonality. Vulnerability context indicates the nature of trends (population, migration etc), shocks (flood, death of family member etc) and seasonality (employment opportunity, prices) over which people have limited or no control. These factors make people susceptible as well as having direct impacts on people’s assets status by creating or perpetuating vulnerability and poverty.

Based on the factors outlined above, there is the need for institutional and policy intervention through transforming structures and processes to manage vulnerability context. This is managed by helping people to become more resilient by supporting the poor to build up their assets and translating them into livelihood strategies and outcomes. Moreover transforming structures and processes do not only enable people to build assets, they also act as barriers to

achieve positive livelihood outcomes. They create assets, determine and influence rates of access. This means that institutions and policies of the transforming structures and processes have profound influence on access to assets. On the contrary, although policies affect the livelihood options of poor individuals and communities, the poor affect policies and institutions as well. Those with more assets tend to have a wide range of options and an ability to switch between multiple strategies to secure their livelihood.

The livelihood assets available to household, individual or community represent the basic platform upon which livelihood may be built. The approach is founded on a belief that people need a range of assets to cope with stresses and shocks to achieve positive outcomes. This is particularly true for poor people whose access to any given category of assets tends to be very limited. As a result they have to seek ways of nurturing and combining what assets they have in innovative ways to ensure survival. Assets are both destroyed and created as a result of the trends, shocks and seasonality of the vulnerability context. Poverty analyses have shown that people's ability to escape from poverty is critically dependent upon access to assets. Different assets are required to achieve different livelihood outcomes. The DFID framework assets are presented by natural capital, economic or financial capital, human capital, social capital and physical capital.

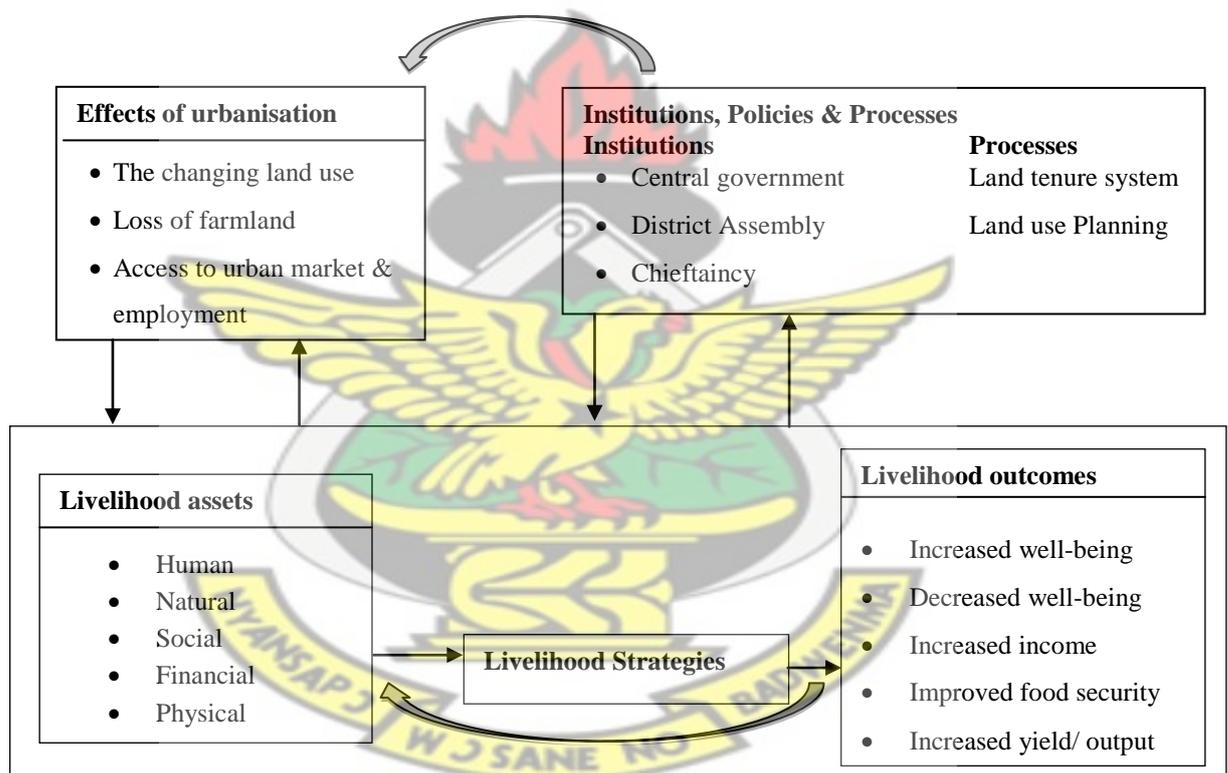
The sustainable livelihood framework was initially designed to generate more understanding of rural households, but is now seen as a generic framework, for use in urban as well as rural areas (Singh and Gilman, 1999 cited in Brook and Dávila, 2000). According to Brook and Dávila, (2000), there are limited examples of its use in peri-urban setting. They further stressed that using the sustainable livelihoods framework in the peri-urban context raises a number of specific questions, particularly regarding who and where are the households affected by peri-urban process?

Since the context in which people live varies in the peri-urban area, people's response to the effects of urbanisation will also be different. The strategies adopted are also determined by people's rights or control over livelihood resources (combinations of capital assets). The conceptual framework on which this study is based is the Sustainable Livelihood Framework (SLF) developed in 1999 by DFID. The framework is modified as a key point of reference for the purpose of this study. The adapted version of the DFID's SLF is used to examine the effects of urbanisation on the livelihoods of indigenous peri-urban households and how they respond to the effects. It also attempts to identify the beneficiaries and those who are more vulnerable to the urbanisation process in the peri-urban setting. The study draws ideas from the works of Brook and Dávila (2000), Scoones (1998), Morris *et al.* (n.d), Serrat (2008), Haidar (2009), among others.

Figure 2.2 shows the factors that constrain or enhance livelihood opportunities and how they influence each other. The framework highlights five interacting elements: contexts (effects of urbanisation), livelihood resources/assets, institutions, livelihood strategies and outcomes. It depicts urbanisation as the external environment over which peri-urban households have limited or no control and as the context within which peri-urban livelihood is organised. In the process of the horizontal expansion of cities and their subsequent conversion of agricultural lands to non-agricultural use, assets are both destroyed and created. This is evidenced in the nature of constraints and opportunities that urbanisation presents including the changing land use, loss of farmland, access to urban market and urban wage employment opportunities. These are external factors that directly constraint or enhance household asset status. For instance, rapid conversion of agricultural land to urban use and the use of peri-urban natural resources (water, land, and air) as sinks for urban waste directly destroy natural capital assets such as land from which peri-urban dwellers depend for food, water and fuel

(Brook and Dávila, 2000), forcing farmers to abandon or prematurely dispose of farmland, as part of their coping strategies. At the same time, livelihood opportunities are created as peri-urban areas are exposed to urban monetary economy. People can abandon their farmlands and engage in non-farm income generating activities such as trading or non-farm wage employment. People can also trade natural capital with financial capital as farmlands are sold. However, specific problem arises if the returns from the sale of farmlands are not used by the displaced people themselves for productive purposes.

Figure 2.2: Effects of Urbanisation and Coping Strategies: A Conceptual Framework



Adapted from DFID (1999)

The framework is hinged on five capital assets on which peri-urban livelihoods are built. The degree of the effects of urban expansion on peri-urban livelihoods depend on sources of livelihood and the range of assets available to household members and how effectively they are able to utilise these assets. Peri-urban households dwell on diverse livelihood resources in

order to develop their livelihood strategies and outcome in response to urbanisation process. The range of assets that people have in their possession contributes to how they are able to manoeuvre their way through the opportunities and constraints of urbanisation. The framework assets are represented by the following five categories:

Natural capital: The relationship between the natural capital and vulnerability context is particularly close in the SLF (DFID, 1999). Urbanisation as accompanied by intense competition for peri-urban resources including the use of peri-urban land, water or air to dispose of waste destroys the natural capital base available to peri-urban households. This has enormous effects on the natural environment as well as people whose livelihood depends on natural resources. For instance, conversion of agricultural lands to urban use devastates traditional agricultural livelihood since it is from this resource stock that most people derive their livelihoods. Moreover, resources such as forest, water and land that peri-urban dwellers used to access for free, with the emergence of urbanisation such resources can no longer be accessed for free, but rather paid for.

Human capital: Human capital also involves the skills, knowledge, ability to work, good health and physical capabilities which are important for the successful pursuit of different livelihood strategies. Many of the effects of urbanisation on the natural environment affect the wellbeing of peri-urban residents. The effects stem from the health implication of polluting peri-urban natural resources. Waste disposal and environmental degradation associated with exploitation of environmental assets such as water, sand and wood make people vulnerable and susceptible to diseases and contaminations. This in turn affects the socio-economic conditions of residents as pollution impacts on health and reduces productivity when people fall sick. Capability is one of the components of Chambers and Conway's definition of sustainable livelihood as diseases affect peoples' ability to work. On

the other hand, urbanisation offers opportunity for building the capacity of the poor through greater access to quality education, skills, flow of information, technology among others. For instance, the ability to recognise the opportunities that urbanisation offers and utilise it effectively will depend on the kind of information individuals are able to access and the quality of education. Although more difficult to assess, increased flow of people and information are important ways of widening the knowledge horizons of relatively isolated village communities, and improving their opportunities for realising a fair price for the product of their labour (e.g. agricultural produce) as well as responding effectively to consumer preferences (Dávila, 2002). Many people regard ill-health and lack of education as core dimensions of poverty and thus overcoming these condition may be one of the primary livelihood objectives (DFID, 1999). Human capital is a building block or means of achieving livelihood outcomes. It is a fact that human capital determines people's personal qualities and is not only intrinsically important but also defines how other livelihood assets will be used (Gregory, 2005, Adu-Ampong *et al.*, 2008).

Financial capital: Economic or financial capital base (cash, credit/debt, savings, regular remittances or pensions, and other economic assets, including production equipment and technologies) are essential for the pursuit of any livelihood strategy. Urban economies can be distinguished from rural economies based on the commercialisation of most basic goods. Urban economies are characterised by a greater degree of commercialisation, and most basic goods such as food and accommodation must be bought or rented through the market (Farrington *et al.*, 2002). This means that many people in the urban area survive on cash incomes from sale of labour unlike their rural counterparts, and according to Farrington *et al.* (2002), the urban poor must survive through undertaking variety of income-generating activities while rural residents usually have better access to land for subsistence agriculture, to common property or 'free' natural resources and who may be paid in kind for their labour.

Surviving through cash income jobs can be considered as one of the sources of vulnerability of the indigenous peri-urban residents. Kutiwa *et al.* (2010) maintained that most important vulnerability involves urban poor dwellers who are more immersed in the cash economy but earn incomes that are often erratic, unreliable and small. Urbanisation also offers the means through which people can build their livelihood strategies through access to financial resources such as credit facilities. The availability and access to financial capital through a variety of cash income jobs enable people to adopt different livelihood strategies.

KNUST

Social capital: Social capital involves the social resources (networks for solidarity, social claims, social relations, affiliations, associations) upon which people draw when pursuing different livelihood strategies requiring coordinated actions. Urbanisation weakens the traditional social ties such as the extended family system that people fall on for support in times of difficulties. Urban way of life, accompanied by social disintegration and erosion of community spirit increases the tendency of people to disregard traditional responsibilities to relatives outside their nuclear families. The end result of this development is increasing individualism that narrows the range of social support that individuals can access. Urbanisation can also intensify social stratification and polarisation where social groupings are formed. The development and diversity of class system in the peri-urban areas will favour wealthy and those whose voices can be heard. This will increase the tendency for the poor to remain poorer and the rich becoming richer.

Social networks and traditions can be two edged sword and at times can be a source of vulnerability through the obligations that they impose (Farrington *et al.*, 2002). For instance, individualism as a product of urbanisation narrows the network support to family members. In this way, people can invest their savings rather than using it to support family members. Moreover, urbanisation does not only serve as a destructive agent of traditional institutions, it

also creates new social networks for people to fall on for support. People can fall on colleagues at the work place, association members, school mates, church mates, various internet social networks to access information on the availability of job opportunities, how markets operate including price fluctuations and consumer preferences elsewhere in the country and abroad.

Physical capital: Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. Infrastructure consists of changes to the physical environment that help people to meet their basic needs and to be more productive (DIF, 1999). Some of these may include affordable transport, secure shelter and buildings, adequate water supply and sanitation, clean and affordable energy and access to information. Producer goods are the tools and equipment that people use to function more productively (DIF, 1999). Infrastructure development such as roads and markets provide outlets for people to purchase and sell their goods. It is argued that access to infrastructure development play a vital role in poverty reduction (Ellis 1998 cited in Mandere *et al.*, 2010). Mandere *et al.* (2010) argued that infrastructure development in the peri-urban areas would create new economic opportunities through creation of business opportunities and new jobs. Urbanisation comes with improvement in physical infrastructure such as road network and affordable transport, access to urban markets and other amenities. Availability and access to these facilities will increase job opportunities and options available to the individual and thereby increasing possibilities of higher income. In this way people who are being edged out of farming activities have the option to engage in non-farm activities.

The range of assets available to individuals, households and communities translate into livelihood strategies aimed at achieving livelihood outcomes. Depending on the quality and quantity of household livelihood assets, complex and diverse set of social, economic, and

physical strategies are undertaken to achieve livelihood outcomes. When farmlands are converted to non-agricultural purposes, peri-urban dwellers resort to all kinds of livelihood strategies to cope with this new development. These strategies are the means, choices or the activities that people undertake to achieve livelihood outcomes. People who are displaced either resort to farming activities including developing new ways of surviving through agricultural intensification or extensification, or migrating elsewhere to look for employment, or diversifying into non-farming activities. Depending on the sources of livelihoods, the activities adopted may either be natural resource based or non-natural resource based which are undertaken for either a short-term or in the long-term period. Livelihood strategies in turn reduce vulnerability of the poor by increasing asset base of households through increased income, improved wellbeing, improved food security among others or make them more vulnerable by worsening their livelihood conditions. The outcomes will in turn give a direct feedback to livelihood asset and activities. There is a complementary or cyclical relationship between assets, activities and outcomes.

The livelihood assets available to individuals, households and communities also influence transforming structures and processes. Greater asset endowment means more influence that individuals can exert. Most often, policy interventions are directed towards areas most endowed with resources. For instance, in the colonial period, areas of southern Ghana with climates suited to the introduced cash crops, timber exploitation and mining sites closer to the coast or ports benefited from investments and infrastructure development. Northern Ghana, by virtue of its location received less of these investments (Owusu, 2005). People who have accumulated more capital assets are able to actively involve themselves in decision making process regarding issues of access to resources. Those with more assets tend to have a wide range of options and have the ability to switch between multiple strategies to secure their livelihood. However, people with limited access to assets most often are not able to diversify

their livelihood options. People with limited access have little influence on transforming structures and processes and this makes them more vulnerable. Increased vulnerability of the poor calls for the intervention of institutions and policies to mitigate the imbalances of urbanisation.

Livelihood strategies and outcomes are not just dependent on access to capital assets or constrained by vulnerability context, they are also transformed by the environment of structures and processes (Serrat, 2008). Institutions create and determine vulnerability context, assets and outcomes. Depending on the linkages between urban centres and their adjoining areas, institutional and policy interventions through transforming structures and processes will either manage the effects of urbanisation or develop the opportunities that urbanisation presents. Institutions and policy interventions serve as the external mediating environment that helps urban systems to cope with, and adapt to the negative consequences of urbanisation. In the peri-urban area, a number of political and social/cultural institutions set and implement policy, deliver services and function in various ways to determine who can access what asset and how such asset must be used. Examples of such institutions operating at different levels of government include central government, local government, chiefs, non-governmental organisations, social groups and their various policy interventions including land use planning, land tenure system, gender norms among others. These are complex environment within which people pursue their livelihood strategies.

The range of assets at the disposal of any household is regulated by institutional framework which either facilitates or denies entitlements. Institutions determine specific social, political and economic policies which impact on local, regional and national structures by producing sector intensification and/or diversification. Policies are both a result of the national development strategies and factors that induce structural change. It is in the process of sector

restructuring induced by policies that the conditions in which households get access to capital are modified (Hinojosa, 2009).

Institutions enable people to achieve positive livelihood outcomes by providing enabling environment for people to pursue their livelihood strategies. This is done through the formulation and implementation of policies and provision of structures such as markets to transform one type of asset into another. Availability of and access to market widens the scope for non-agricultural income generating employment. Government policies that aim at boosting the productivity of rural areas increase access to income and results in positive livelihood outcome. These interventions aim at making people more resilient by supporting them to build their assets and translating them into livelihood strategies and outcomes. Improvement in transportation system opens a window for people to get access to the city centre to transact business.

Institutions do not only enable people to achieve positive livelihood outcomes, they also act as barriers to a sustainable livelihood. Socio-cultural institutions can have a profound influence on poor households' access to resources (Farrington *et al.*, 2002). Availability of and access to resources consequently affect the strategies adopted by households to cope with the process of urbanisation. For instance, accessibility to natural resources such as land is determined by chiefs and their council of elders at the community level. The sale of farmlands for non-agricultural purposes to urban developers deprives farmers of their livelihoods. This will reduce the natural capital assets and increase the vulnerability of farmers with limited access to other livelihood assets. Transformation in land use greatly influences the range of options available to peri-urban households because the loss of farm land will consequently induce the adoption of non-farm income generating activities. Socio-cultural factors such as gender, age, kinship, education, wealth and status also determine access to resources.

The strategies adopted by institutions function to either reduce or increase the effects of urbanisation. Local government institutions regulate access to and manage resources which aim to ensure the wellbeing of individuals and the community at large. It plays a major role in land tenure systems by negotiating the priorities of different users through the provision of a regulatory framework which safeguards the needs of the most vulnerable groups while at the same time, making provision for the requirements of economic and population growth (Tacoli, 2004). Infrastructure development at the grassroots level, access to urban based services and appropriate policy interventions are all ways by which national and local government institutions help to manage the effects of urbanisation.

Looking at the multifaceted nature of the factors that shape peri-urban livelihoods, any interventions aimed at either mitigating the negative effects of urbanisation or developing the opportunities that urbanisation presents must be pro-poor. It must clearly seek to establish the linkages between multiple sectors and develop livelihood assets holistically. Identifying the problems and addressing them in isolation will not serve the purpose of the framework. In this regard Farrington *et al.* (2002) identified that one area of policy that has the potential for building the security of poor households' livelihood is that of pro-poor policy. People rather than resources or institutions should be the focus of any development strategy.

CHAPTER THREE

BACKGROUND OF THE STUDY AREA

3.1 Introduction

This chapter broadly deals with the areas under study as far as the research is concerned. It covers the background information of KMA as well as the profile of the communities selected for the study.

3.2 Location and Spatial Extent

Kumasi is the capital of Ashanti Region. It is the second largest city in Ghana and the seat of the Asante Kingdom. It is located in the transitional forest zone and is about 270km north of the national capital, Accra. It covers a total land area of 254 square kilometres, stretching between latitude $6^{\circ}35' - 6^{\circ}40'$ and longitude $1^{\circ}30' - 1^{\circ}35'$, an elevation which ranges between 250 – 300 metres above sea level. Kumasi is bounded to the north by Afigya Kwabre District and Kwabre East District, to the east by Ejisu-Juabeng District and Bosomtwe District, to the west by Atwima Nwabiagya District and to the south by Atwima Kwanwoma District (KMA, 2011). Figure 3.1 represents the District Map of Ghana showing the study district.

The unique centrality of Kumasi as a traversing point from all parts of the country makes it a special place for many to migrate to. This has largely influenced its horizontal expansion. Many of its suburbs were absorbed into it as a result of the process of growth and physical expansion. From the three communities of Adum, Krobo and Bompata, it has grown in a concentric form to cover an area of approximately ten (10) kilometres in radius. The direction of growth was originally along the arterial roads due to the accessibility they offered resulting in a radial pattern of development. The city is a rapidly growing one with an annual growth rate of 5.47 per cent (GSS, KMA, 2011). It encompasses about 90 suburbs, many of which were absorbed into it as a result of the process of growth and physical expansion. The 2000

Population Census kept the population at 1,170,270. It was however projected to 1,610,867 in 2006 and has further been projected to be 1,889,934 by 2009 (GSS, KMA, 2011).

3.3 Condition of the Natural Environment

The elements which comprise the natural environment include geology, minerals, climate, soil, vegetation, relief and drainage. The natural environment plays a significant role in the development of any given region.

KNUST

3.3.1 Climate and Vegetation

The climate of the Metropolis falls within the Wet Semi-equatorial type. The average minimum temperature is about 21.5⁰C and a maximum average of 30.7⁰C. The average humidity is about 84.16% at 0900 GMT and 60% at 1500 GMT. It is characterised by double maxima rainfall regime. The moderate temperature and humidity and the double maxima rainfall regime (214.3mm in June and 165.2mm in September) have a direct effect on population growth and the environment as it has precipitated the influx of people from every part of the country and beyond its frontiers to the Metropolis. This is chiefly because the climatic conditions are not harsh (KMA, 2011).

The city falls within the Moist Semi-Deciduous South-East Ecological Zone. Predominant species of trees found are Ceiba, Triplochlon, Celtis with Exotic Species. The rich soil has promoted agriculture in the periphery. A patch of vegetation reserve within the city has led to the development of Kumasi Zoological Gardens, adjacent Ghana National Cultural Centre and opposite Kejetia Lorry Terminal and the KNUST botanical gardens (KMA, 2011). These forest conservations serve as tourist attraction centres. In addition to their scenic beauty as tourist centres, they also serve other objectives such as educational, preservation of wildlife, leisure and amusement. Apart from the Zoological Gardens, there are other patches of

vegetative cover scattered at the peri-urban areas of the Metropolis. However, the rapid spate of urbanisation has caused the depletion of most of these nature reserves.

3.3.2 Geology and Soil

Kumasi is dominated by the Middle Precambrian Rock (KMA, 2011). The effect of this unique geological structure in the Metropolis has both positive and negative impacts on the local economy. The very existence of the Precambrian Rock has created employment and generated revenue for some residents in the Metropolis. This is because the Precambrian Rock is a principal source of resource (gravels) for construction projects in the Metropolis. This has resulted in the influx of quarrying and sand winning activities such as KAS at Buohu, Consar at Barekesi and Sonitra at Aboakwa as well as the proliferation of small-scale stone quarry and sand winning activities. Even though these have created productive employment opportunities and revenue for sustainable livelihood, the uncontrolled extraction of these resources, especially by households for housing construction in the communities, has significantly altered the environment resulting in gully erosions and exposed foundation.

The major type of soil constituting the top soil of the Metropolis is the Forest Ochrosol. This soil comprises Kumasi - Offin Compound Association; Bomso – Offin Compound Association; Nhyanao - Tinkong Association; Bomso – Suko Simple Association; Bekwai – Oda Compound Association and Bekwai – Akumadan – Oda Compound Association (KMA, 2011). Forest Ochrosol is endowed with the nutrient mostly needed to sustain the cultivation of food foodstuff such as vegetables, plantain and cassava. The presence of this type of soil has sustained the cultivation of food crops notably at the periphery of the Metropolis, thus creating employment and generating revenue. The fast rate of urbanisation in the Metropolis, nonetheless, has precipitated a dramatic change in agricultural activities over the last two and half decades. The demand for residential, industrial and commercial land use has become

much greater and lucrative than that of agricultural land use. Following this, it has been estimated that about 80% of the arable lands have been displaced by the construction of houses and other physical infrastructure at the expense of possible employment and revenue to be generated from agricultural activities (KMA, 2011).

3.3.3 Relief and Drainage

The Kumasi Metropolis lies within the plateau of the South–West physical region which ranges from 250-300 metres above sea level. The topography is undulating. The city is traversed by major rivers and streams, which include the Subin, Wiwi, Sisai, Owabi, Aboabo, Nsuben among others (KMA, 2011). However, biotic activity in terms of estate development, encroachment and indiscriminate waste disposal practices have impacted negatively on the drainage system and have consequently brought water bodies to the brink of extinction.

3.4 Conditions of the Built Environment

3.4.1 Physical Infrastructure

It is estimated that 48%, 46% and 6% of the Metropolis are urban, peri-urban and rural respectively, confirming the fast rate of urbanisation (KMA, 2011). The high rate of population growth coupled with the high migrant numbers has outstripped the rate of infrastructure development and service provision. Most of the facilities have exceeded their carrying capacities. Lands in the newly developing suburbs have not been serviced hence estate development precedes the provision of water, telephone facilities and electricity. In terms of housing types, the Metropolis has been categorised into high-income area, government-workers area, indigenous areas and tenement area (KMA, 2011). Kumasi is also a home to a number of lumber and saw milling firms as well as two giant breweries and a bottling company along the Anloga – Ahinsan – Kaase stretch.

The Metropolis has a total road network of 1,117km (KMA, 2011). It has in recent times been experiencing both human and vehicular traffic congestion, particularly in the Central Business District (CBD). Due to the dominance of the distributive trade in the city, the CBD and all the principal streets have been taken over by hawkers. The erection of wooden, structures including kiosks and metal containers along the streets and on any available space, is a common phenomenon that has engulfed the Metropolis and has greatly blighted the beauty of the city. The problem of waste management in the Metropolis has been nagging.

KNUST

3.4.2 Agricultural Land use

Agriculture in the Metropolis has seen a dramatic change in the last two decades owing to rapid urbanisation. The demand for residential, industrial and commercial land use has become much greater than that of agricultural land use. Following this, it has been estimated that about 80% of the arable lands have been displaced by the construction of houses and other physical infrastructure (KMA, 2011).

Agricultural land use in the Metropolis has been consigned to crop farming in the peri-urban communities and along the banks and valleys of rivers/streams. Vegetables, both traditional and exotic, are more widely cultivated than traditional food crops. As it is the case, vegetable cultivation increases with greater urbanisation of communities.

3.5 Demographic Characteristics

3.5.1 Population Size, Growth Rate and Density

According to the 2000 Population and Housing Census Report, Kumasi accommodated a total of 1,170,270 people, reflecting an inter-censal growth of 5.4% between 1984 and 2000. It was projected to have a population of 1,915,179 in 2009 based on the inter-censal growth rate of 5.4% (KMA, 2011). This unprecedented growth of the population between 1984 and

2000 has made Kumasi the most populous district in the Ashanti Region in that it accounts for almost a third of the Region's population. Compared to the national and regional growth rate of 3.4% and 2.7% respectively, the Metropolis is growing at a faster rate indicating the attractiveness of Kumasi in the Region.

Kumasi has attracted such a large population due to certain pull factors. First and foremost, it is the administrative capital for Ashanti Region and traditional capital for the Asante Kingdom. Second, it has the largest open – air market in West Africa (the Central Market) and serves as the commercial hub of Ghana. Third, as a nodal city with major arterial routes to other parts of the country, it attracts host of commuters. Fourth, the presence of infrastructure for tertiary services, such as universities and polytechnics for higher education and teaching hospitals for higher healthcare delivery, has attracted people to the Metropolis.

Currently, Ashanti Region is the second most urbanised region in the country, after Greater Accra (87.7%) (KMA, 2011). This rapid rate of urbanisation in the Region has been traced to the fast spate of population growth in Kumasi. The growth of industrial activities and the large volume of commercial activities in and around the Metropolis have been partially the recipe for the upsurge in urbanisation. Kumasi has been estimated to have a daytime population of about 2.5 million due to commuters from neighbouring districts that come to transact business activities in the Metropolis (KMA, 2011). The population has grown rapidly over the inter-censal periods from 346,336 to 487,504 and to 1,170,270 for 1970, 1984 and 2000 respectively (GSS, KMA, 2011).

The growth of the population in Kumasi has also influenced the population density in the Metropolis. Population density plays a useful role in development exercise by providing information on the carrying capacity of a given parcel of land to determine the pressure exerted on it by a given population. The Kumasi Metropolitan Area has a total surface area of 254 sq km (2000 population census) with a population density of 7,540 persons per sq. km.

The Kumasi Metropolis is second to Accra Metropolis in terms of population density. Compared to the regional population density (148 per sq km) of Ashanti Region, the Metropolis is extremely under pressure. This phenomenon partly explains the cause of traffic congestion in the Metropolis and the high cost of rental accommodation which has adversely affected residents' ability to save as a means of capital formation for sustainable productive employment creation. The large difference between the density of the Metropolis and the region indicates that the region is rural in nature.

KNUST

3.5.2 Age and Sex Structure

The age and sex structure of the population are analysed in view of the fact that the development problems and needs of a population vary from one age group to the other. The age structure of the population in the Metropolis is skewed towards the youth (2000 Population census). The highest proportions of the population are in the age cohorts 0 – 4 years (13.2%) and 5 – 9 years (12.4%). Cumulatively, 39.9% of the population is below 15 years, in contrast to other districts, which range from 40 to 47 per cent. This may be an indication of a slow, incipient decline in fertility. There are more males (50.2%) than females (48.8%) in the Metropolis (MLRDE, 2011).

3.5.3 Spatial Distribution

The population of the Central Business District comprising Adum, Asafo and Ashtown continue to reduce over the years. According to the census reports, Adum recorded 12,991 in 1970, 9,693 in 1984 and 8,016 in 2000. This is anticipated to further fall. On the other hand areas such as Ayigya, Dicheonso and Tarkwa Maakro, which were small communities in 1960 and 1970, have grown into densely populated residential areas with 20,000 – 40,000 people. Areas comprising the CBD therefore continue to reduce in terms of human numbers whereas

the population in the new developing areas increases. This is accounted for by the mere reason that residential accommodations in the former are being converted into commercial use (MLRDE, 2011).

3.5.4 Household Sizes/ Characteristics

The average household size in the Metropolis is 5.1 persons, while the average number of households per house is 3.4 (MLRDE, 2011). This relatively large number of households per house in Kumasi is due largely to the large population in the Metropolis. Large households exert pressure on housing, thus leading to overcrowding. Children constitute 34.0%, the highest proportion of household members in the Metropolis (MLRDE, 2011). Several factors may account for this high proportion of children of household heads. In addition to minors who may still be living with their parents, there could also be children, particularly females, who might have moved to stay with their parents in accordance with tradition, during the latter part of pregnancy, well into the post natal leaning period, before returning to their spouses. Divorced, widowed, unemployed or even destitute children may fall back to live with their parents while sorting themselves out. All these are manifestations of the fall-back support system that is the bedrock of the traditional family structure.

Other relatives form the second highest proportion of the population in households in the Metropolis after children, constituting between 12.9% and 43.3% (KMA, 2011). The high proportion of other relatives in households in the Metropolis is attributable to a number of socio-economic factors. The urban setting attracts people to stay with relatives whilst actively searching for jobs or their dwelling units. For instance, single households alone constituted 21.1% and 23.3% of all households in the Metropolis in 1984 and 2000 respectively. Similarly, single households dominated with male single household heads constituting 16.8% as against 4.2% for females in 1984 (KMA, 2011). The dominance of single person

households, especially among the male population in the Metropolis, could be attributed to a number of cultural, administrative and economic factors. Culturally, Asantes who dominate all tribes in the Metropolis often prefer living in separate houses from their families. Also, most immigrants who arrive in the city often leave their families behind until they are settled.

3.6 Main Economic Activities

Majority (86%) of the active population in Kumasi are economically active (KMA, 2011). The economic activities sustaining the livelihood of the residents in the Metropolis can be categorized into Trade/Commerce/Service, Industry and Agriculture.

3.6.1 Trade (Commerce)/Service Sector

Commerce and services are the economic backbone of Kumasi. Majority (72%) of the economically active labour force are employed in this sector (KMA, 2011). The sector has made Kumasi a hub for commercial activities in the country. The activities carried out by players in this sector are wholesale and retail in nature. They cover all kinds of commodities ranging from food stuffs, clothing, building materials, office and educational stationeries to herbal and orthodox medicines.

The need for ancillary services to support economic activities in the Metropolis has attracted other relevant service providers. The banking and insurance sector coupled with other relevant institutions have contributed immensely in creating conducive environment for smooth running of business transactions in Kumasi. Such relevant institutions comprise professionals in planning, medicine, engineering, teaching and law practice. Another group of service providers that have contributed tremendously to the creation of productive employment ventures and revenue generation in the Metropolis are telecommunications,

transport sector, hotels, restaurants and traditional caterers (chop bars), hairdressers and dressmakers/tailors.

3.6.2 Industrial Sector

The positive and significant correlation between manufacturing and economic development in the Metropolis, cannot be relegated to the background. Kumasi is a hub for scattered pockets of industrial activities in the country. Notable among them are the agglomerated small-scale mechanical garages, wood processing companies and food processing companies as well as construction firms. This sector has contributed quite significantly to productive employment creation (23%) and revenue generation (KMA, 2011). Suame Magazine, (the biggest mechanical garage in West Africa) and Asafo mechanical garages have impacted positively on productive employment creation and revenue generation in Kumasi. Suame Magazine, which is located at the northern section of Kumasi, is a hub of agglomerated small-scale mechanical garages that manufacture vehicle parts and provide other mechanical services not only to the Metropolis but to the whole West Africa sub-region. Its presence in the Metropolis has made Kumasi a well-known mechanical garage in the sub-region of West Africa. This economic venture, which is male-dominated partially explains the dominance of male population in the Metropolis as revealed by the demographic analysis.

Other industrial centres that have contributed immensely to job creation and sustainable source of income for a section of the active labour force in the Metropolis are the beverage processing industries. Notable among them are the Guinness Ghana Brewery Limited (GGBL) and the Coca Cola Bottling Company. The GGBL produces both alcoholic and non-alcoholic beverages ranging from Guinness to Star Club, Gulder and Malta Guinness etc. while the Coca Cola Bottling Company produces only non-alcoholic beverages such as Fanta, Coke, Sprite etc. These companies are clustered at the Asokwa-Ahinsan-Kaase stretch hence

have become industrial hub for large-scale industries. In addition to these large scale companies are micro, small and medium – scale enterprises that produce fruit juice and fresh yoghurt, among others.

Timber processing firms and plywood manufacturing companies located along the Asokwa-Ahinsan-Kaase stretch are other industrial centres that have significantly contributed to sustainable livelihood in Kumasi by providing productive employment and revenue. The semi-finished products of these companies are exported to the international market to generate foreign exchange as well as sold to domestic furniture workers to create jobs. This has contributed to the establishment of the Sokoban Wood Village. The products are not only utilized by the residents of Kumasi but that of the West Africa sub-region. Another area of interest is the handicraft industry which comprises basket weavers, potters, wood carvers and cane weavers. Although they are spread metro-wide, majority of them are concentrated at Ahwia.

3.6.3 Agricultural Sector

Agriculture in Kumasi consists of farming, aquaculture, horticulture and some animal rearing. Farming is limited to small scale staple crops production including maize, plantain, cocoyam, cassava and traditional (tomatoes, pepper etc) and exotic (carrots, cabbage etc) vegetables in the peri-urban areas. In terms of food crops it is a net importer. Most of the foodstuffs are brought in from the adjoining districts as well as distant areas such as Techiman, Nkoranza and Ejura. There are small scale agro-processing centres where pork, chicken and beef are processed into standard sausages, bacon etc. plantain chips, cassava flour and gari are processed as well as local milk is processed into yoghurt and milk drink. There are about 165 functioning fishponds in the Metropolis (KMA, 2011).

The rapid rate of urbanisation in Kumasi has denied agricultural activity the land needed to sustain its practice. Currently, it is estimated that 80% of the arable land has been lost to residential development. Notwithstanding, the Metropolis has 12,000 hectares of irrigable lands consisting of swampy and marshy areas. Only 5% of the active labour force is engaged in agricultural activities and even on a subsistence scale (KMA, 2011).

3.7 The Kumasi Peri-urban Interface (KPUI)

Kumasi continues to grow rapidly both in physical and population terms. The boundaries of the administrative districts that currently share border with the Metropolis have been strongly affected by Kumasi's growth. Many indigenous villages, previously located in the adjoining rural areas have now been swallowed up by the growth of Kumasi. As a result these places experience in-migration, growth and changes in population composition, land use and economic base (Simon *et al.*, 2004). Moreover according to Aberra and King (2005) water pollution and rapid conversion of agricultural land into housing and small-scale industries undermine the traditional dominant crop production within the KPUI. At the same time, livelihood opportunities are being created due to the proximity of large urban markets and availability of wage employment opportunities.

This problem has come about because of increasing demand for peri-urban land since rent is relatively cheaper here than within the city. The increased proximity and connectivity of KPUI to Kumasi make these places tenure hot spot. High influx of migrants into peripheral villages subjects the population here to exhibit heterogeneous characteristics where different people with diverse interests compete for the available natural resources especially land. The composition of the population includes indigenes, farmers, migrant residents, recreational users, natural resource users, speculators, industrial users and developers. An estimated population of 400,000 commute daily from these areas to work in the city (KMA 2011).

Due to the dynamic nature of the PUI, attempt is made to move understanding beyond definitions solely considered in terms of geographical location and spatial land use since rapid urban growth no longer supports the traditional simplistic divide between ‘urban’ and ‘rural’. The PUI is therefore considered as a process taking place between rural and urban areas rather than as a geographical location or spatial land use (Brook and Dávila, 2000, Simon *et al.*, 2004 cited in Gregory, 2005). However, the Kumasi Peri-urban Interface (KPUI) has broadly been defined as the zone within a 20 km to 40 km radius of the city, although this is a fluid frontier that is constantly changing (Aberra and King, 2005). For the purpose of this study, peri-urban areas are defined as transition zones of rural fringes surrounding established cities which are characterised by intense flows of people and goods, and the co-existence of rural and urban livelihood activities with rural livelihoods constantly changing in response to urban expansion.

Three peri-urban communities (Esereso, Deduako, Appiadu) were selected. These communities are within a 20 km radius of the city with a population of 4,871, 3,111 and 2,114 respectively as of 2000 population census (GSS, KMA, 2011). Esereso is spatially located within the administrative boundaries of Bosomtwe District off Kumasi-Lake Bosomtwe road while two of the three communities (Deduako and Appiadu) are found within the administrative boundaries of Kumasi Metropolitan Assembly (KMA) under the Asokwa Sub-Metropolitan Assembly. Deduako and Appiadu on the other hand are located along the Kumasi-Accra highway and linked to the main high way by a feeder road which branches off at Tech-Junction. The traditional economic activity for the three communities used to be farming as a result of the rich Forest Ochrosol at their disposal. However, due to their proximity and connectivity to Kumasi, different livelihood types are evolving with increasing decline in agricultural activities. Thus their economies are increasingly being transformed from a typical agrarian source of livelihood to a more monetised economy due to continuous

exposure to urban influence. Figure 3.2 shows the map of the Kumasi Sub-metropolitan areas with the study communities.

Figure 3.1: Study Area in National Context

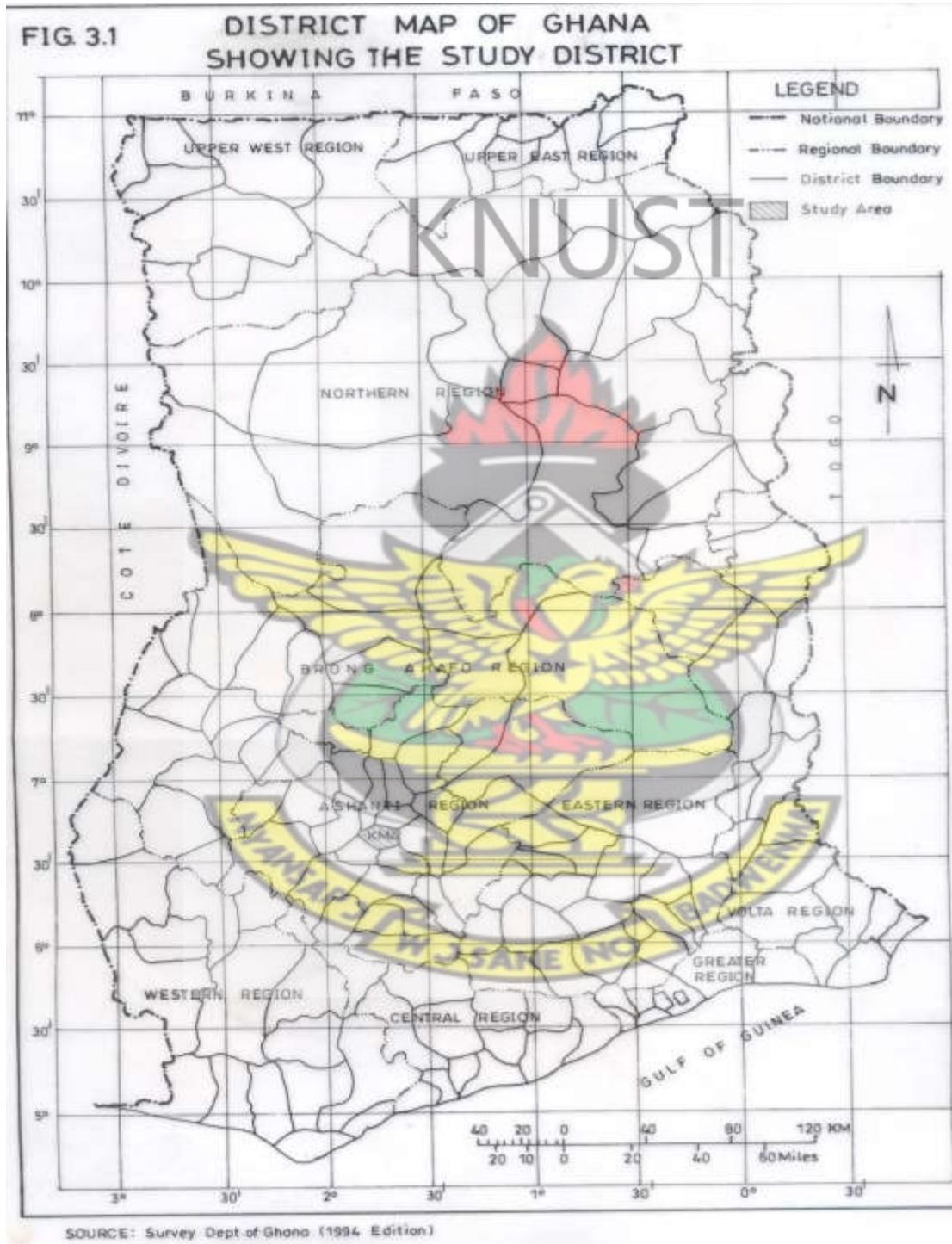
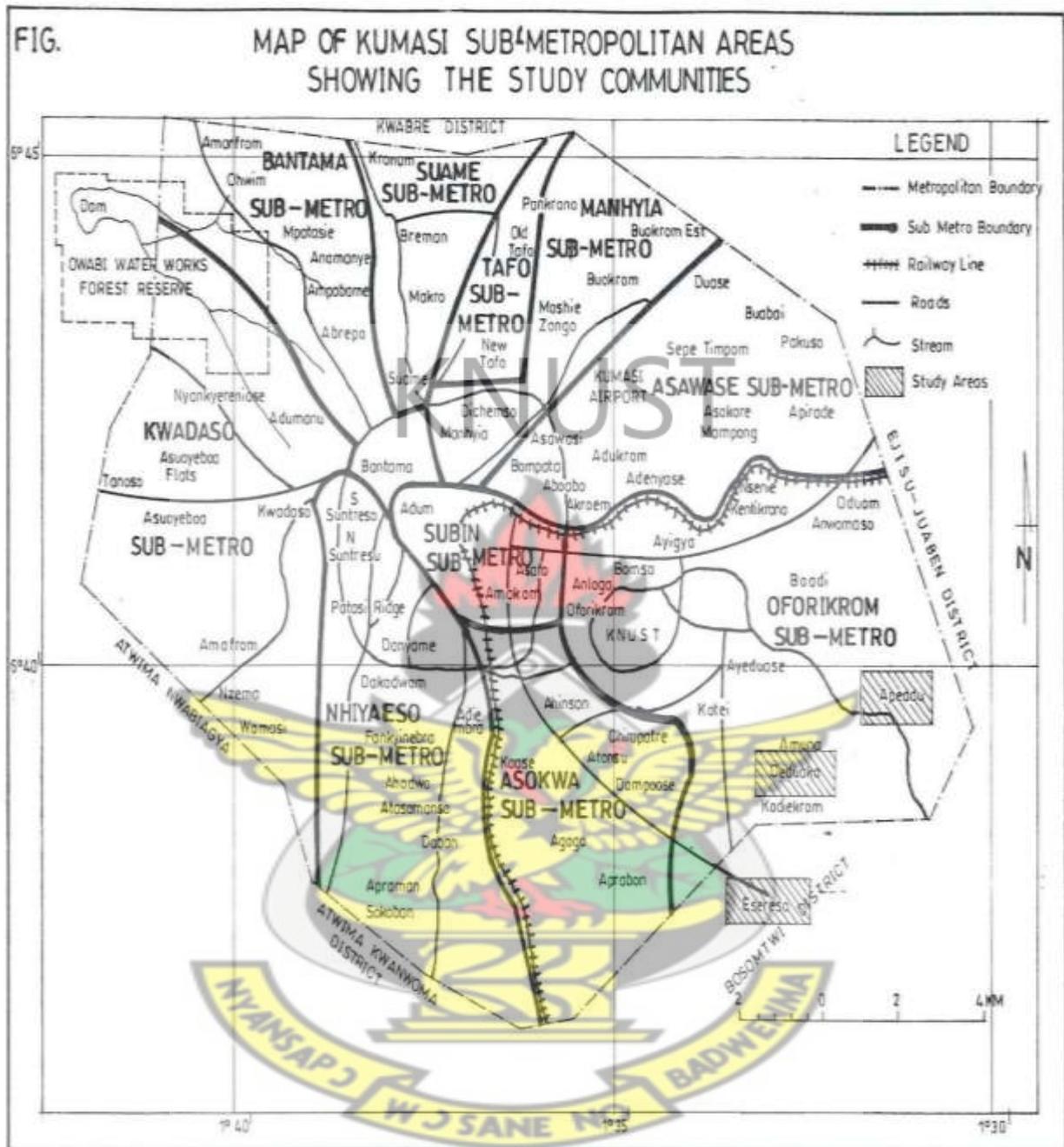


Figure 3.2: Map of Kumasi Sub-Metropolitan Areas showing the Study Areas



SOURCE : Kumasi Metropolitan Assembly

CHAPTER FOUR

EFFECTS OF URBANISATION AND COPING STRATEGIES IN PERI-URBAN KUMASI

4.1 Introduction

The process of urbanisation is viewed as one of the transforming forces shaping peri-urban livelihoods. The transformations are manifested in both the constraints and opportunities presented to people living in peripheral villages. This chapter deals with presentation of results and analysis of data on the effects of urbanisation and coping mechanisms adopted by the indigenous residents of peri-urban Kumasi. Three communities (Appiadu, Deduako and Esereso) were selected to represent the Kumasi Peri-Urban Interface to assess the situation. One-hundred and fifty (150) heads of households were interviewed. Among the issues discussed in this section are demographic characteristics of respondents, land-cover changes, changes in household economic activities, strategies adopted to cope with urbanisation, among others.

4.2 Demographic Characteristics of Respondents

Demographic characteristics of households (such as age, gender and education) have great impacts on households' capacity to exercise choice and access opportunities to build their asset base and livelihood strategies. For instance, Atamanov and Berg (2011) identified gender and education as crucial determinants of non-farm income. Table 4.1 shows the sex, level of education and age group distribution of respondents. Fifty six percent (56%) of the respondents were males as against forty four percent (44%) being females. This indicates that there are more male-headed households than female-headed households. The 30-60 age group constitutes the majority of respondents with 36.7% males and 29.3% females. Whilst 18.6% of the respondents were under 30 years, 15.3% were 60 years and above.

Lack of formal education is regarded as one of the core dimensions of poverty (DFID, 1999). There is no doubt that quality human capital such as literacy and skills play a critical role in one's ability to secure a better livelihood. The study also reveals that people who have not had any form of formal education are the majority (38.7%) which is higher than illiteracy level for the region (35.0%) and lower than that of the national average (42.1%). Twenty two percent (22.0%) of the respondents have schooled up to the middle school level and 12% of the respondents have had tertiary education. According to the table, 32.7% have had basic education with 10.7% and 16.7% for primary school and High/Secondary school respectively. The level of illiteracy also varies among different age groups with the highest among 30-60 age groups (24%) and lowest among the under 30 age group.

Table 4.1: Distribution of Respondents by Sex, Level of Education and Age Group.

Sex	Age Groups			Total	Percentage
	<30	30-60	>60		
Male	17	55	12	84	56
Female	11	44	11	66	44
Total	28	99	23	150	100.0
Level of Education					
No School	6	36	16	58	38.7
Primary School	3	11	2	16	10.7
Middle School	2	26	5	33	22.0
High/Sec. School	12	13	0	25	16.7
Tertiary	5	13	0	18	12.0
Total	28	99	23	150	100.0

Source: Field Survey, 2011

Table 4.2 provides the basic demographic characteristics of households of respondents. From the Table, it was revealed that 42% of the households had more than 5 members. The mean

household size for the total sample is 4.8 persons which is lower than the regional (5.3) and the national mean household sizes (5.1).

Table 4.2: Household Size of Respondents

Household Size (χ)	Frequency (f)	($f\chi$)	Percentage
2 persons	5	10	3.3
3 persons	29	87	19.3
4 persons	25	100	16.7
5 persons	28	140	18.7
≤ 6 persons	63	378	42
Total	$\Sigma f=150$	$\Sigma f\chi=715$	100

Source: Field Survey 2011

4.3. Effects of Urbanisation on Peri-urban Livelihoods.

The effects of urban expansion is said to be two edged sword. This is because urban expansion is documented to present both constraints and opportunities to people living in peripheral villages (Aberra and King, 2005, Xie *et al.*, 2007, Olujimi, 2009). The effects have the potential to either improve or worsen the livelihood conditions of peri-urban dwellers. This section examines the effects of Kumasi's growth both at the household level and the community level as well as the effects on the natural environment.

4.3.1. Negative Effects of Urbanisation on Peri-Urban Livelihoods

4.3.1.1 Urban Expansion and Land Use Change

Land use changes from agricultural to urban use mostly in the form of residential buildings are the clearest expression of Kumasi's horizontal expansion in the three peri-urban communities. The changes in land use pose a serious threat to livelihood in the communities since according to Davila (2002) most households in the peri-urban area depend on land either for food, water, or fuel wood. To determine the extent of urban encroachment on

farmlands, 1986 and 2007 satellite images of KMA were classified into urban, farmlands, water and vegetative cover types and the results compared to assess the situation. From the remotely sensed data, the post-classification change detection analysis of the land cover revealed the overall accuracy level of 87.4 for 1986 and 89.1% for 2007 with kappa indices of 0.74 and 0.80 respectively.

Table 4.3 and Plate 4.1 present the area extent of KMA and land cover types computed from the 1986 Landsat TM image classification. In 1986, farmland was the most extensive land cover constituting about 72.30% of KMA. This was followed by vegetation, urban and water with 14.70%, 12.10% and 0.90% respectively. The exceptionally high land area indicated to be under cultivation in 1986 was partly attributed to the drought that characterised the 1983/84 growing seasons (Attua and Laing, 2001). According to Attua and Laing (2001), most part of the terrain, especially covered by fallow vegetation probably could not have recovered enough from the drought, and the bush fire effect on the vegetative cover was captured in the image resulting in areas showing spectral reflectance values similar to that of the recently cultivated fields.

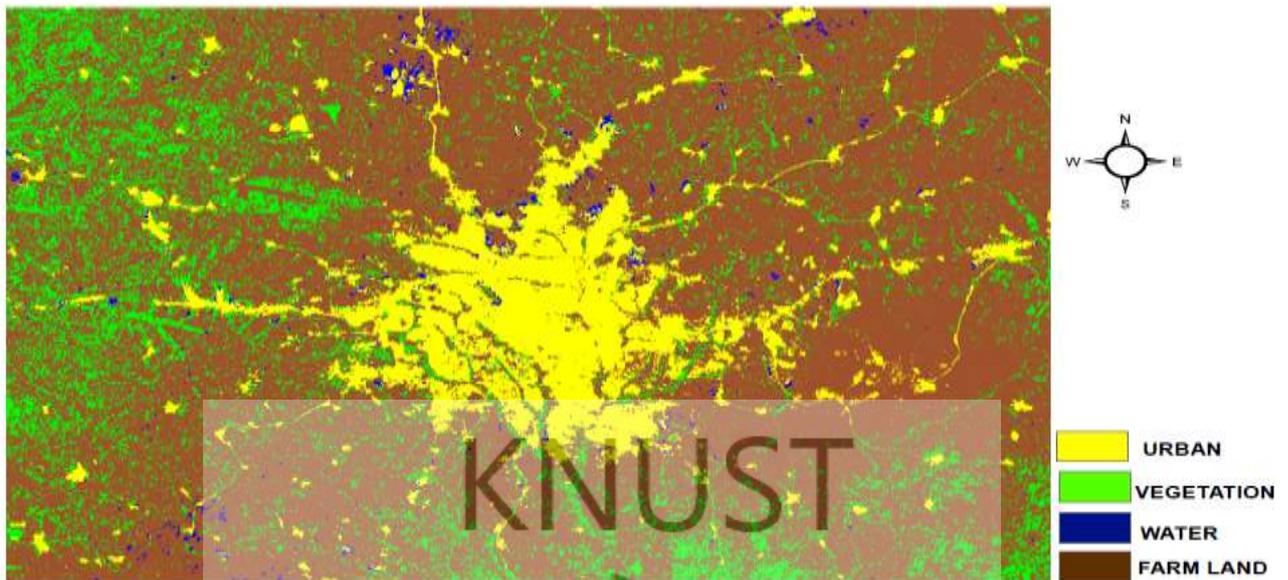
Table 4.3: Proportion of Land Cover type from the 1986 Landsat TM Image

Classification

Land Cover Types	Area (ha)	Percentage
Urban	10347.5	12.1
Farm	62089.8	72.3
Water	771.75	0.90
Vegetation	12651.1	14.7
Total	85860.15	100

Source: 1986 Landsat TM image analysis, 2011

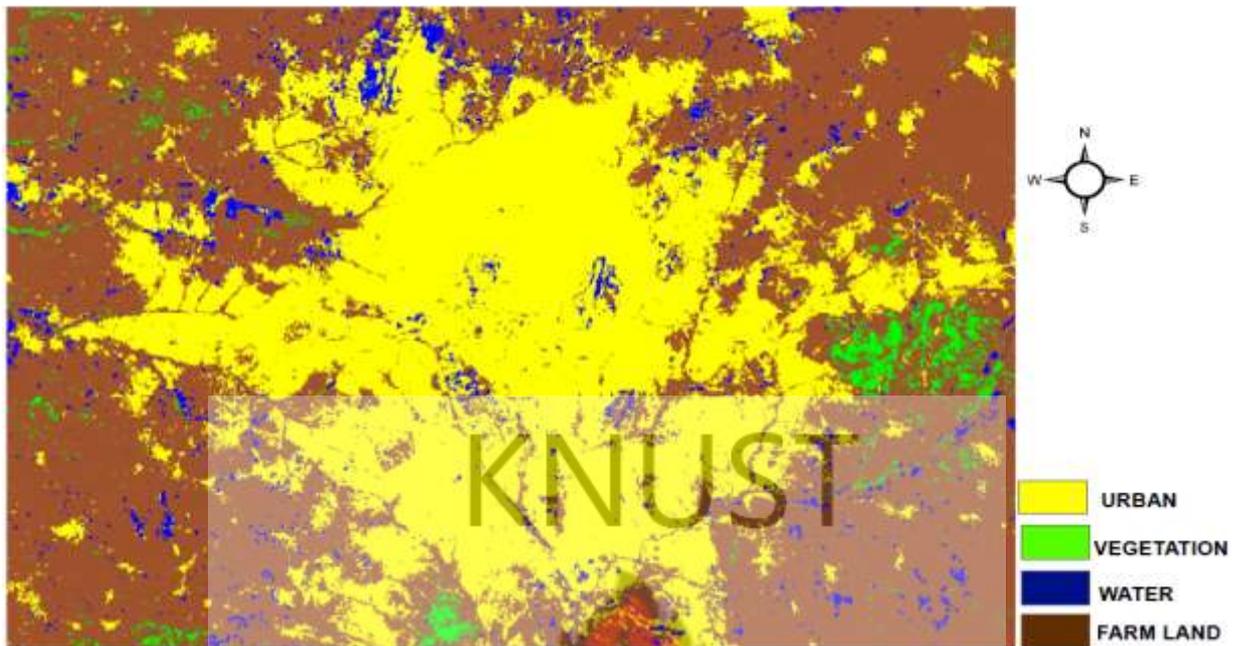
Plate 4.1: The Extent of Land Cover Types of KMA in 1986



Source: 1986 Landsat TM image analysis, 2011

Contrary to the results presented in Table 4.3 and Plate 4.1, the change detection analysis from the 2007 satellite image shows that Kumasi has greatly expanded to absorb more than half of KMA (Plate 4.2.). The results corroborate Chirisa's (2010) argument that the natural physical environment suffers greatly from the peopling of the peri-urban areas. This is because the expansion of the urban front increases demand for rural resources such as land, water, air and rural space to accommodate growing populations and growing levels of economic activity (Braun, 2007).

Plate 4.2: The Extent of Land Cover Types of KMA in 2007



Source: 2007 Landsat EMT+ image analysis, 2011

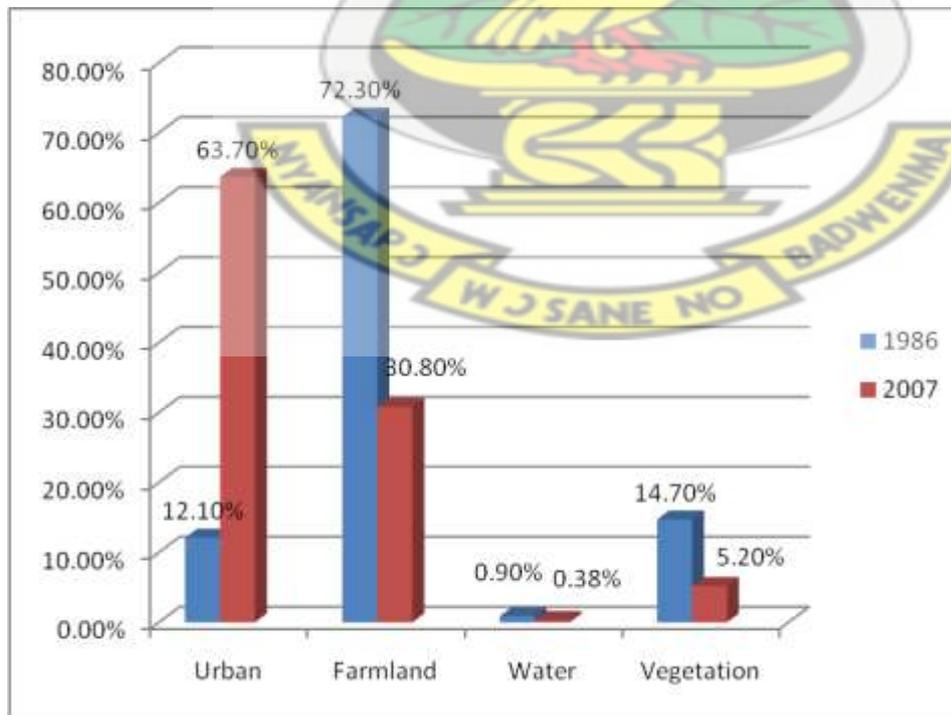
The results show that urban land use largely remains the dominant land cover (63.70%) in KMA, followed by farmland, vegetation and water with 30.8%, 5.2% and 0.38% respectively (Figure 4.1 and Plate 4.3). A comparison of the 1986 and 2007 satellite images demonstrate an inverse relationship between urban expansion and farmland loss and other natural land cover types. For instance, the Figure show that between 1986 and 2007, the proportion of urban share of the study area increased from 12.10% to 63.7% while the extent of farmland, vegetation and water drastically reduced from 72.30% to 30.8%, 14.70% to 5.2% and 0.9% to 0.38% respectively. In other words, approximately, urban land use increased by 51.6% while farmland, vegetative cover and water reduced by 41.5% between the period of 1986 to 2007. The study results confirm a similar study conducted by Attua and Fisher (2011) in the New Juaben Municipality. Their findings revealed that the total urban area increased from 49.24% in 2000 to 59.19% in 2003, while vegetative cover diminished in extent from 63.7% to 40.8% during the same period.

Plate 4.3: The Extent of Land Cover Changes in KMA between 1986 and 2007



Source: 1986 and 2007 Landsat images analysis, 2011

Figure 4.1: Proportion of Land Cover Type from 1986 and 2007 Landsat TM Images Classification



Source: 1986 and 2007 Landsat images analysis, 2011

The issue of farmland loss was also confirmed by the outcome of the interviews conducted in the communities and this was largely attributed to the expansion of Kumasi. On the relationship between Kumasi's expansion and loss of farmlands, 98.7% of the respondents attributed the loss of farmlands to the expansion of Kumasi with the remaining 1.3% giving a contrast view (Table 4.4). Respondents explained that previously they used to farm on communal (usufructory rights) land but now because of land commodification, farmland in the communities is becoming more privatised. Influx of migrants into the communities and land commodification have increased demand for land and its economic value since rent value within the city is relatively higher. The results support Thuo's (2010) study in Nairobi peri-urban area and the framework in Figure 2.2 that peri-urban agricultural lands are constantly being lost to urban use as a result of urban pressure.

There are no significant variations in the responses given by different age groups. Table 4.4 also shows that all household heads who were above 30 years of age attributed the loss of farmlands to the expansion of Kumasi. However, a marginal proportion (1.3%) of the under 30 years age group held a different view. The differing views by the under 30 years age group could mean that they have not witnessed the changes that have taken place through time because of their age.

Table 4.4: Respondents' views on the Relationship between Kumasi's Expansion and Loss of Farmlands.

Age of Respondents	Views of Respondents				Total	
	Yes		No			
	N	%	N	%	N	%
Under 30 years	26	17.3	2	1.3	28	18.7
Between 30-60 years	99	66	0	-	99	66
Over 60 years	23	15.3	0	-	23	15.3
Total	148	98.7	2	1.3	150	100.0

Source: Field Survey, 2011

Loss of crops due to illegal occupation was identified as one of the core problems associated with changes in the ownership of land. When people lose their legal (inherited) farmlands, they resort to opportunistic farming on any land yet to be developed and this tenure insecurity serves as major constraint to farming in the communities. A woman in Appiadu commenting on this issue explained that:

I farm on any undeveloped land sometimes without the knowledge of the owner because it is difficult finding them to inform them that you want to farm on their land. The problem with this one is that, when the owner of the land is ready to develop his land, you go to the farm only to find all your crops gone. You cannot sanction him because he did not ask you to farm on his land. The situation is worrying...most people are discouraged to farm because of these uncertainties.

Just as it has been established by earlier researchers in Kumasi, land in the communities are communally owned, acquired through inheritance. However, the emergence of urban monetarisation and commodification of land have changed the ownership of land from customary freehold to leasehold where the indigenes are increasingly becoming landless because they lack the needed capital (financial constraint) to acquire additional land as the migrants do (Kasanga and Kotey, 2001; Ubink, 2006).

On the issue of whether respondents owned the farmlands, all respondents said the land belonged to them since they had birth right to it. Some further explained that they had been paying royalties to the stool. In Esereso, it was learnt during the focus group discussion that, over the last decade, community members sold their own land because of a long standing chieftaincy disputes. Although respondents claimed they had inherent right to land, the claims and actions of chiefs according to Ubink (2006) present a different picture of land ownership in the peri-urban Kumasi. According to him, some chiefs claim that farmers are only

caretakers for the chief because the land belongs to the royal family since it was members of the royal family who fought for the land and the royal family had only given the land out for farming purposes to temporary caretakers, and can reclaim it when its use is changed to residential without any need for compensation. Most often, these contrasting views about the land ownership result in land disputes. For instance, a food vendor from Esereso commenting on the ownership of land said that:

We have every right to claim outright ownership of our family land because that is the only property my grandmother left behind...since we offered a bottle of schnapps to acknowledge our ownership and continued to pay royalties, I don't understand why we can't claim ownership now that the land has acquired value.

4.3.1.2 Urbanisation and Changes in Household Economic Activities

The process of urbanisation is considered as one of the most potent agents of peri-urban change. These changes do not only affect the social and the physical environment, according to Tacoli (2004) the processes that take place in the peri-urban interface also go hand in hand with transformations in the livelihood of different groups with the poorest often losing out. The outcome of the study reflects the stance of dependency theorists that urbanisation is an extractive process that undermines agriculture (Baker and Pedersen 1992 cited in Maxwell *et al.*, 2000; Satterthwaite and Tacoli, 2003).

It was discovered from the study that one of the major effects of Kumasi's expansion on respondents' livelihood is gradual displacement of farming activities. The conversion of farmland to urban use is threatening the livelihood of those who depend on natural resources for survival and the transition process is moving from a typical agrarian source of livelihood to a more complex monetized urban economy. Data on household heads' previous and

current major sources of livelihood (Figure 4.2) indicate that there has been a reduction in the number of people employed in the agricultural sector. The contraction of the share of agricultural sector in the economy of the study areas could be the result of the view by Braun (2007) that because modernisation imperative gave precedence to urban-based industrialisation, many developing countries shifted their resources out of agriculture and disproportionately concentrated their public resources in the urban sector because the agricultural sector was believed to have weak linkages to the rest of the economy.

Previously as many as 89.3% had farming as their major source of livelihood as against only 10.7% who were non-farmers. Currently, 40% of the respondents are engaged in farming as their primary economic activity while 60% of the respondents are into non-farming income generating activities. The same story is told in peri-urban Nyahururu in Kenya by Mandere *et al.* (2010). The outcome of their study revealed that over 90% of the respondents were full time farmers in the 1960s but this has since reduced to 49% with the remaining households only cultivating their land on part time basis. This study shows that though agriculture still remains one of the important economic sectors in the study areas, its economic value is significantly declining as a result of the declining number of households that engage in agriculture as full time economic activity. The percentage engaged in farming is most likely to fall due to competing demand for land in the study areas for other activities and as Lei and Bin (2008) projected that “there will be no land for future use if urbanisation is not controlled”.

The reduction in the number of people engaged in farming activities can be explained by two main factors. The first one is the constant conversion of agricultural lands to urban use which limits access to cultivated farmlands and reduces the quantity and quality of farmland (Thu, 2010). The changes in land use and ownership in the study areas has forced people to change occupations since it is difficult getting easy access to farmlands. These set of motives are

what Barrett *et al.* (2001) describe as “push” factors that prompt households and individuals to diversify assets. Atamanov and Berg’s (2011) research findings in Kyrgyz Republic in Central Asia also revealed that small land size and poor land quality are in part among the reasons that made individuals chose employment in the non-farm sector over agricultural activities. In other words, the ever increasing pressures on land, brought on by rapid urbanisation serves as a ‘push’ factor forcing residents to prematurely abandon land-based (farming) livelihood activities. Tacoli (2004) describes this as a survival strategy for vulnerable households and individuals who are pushed out of their traditional occupations and who must resort to different activities to minimize risks and make ends meet. Survival strategy is often seen as last resort activities for poor households. Majority of the respondents resort to cash income jobs to survive through the emerging urban monetized economy. This partly accounts for the growing polarisation of non-farm occupational employment and gradual squeezing out of farming as a means of livelihood in the communities (Aberra and King, 2005).

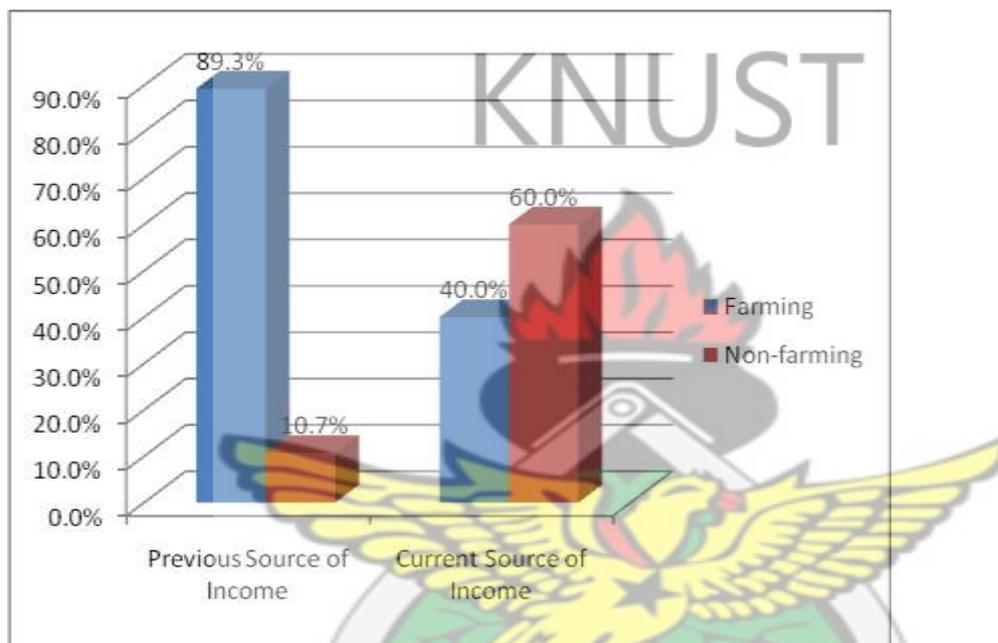
Respondents further explained that since they have limited access to farmlands due to reduction in land sizes, constant cultivation of farmlands in each farming season, is affecting agricultural productivity leading to low crop yields and low returns from agricultural employment. The rising demand for land in the Kumasi peri-urban interface has contributed immensely to the limited access to farm land. According to Thuo (2010), in the peri-urban Nairobi, high demand for peri-urban lands and land commodification make it difficult to farm on a large scale and the cultivation of cash crops is economically unviable. The increasing decline in agricultural activities in the study areas poses a serious threat to future food security since farming plays a significant role in most people’s livelihood, and according to Satterthwaite *et al.* (2010) and Matuscke (2009), majority of urban dwellers are net food buyers and spend a large part of their disposable income on food.

The second explanation for a change in livelihood activity is due to the exposure of peri-urban areas to urban monetary economy which serves as a 'pull factor' attracting the affected farmers to take advantage of the alternative non-farm employment opportunities that urbanisation presents. The increasing polarisation of non-farm employment could be due to Aberra and King's (2005) view that urbanisation creates opportunities in wage employment and trading, and provides access to services and infrastructure leading to the evolution of different livelihood types. According to the respondents, non-farm employment pays well and involves lower risks as compared to agriculture. Tacoli (2004) describes these set of motives as accumulation strategy for wealthier groups with better education and skills. According to her, these people can be pulled by new opportunities, and their accumulation strategies aim to draw maximum benefits from the changing context. The survey results are also in line with Hudala *et al.*'s (2008) view that with the increasing urbanisation, the traditional rural sector can no longer function as a major income generating activity in the peri-urban areas.

According to Satterthwaite *et al.* (2010), the spatial distribution of towns and cities is, in effect, the geography of the non-agricultural economy since it is where industrial and services enterprises have chosen to locate. The increase in rural-non-farm employment, according to IFAD (2001, cited in Tacoli, 2002), and Braun (2007) is usually seen in traditional regional development theory as the outcome of the 'vicious circle' or rural-urban development. In contradiction to this theory, the growth of non-farm employment in the study areas is not triggered by agricultural growth, as incomes rise and demand for manufactured non-farm output increases, but rather difficulty in accessing peri-urban agricultural land has become important 'push' factor to switch from land-based livelihood activities to non-farming employment activities that do not require land. Non-farm employment therefore becomes more attractive, and most often, survival strategy adopted by peri-urban dwellers to escape from the extreme effects of urbanisation. This validates the proposition that rapid

urbanisation of peri-urban Kumasi is responsible for occupational changes. Changes in major economic activities of respondents imply that the negative effects of urbanisation are greatly felt by people whose livelihoods depend on natural resources while the emergence of urban monetary economy serves as opportunities for people who have the right assets and capacity to access the potentials of urbanisation.

Figure 4.2: Previous and Current Main Source of Income of Household Heads



Source: Field Survey, 2011

4.3.1.3 Urbanisation and Effects on Economic Wellbeing

The outcome of the interviews revealed that the displacement of agricultural activities in the study areas has brought hardships and increased the cost of food. The emergence of urban monetary economy allows every commodity or service to be quantified in monetary terms and this serves as constraints on the livelihood of residents as people now have to purchase almost everything they need. Urban dwellers have to purchase almost all their food as well as other goods and services, including housing, transportation, healthcare and education (Cohen and Garret, 2009). In Ghana, urban households (without regard to income class) purchase

92% of their food (FAO, 2008b cited in Cohen and Garret, 2009). An old lady in Deduako commenting on the effects of Kumasi's expansion and cost of living said that:

It has become difficult to make a living because you can eat only when you have money to buy food. Previously the entire 'new site' used to be farms, I used to grow my own food, I could just get vegetables and food stuffs from the farm without paying for it, but now I virtually buy everything even pepper since I no longer have land to farm... We are suffering.

The above quotation buttresses the point made by Gregory (2005) in his study in Hubli-Dharwad and Kolkata (India) that the dynamic changes occurring as a consequence of PUI interactions, for some, household food security had become threatened by loss of land or natural resources needed for food production and thus increasing household vulnerability. This means that some households do not have secure sources of income or strong alternative means of livelihood after losing their cultivated lands. Observation from the study shows that most people only rely on petty trading, the most common non-farm employment in the study areas as a survival strategy. In line with this, Kutiwa *et al.* (2010) argued that the most important vulnerability involves urban poor dwellers who are more immersed in the cash economy but earn incomes that are often erratic, unreliable and small. This means that the effects of urbanisation are not equally distributed and the transition phase most often than not, proves extremely difficult to the disadvantaged to manage with the poorest often losing out (Tacoli, 2004; Edusah, 2008). In one of the discussions held in Esereso, a woman had this to say:

Trading has become the most common job in this community because even if you want to go into farming, there is no land for such activity... People are either selling food items in a small kiosk in front of their houses or operating a container. People are converting their rooms to stores, even in the new developing areas (new site), most

houses have in-built provision shops that they operate. Now it seems almost every household has something to sell...my banana sometimes gets rotten due to its perishability. I have reduced the quantity I buy to sell. Some people think that the influx of 'new commers' into the community will boost demand for goods; but most of them don't buy from us...they leave home early in the morning for work and come home late in the evening

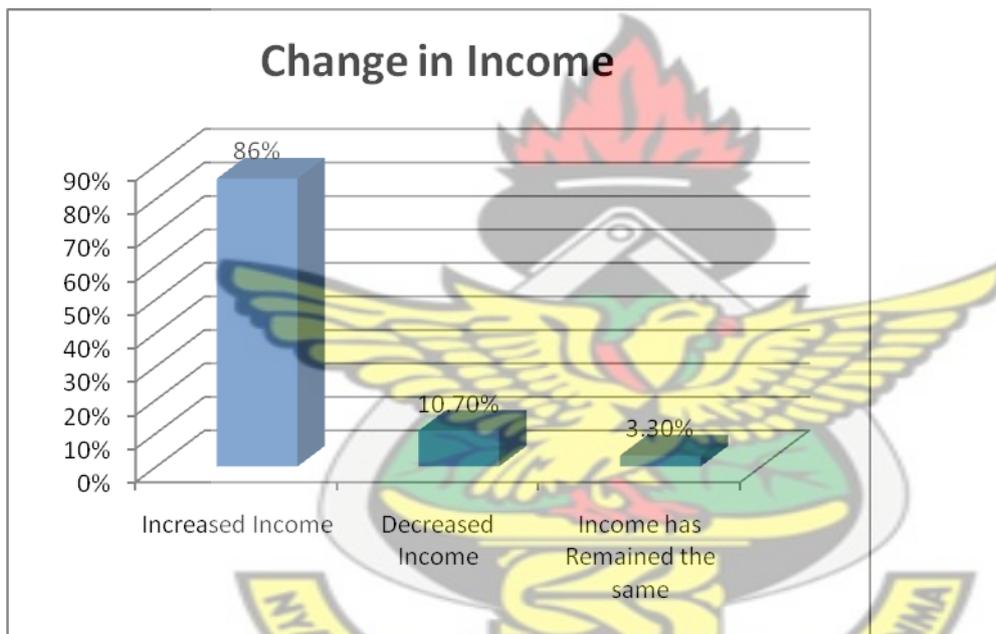
Factors such as competition, low returns from petty trading and lack of collateral to access credit make it difficult for the poor to take advantage of the opportunities that urbanisation presents. Since urban demand for peri-urban lands have forced most households to rely on non-farm income generating activities to achieve their livelihood objectives, the framework in Figure 2.2 indicates that surviving through cash income jobs can be considered as one of the sources of vulnerability of the indigenous residents as most of them may not be in the capacity to exercise the choices presented (Kutiwa *et al.*, 2010).

4.3.2 Positive Effects of Urbanisation on Peri-urban Livelihoods

The economic effects of urbanisation are also reflected in the income situations of respondents. Figure 4.3 indicates the income situation of the residents interviewed. This was to understand whether there has been a change in income in the last 5 years. Majority (86%) of the respondents were of the view that their income have increased. Respondents explained that access to multiple cash-income jobs have contributed to increased income; 10.7% expressed that their income have decreased while only 3.3% of the respondents were of the view that their income have remained the same. The reasons given for decreased income were reduction in farmland size, high unemployment problems, high cost of living and loss of livelihood. To understand whether the change in income is caused by the expansion of Kumasi, out of the total who responded there have been changes in their income, 142 of

them, representing 94.7% indicated that the change in their income is caused by the expansion of Kumasi, while only 2.0% were of the view that a change in their income is not attributable to the growth of Kumasi. The results from the study present urbanisation as the major force influencing the income levels of respondents. However, the views expressed by 2.0% of the respondents show that factors (such as age, sickness and access to financial capital) other than urbanisation are at play.

Figure 4.3: Respondents' View on whether there has been a Change in their Income in the last 5 years.



Source: Field Survey, 2011

Usually, the negative effects of urbanisation are so much stressed than the positive effects. Respondents' assessment of the effects of urbanisation on their livelihood also supports Modernists' notion that urbanisation initiates growth and development in the adjoining areas (Todaro, 1977 cited in Maxwell *et al.*, 2000; Gantsho, 2008). These effects are manifested both at the household level and community level. At the household level, the study revealed that though some people have been displaced off their farmlands, respondents' views on the

effects of Kumasi's growth on their livelihood indicate that urbanisation has brought about better living conditions for majority of households living in the study areas (Table 4.5). This is due to the fact that urban areas provide many potential advantages for improving living conditions through economies of scale and proximity they provide for most forms of infrastructure and services (Satterthwaite *et al.*, 2010).

Out of the total population of 150 interviewed, 70.7% expressed that urbanisation has strong positive effects on their livelihood. Respondents explained that the expansion of Kumasi has improved their livelihood by giving them access to different job opportunities to earn cash incomes as well as greater access to social amenities. The growth of non-farm job opportunities as part of the urbanisation process serves as safety net that absorbs displaced labour force who can no longer gain a secure livelihood from agriculture. The survey results also show that 26.7% of the respondents were of the view that Kumasi's expansion has affected their livelihood negatively while 2.7% respondents expressed that Kumasi's expansion has had both positive and negative effect on their livelihood. Drawing on the results presented in Table 4.5, it can be argued that the positive effects of urbanisation on the livelihoods of residents far outweigh the negative effects.

The results also reveal that there is marginal spatial differentiation of the effects of urbanisation across the Kumasi peri-urban continuum. The degree of the differential effect is a function of the level of urbanisation which is also a factor of location relative to the city. Esereso, by virtue of its location along the main road of Kumasi-Lake Bosomtwe has advantage to be more exposed to Kumasi's influence than Appiadu which is not located along the main road.

Table 4.5: Effects of Urbanisation by Nature of Settlement

Community	Effects of Kumasi's Growth on Respondents' Jobs						Total	
	Negative Effects		Positive Effects		Positive & Negative Effects			
	N	%	N	%	N	%	N	%
Esereso (Urban)	9	6	39	26	2	1.3	50	33.3
Deduako (Intermediate)	13	8.7	36	24	1	0.7	50	33.3
Appiadu (Rural)	18	12	31	20.7	1	0.7	50	33.3
Total	40	26.7	106	70.7	4	2.7	150	100

Source: Field Survey, 2011

Generally, the exposure of the previously rural economy to the influence of urban monetary economy is said to present both opportunities and constraints (Aberra and King, 2005). Table 4.6 shows how positively or negatively the expansion of Kumasi has affected the jobs of respondents. The growth of non-farm job opportunities, characterising urban growth serves as alternative source of livelihood which absorbs people who have lost their farmlands. From table 4.6, majority of respondents' (71.3%) sources of livelihood have been improved by the expansion of Kumasi. Respondents explained that the expansion of Kumasi has given them greater access to different job opportunities to earn cash incomes as well as social amenities. Twenty percent (20.0%) of the respondents were of the view that the expansion of Kumasi has brought hardships coupled with high cost of living while 8.6% were of the view that urbanisation has deprived them of their livelihoods by making them lose their cultivated lands.

It can also be inferred from that the level of education plays a critical role in improving or worsening the well-being of respondents. There is a direct relationship between levels of education and how positively or negatively urbanisation affects respondents' livelihoods.

Majority of household heads (13) who face various forms of hardships are those who have not had any form of formal education. None of the household heads who have had tertiary education faces hardships. Level of education is argued to be one of the core dimensions of poverty and thus overcoming this condition may be one of the primary livelihood objectives (DFID, 1999). According to Barrett *et al.* (2001), educational attainment proves to be one of the most important determinants of non-farm earnings, especially in more remunerative salaried and skilled employment in rural Africa. How households mobilise and allocate resources depend on individuals' quality of education and the kind of information they are able to access.

Table 4.6: Effects of Kumasi's Growth on Respondents' Sources of Livelihood by their Educational Background

Educational Background	Improved Livelihood		Deprived Livelihood (Unemployment)		Hardship		Total	
	N	%	N	%	N	%	N	%
No School	38	25.3	7	4.7	13	8.7	58	38.7
Primary School	12	5.3	1	0.7	3	2	16	10.7
Middle School	21	14	3	2	9	6	33	22
High School	18	12	2	1.3	5	3.3	25	16.7
Tertiary	18	12	0	0	0	0	18	12
Total	107	71.3	13	8.7	30	20.0	150	100.0

Source: Field Survey, 2011

The effects of urbanisation on respondents' livelihood also have gender dimension (Table 4.7). Out of the 71.3% of the respondents whose livelihood have been improved, 42% of them were males while 29.3% of them were females. In the same way, out of the 20.0%

households who experienced hardships, 12.7% of them were females while 7.3% of them were males. The data revealed that urbanisation benefits male-headed households more than female-headed households. The findings of Brook and Dávila, (2000) in the Kumasi peri-urban interface emphasise the tendency for a greater range of opportunities taken up by men than women. Their findings show that women were more likely to take to trading, whereas men were more likely to take advantage of the construction work available or have skills that allow them to operate as artisans or craftsmen. Gregory's (2005) findings in both Hubli-Dharwad and Kolkata in India, also show that men were most likely to take advantage of city based casual labouring opportunities. Observation from the study areas also confirmed that most of the jobs that are in high demand are male dominated because these activities are considered most 'appropriate' and acceptable for men to do (e.g construction work such as masonry, commercial driving and carpentry) while petty trading (e.g selling of cooked food) which has a link with the domestic role played by women is considered a "woman's domain".

The differential effects of urbanisation is explained by the view championed by Tacoli (2002) that in sub-Saharan Africa, opportunities and constraints such as access to resources are socially embedded and reflect roles ascribed to gender, age, ethnic positions and migrant status. This is in line with the findings of Abera and King (2005) who maintain that in the Kumasi peri-urban area, a man would find it humiliating to sell cooked food. This indicates how gender norms can dictate the occupation of men and women and how this can enhance or worsen people's livelihood when it comes to issues regarding the identification and utilisation of livelihood opportunities. In southern Tanzania, women heads of households and widows living alone are generally excluded from the patronage system controlling access to rural non-farm employment, and are forced into marginal activities such as harvesting of natural resources or even prostitution (Seppala, 1996 cited in Tacoli, 2002).

The variations between male-headed households and female-headed households can also be explained by the fact that gender roles played by women may simply not allow them to work full time. The role played by women, including taking care of children and performing household duties, limits the number of hours and their mobility to search for salaried work. As a result of their gender roles, they mostly opt for flexible livelihood activities that will give them enough time to combine work with household chores. Observation from the study shows that the location of most women's work place is just in front of their houses or along the road side within the communities they live which is not very far from their homes.

Table 4.7: The Effects of the Expansion of Kumasi on the Livelihood of Respondents from Gender Perspective

Gender	Improved Livelihood		Deprived Livelihood (Unemployment)		Hardship		Total	
	N	%	N	%	N	%	N	%
Male	63	42	10	6.7	11	7.3	84	56
Female	44	29.3	3	2	19	12.7	66	44
Total	107	71.3	13	8.7	30	20.0	150	100.0

Source: Field Survey, 2011

The effects of urbanisation are not only manifested at the household level, they are also witnessed at the community level. At the community level, it was discovered that due to peri-urban proximity and connectivity to Kumasi, the study areas have undergone vigorous infrastructure development, there is greater market demand for goods and services and opportunity to acquire skills and knowledge for capacity building. Table 4.8 gives a summary of the responses given by household heads when they were asked about the effects of urbanisation at the community level. Sixty two percent (62.0%) of the respondents attributed infrastructure development in their communities to the expansion of Kumasi. Out of this

number, 24.7%, 22% and 15.3% of the respondents were from Esereso, Appiadu and Deduako respectively. Residents now have greater access to facilities such as schools, especially new basic schools owned by private individuals, electricity, roads, potable water supply, among others. For instance, improvement in transportation system has opened a window for people to get access to the city centre to transact business while the availability of and access to market widens the scope for non-agricultural income generating employment. The establishment of new infrastructure facilities has created new employment opportunities in the areas under study.

From Table 4.8, 16.7% of the respondents were of the view that the expansion of Kumasi has created market for goods and services due to the influx of migrants into the communities, while 10.7% said that the growth of Kumasi has created the opportunity to acquire skills and knowledge for capacity building. Several studies demonstrate the importance of access to physical infrastructure and participation in non-farm activities and increased incomes. For instance, Ellis (1998 cited in Mandere *et al.*, 2010) argues that infrastructure development such as roads and markets provide outlets for people to purchase and sell their goods. Cheap and efficient transport infrastructure encourages peri-urban workers to commute daily to the nearest city to access urban market and other services. Tacoli (2004) also asserts that access to urban markets is key to increasing incomes for rural and peri-urban farmers while Barrett *et al.*, (2001) and Atamanov and Berg (2011) demonstrate that access to infrastructure improves non-farm earnings and crucial for participating in non-farm activities.

Among the problems created by the growth of Kumasi are the problem of sanitation and the growing unemployment rate in the communities. Out of the total of 150 respondents, 7.3% were of the view that the expansion of Kumasi has created unemployment. This may be due to loss of farmlands and unavailability of alternative job opportunities. As the city expands to

engulf agricultural lands, no conscious effort is made by authorities to create alternative jobs to absorb those who have been hard hit by the process of urbanisation. Ashong *et al.*, (2004) identified lack of employable skills and requisite qualifications among the causes of unemployment in the peri-urban areas. Due to this, many displaced indigenes are not able to acquire jobs both in the city and the community to secure better livelihoods. However, 3.3% of the respondents expressed poor sanitation as a result of the expansion of Kumasi.

Table 4.8: Effects of Kumasis' Growth at the Community Level

Effects at the Community level	Esereso		Deduako		Appiadu		Total	
	N	%	N	%	N	%	N	%
Infrastructure development	37	24.7	23	15.3	33	22	93	62
Greater access to skills and knowledge	1	0.7	10	6.7	5	3.3	16	10.7
Market for goods and services	9	6	8	5.3	8	5.3	25	16.7
Poor sanitation	2	1.3	3	2	0	0	5	3.3
Unemployment	1	0.7	6	4	4	2.7	11	7.3
Total	50	33.4	50	33.3	50	33.3	150	100.0

Source: Field Survey, 2011

With the expansion of the urban front, peri-urban livelihood change is inevitable. Urbanisation does not only cause changes in occupation, it also brings changes within same occupation. Urban expansion is accompanied by certain changes in agricultural practices as farm sizes and quality keep on reducing in the peri-urban areas. With the dwindling land size and commercialisation of land in the communities, farmers have adopted all forms of strategies to survive. Table 4.9 indicates how agricultural practices have undergone changes over the last two decades in response to the emergence of urbanisation. Since large scale cultivation of cash crops is not economically viable in the peri-urban area due to rising land

value, most farmers have shifted from the traditional extensive agriculture towards intensive agricultural practices where crops with shorter gestation period as well as high market demand value are cultivated as either a survival strategy or accumulation strategy (Tacoli, 2004; Mandere *et al.*, 2010, Thuo, 2010). The fallow system which characterises extensive cultivation can no longer be practised in these areas due to unavailability of extensive agricultural lands; hence crop intensification is adopted to either enhance household food security as a supplement or as a major source of income (6.7%). Intensification has become a very important source for sustenance for most households because of its potential to reduce household expenditure on food. Farming on building sites, open spaces and backyard farming is very common in the study areas as people take advantage to cultivate on any land that is yet to be developed. Sixteen percent (16.0%) of the respondents have shifted from the cultivation of cash crops to vegetables because the latter has a shorter gestation period. The rising demand for vegetables in the city has resulted in people diverting to the growth of these vegetables. Out of the 16.0% of the respondents who have shifted to the cultivation of vegetables, 8%, 4.7% and 3.3% were located in Deduako, Esereso and Appiadu respectively. Plate 4.4 presents how a typical commercial vegetable farming competes with residential buildings for space in the study communities. It was discovered during the interview session that most residents migrate seasonally as a coping strategy to rural areas where large tract of land is available for extensive cultivation of crops with longer gestation period.

Since large tract of land is not available in the peri-urban areas, 22.7% responded that agricultural practices have changed from large scale farming to small scale farming. There is a variation in the number of farmers who cultivate on small scale basis across the areas under study. Table 4.9 indicates that 10.7%, 6.7% and 5.3% of the respondents are from Appiadu, Deduako and Esereso respectively. Though farmers cultivate on small scale basis, 2.7% explained that farming has changed from traditional farming to modern way of farming.

Farmers have resorted to the application of modern technology such as fertilizer application and irrigation to increase output. They gave the explanation that there is a decline in fertility of the soil due to constant cultivation. Other measures taken to ensure high productivity are soil maintenance, pest and weed control management. However, farmers who cultivate on subsistence level still rely on rain-fed crops while most of the vegetable farms visited used surface water (streams) to irrigate their farms since majority of the farms were located along river banks and water catchment areas. Most of the streams in the peri-urban area are used as waste sinks, therefore the use of untreated surface water to irrigate vegetables can pose a serious health hazards to consumers of these vegetables since most of these vegetables are eaten raw. The various strategies adopted by farmers to cope with the changes proves the proposition that urbanisation causes changes in livelihood strategies.

Plate 4.4: Vegetable Cultivation as a Livelihood Source



Source: Field Photograph, 2011

Table 4.9: Respondents' view on Changing Agricultural Practices

How agricultural practices have changed	Location of Respondents			Total	Percentage
	Esereso	Deduako	Appiadu		
Shifting from the cultivation of food & cash crops to vegetables	7	12	5	24	16.0
Shifting from large scale farming to small scale farming	8	10	16	34	22.7
Shifting from traditional to modern way of farming (application of modern technology)	1	2	1	4	2.7
Shifting from extensive cultivation to intensive cultivation	4	1	5	10	6.7
N/A (Non-farmers)	30	25	23	78	52.0
Total	50	50	50	150	100.0

Source: Field Survey, 2011

4.4 Strategies Adopted to Cope with the Effects of Urbanisation

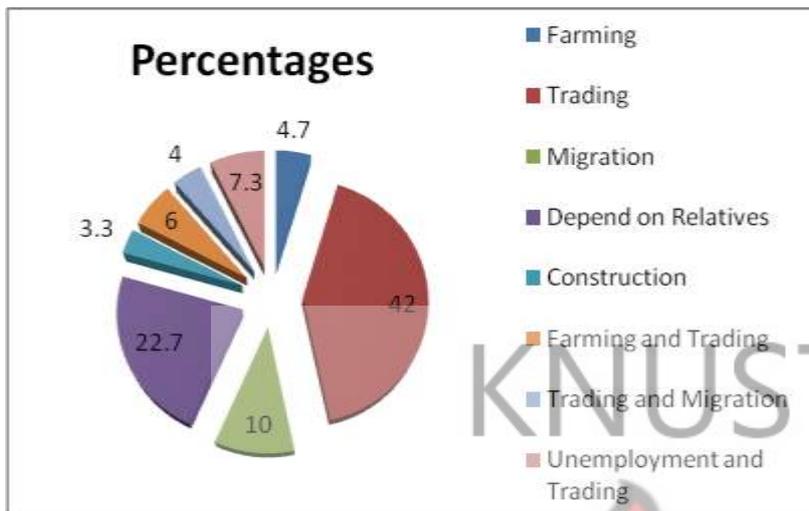
Landlessness is a serious problem in the study areas as the communities experience greater influence from the expansion of Kumasi and its consequential influx of migrants into the communities. Figure (4.4) shows what farmers resort to immediately they lose their farmlands. The study sought to understand whether farmers have access to alternative means of livelihood or otherwise when they become landless as a result of conversion of farmlands to urban use. A sizeable number of respondents (42.0%) indicated trading as the alternative option available to people who have lost their farm to urban use, 22.7% were of the view that they depended on relatives for support. When further probing was made, it was revealed that among the groups most affected are the aged who previously engaged in farming. The

vulnerability of the aged stems from the fact that this group mostly lack capital to engage in non-farm activities and are unlikely to move to the city or to other areas to look for employment like the young people (Thuo, 2010). This point is buttressed by Dávila's (2002) argument that majority of the peri-urban dwellers (especially the poor indigenes) who depend heavily on natural resources for their livelihoods are worse affected when such resources are lost or degraded as a result of urban expansion. The study also revealed that when people cannot gain a secure livelihood in their homelands, they are compelled to migrate. Migration is one of the important strategies whenever people can no longer secure a livelihood. Ten percent (10.0%) of the respondents said that farmers migrate elsewhere to either farm or look for non-farm employment, while 4.7% still continue to farm on any available land. The focus group discussion at Esereso revealed that, when farmers lose their farmlands, the females mostly resort to petty trading while the males, if they had learnt a vocational skill (tailoring, carpentry) go back to this business. When further probing was done on why women resort to trading, the response was that trading is the area they are more experienced in.

Moreover, to cope with hardships, parents engage children in hawking, borrowing and sale of assets. The discussion in Appiadu revealed that most young women resort to taking multiple sexual partners as their coping strategies. To cut down cost on food, people devise strategies such as a reduction in the quantity of food purchased (eating less or skipping meals) and quality of food consumed (shifting from the consumption of high value foods). Most people resort to the consumption of street food instead of home-prepared food when food prices and fuel for cooking. An artisan from Esereso makes a comment that:

If GHI cedi can conveniently guarantee me a ball of kenkey and fried fish, why not spare myself the hassle of going to market to buy corn dough and other ingredients and the cost of preparing it since it is cheaper to buy than to cook it myself.

Figure 4.4: Respondents' View on what Farmers Resort to when they Lose their Farmlands

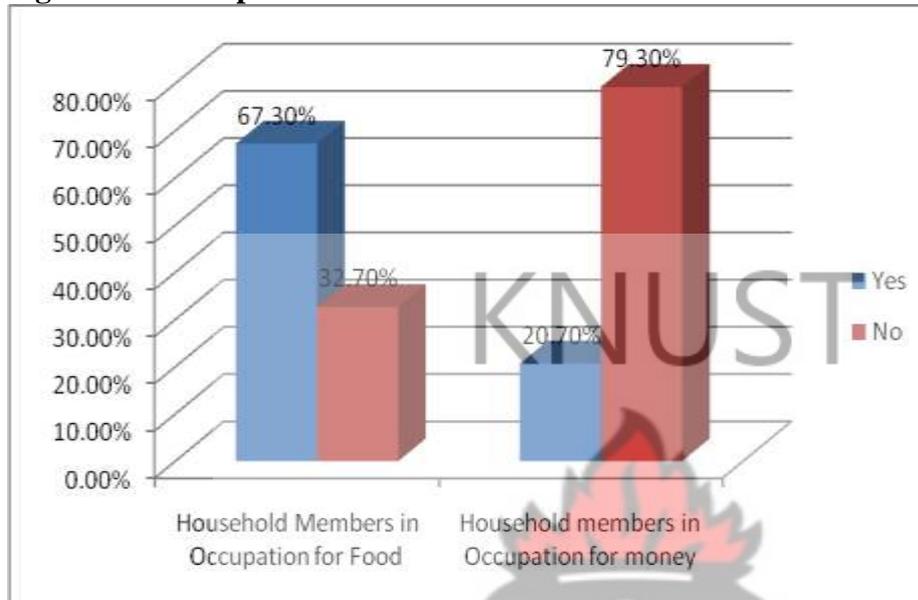


Source: Field Survey, 2011

The study also reveals that respondents' households have diversified range of activities undertaken by different members of the family (diversified intra-household activities). It has been argued that the support base of the household is crucial for the total survival of the members to the extent that the question of how old the person is does not matter as much as how much each individual is able to contribute to the household basket (Ashong *et al.*, 2004). Keeping more household members in different occupations could be seen as a survival strategy adopted by most households to cushion the shock of urbanisation. Individual members of the household engage in occupation ranging from farming, trading, construction and services to manufacturing with the sole aim of getting money or food to supplement family income. Gregory (2005) broadly categorised these livelihood activities into cash based and non-cash based activities. From the survey (Figure 4.5), it was revealed that majority of households interviewed (67.3%) have members (other than the main income earner) engaged in cash-income jobs while 20.7% household heads indicated that their household members are engaged in occupation such as farming for food to reduce household expenditure on

food. Other members of the household are engaged in activities such as trading, farming, artisan, services, construction works among others.

Figure 4.5: Occupational Activities of Other Members of the Household of Respondents



Source: Field Survey, 2011

Remittances from household members living elsewhere constitute a very important component of the livelihood of respondents. Table 4.10 reveals that majority of the sampled household heads (78.0%) receive support from relatives both abroad and in the country. Respondents dwell on the social network for support whenever they are in need. However, the support received by respondents is from the immediate nuclear family members. The extended family and kinship networks which formed a very important part of the social capital base in the study areas are increasingly being eroded with the emergence of urbanisation. A discussant from Appiadu revealed that they sometimes receive financial support from their church. The findings of Thuo (2010) in Nairobi peri-urban area in Kenya indicate that churches have become new space of communal get-together where members meet to support each other in times of need such as during bereavements, weddings or sickness. Moreover, people also fall on the new emerging social groups such as associations (fun clubs), political groups among others for support in times of need.

Table 4.10: Access to Financial Assistance from Relatives

Response	Frequency	Percentage
Yes	117	78.0
No	33	22.0
Total	150	100

Source: Field Survey, 2011

The survey also discovered that keeping more than one livelihood activity is one of the strategies adopted by most households to strengthen household resilience against shock. Table 4.11 shows that more than half (59.3%) of the respondents engage in secondary economic activities to supplement their income. Non-farming households are more diversified than farming households with 37.3% and 22% respondents respectively. Respondents participate in other economic activities such as trading/business, farming, artisan and construction in order to sustain their livelihoods. It was also discovered that most households generate additional income from rental and other services. Room renting has become a lucrative venture in the study communities as people keep migrating to these areas. For instance, at Deduako, respondents complained that, due to their proximity to Kwame Nkrumah University of Science and Technology, rental charges for rooms have increased drastically as students and lecturers keep moving to the area. Respondents however complained of the bad attitudes of some landlords/ladies who have taken advantage of the situation to eject old tenants since it is more profitable to rent to students than to non-students. Respondents explained that people who cannot afford the rising rent value either squat or migrate further to more rural areas or move to areas with low quality buildings where rent is relatively cheaper.

Greater diversification could be associated with the proliferation of new income generating opportunities in the study areas because of their proximity to Kumasi. This however

contradicts a study by Brook and Dávila, (2000) in Kumasi peri-urban interface. Their study revealed that only 2% of the respondents engaged in other economic activities to supplement their income.

Table 4.11: Additional Income of Respondents

Response	Farming		Non-farming		Total	
	N	%	N	%	N	%
Yes	33	22	56	37.3	89	59.3
No	27	18	34	22.7	61	40.7
Total	60	40	90	60	150	100

Source: Field Survey, 2011

A transformation from predominantly rural agrarian economy to predominantly urban economy also entails a change in economic activity as people strategise to cope with the effects of urbanisation. Transformation in the livelihood of people who formerly depended on natural resources to survive implies that peri-urban indigenes now have to develop a range of survival strategies to cope with the changes. The strategies adopted are determined by what Barrett *et al.* (2001) described as ‘push and pull’ factors. In other words, the strategies may be undertaken by choice for accumulation or reinvestment purposes, or of necessity either to cope with temporary adversity or as more permanent adaptation to the failure of other options (Morris *et al.*, n.d). Depending on the sources of livelihood, the activities adopted may either be natural resource-based or non-natural resource-based which are undertaken for either a short-term or in the long-term period. Coping with changes in economic conditions has been well-documented by researchers over the years. The strategies adopted by households in the three peri-urban communities are not different from other areas and these are discussed according to the classification by Scoones (1998) on the basis of sources of livelihood or major income. In a situation where farming is affected by various factors that make it

economically unviable, farmers respond in a variety of ways including diversifying crop production, change in crops grown and looking for off-farm jobs (Thuo, 2010). Households in the communities adopt farm strategies, non-farm strategies or a combination of the two to cope with the effects of urbanisation. They resort to diversification, intensification and migration with the aim of strengthening household resilience by enhancing income or reducing expenditure. These strategies are adopted in response to urban pressure.

Table 4.12 indicates that the increasing pressures from urban expansion have compelled most people to diversify their income sources or secure alternative livelihood other than agriculture as coping strategies. For instance 8.0% of the respondents diversify their non-farm income (multiple non-farm income activities in order to broaden their income base) while 10.7 % engage in a single non-farm alternative livelihood activity. With the expansion of Kumasi, respondents are left with no other alternative than to switch from land-based livelihood activities to non-land-based income generating activities. Availability of alternative sources of livelihood to absorb displaced indigenes is very essential when it comes to risk reduction. According to Morris *et al.* (n.d), non-farm strategies may be undertaken by choice for accumulation or reinvestment purposes, or of necessity either to cope with temporary adversity or as a more permanent adaptation to the failure of other options. These strategies are what Tacoli (2004) described as survival and accumulative strategies. One important aspect of non-farm strategy is that landless poor and people with no skill in farming can engage in it. For instance, according to Thuo (2010), most families in Nairobi peri-urban areas formerly relying on farm for food and income turn to look for non-farm jobs within their locality or elsewhere with the declining agricultural opportunities due to land conversions and population increase.

In response to the declining agricultural land in peri-urban Kumasi, most farmers have intensified crop production through changing their mode of farming and switching to higher value crop production or diversifying crop production. The survey results indicate that respondents resort to diversification (3.3%) and intensification of crop production (8.7%) to cope with urbanisation. Crop diversification includes growing different types of crops on a field. This strategy is adopted to secure livelihood or reduce risk in case one type of crop fails to do well. Another farm strategy adopted in the Kumasi peri-urban interface is intensive production. As part of the intensification system, respondents resort to the cultivation of crops with shorter gestation period and application of modern technology such as fertiliser and irrigation to increase crop yield. Nobody opted for extensification as a livelihood strategy. This could be due the explanation given in the work of Thuo (2010) that in the peri-urban Nairobi, since most of the land has been sub-divided either due to *in situ* increasing population or immigration leading to land demand for residential purposes, most families have been left with small portions of land for cultivation. Therefore high demand for peri-urban lands and land commodification make it difficult to cultivate on a large scale and the cultivation of cash crops is economically unviable.

The study also revealed that when people cannot gain a secure livelihood in their homelands, they are compelled to migrate. Migration is one of the important strategies whenever people can no longer secure a livelihood. From the survey results, 8.0% of the respondents indicated that they migrate elsewhere to look for employment. Most of the respondents in this category explain that they migrate seasonally to cocoa growing areas of interior Ashanti, Brong-Ahafo and Western Regions or travel daily to distant rural locations (where large tract of land is available) for extensive cultivation of crops with longer gestation period. Others also migrate to other parts of the country or commute to the city daily to work. Migration is mostly

resorted to as the last or the only available option for people when they have limited access to land. A carpenter from Esereso who migrates seasonally to farm commented that:

I used to farm here and at the same time doing my carpentry work. But when all the land was sold, I always migrate to the rural area to farm, occasionally I come back to continue my carpentry work.

A woman from Deduako commenting on migration explained that:

There are no jobs in this community. Most youth in this community are either 'mates' (bus conductors) or drivers. This is the common job available here, so most people who cannot cope with the situation migrate to the city to look for jobs.

The data presented also indicate that most households rarely depend on one strategy to survive. Respondents combine different livelihood strategies in order to cope with Kumasi's expansion. It can also be inferred that a sizeable number of respondents combine both farm and non-farm livelihood activities as their coping strategies. For instance, 42.7% of the respondents diversify both farm and non-farm income and secure alternative livelihood other than agriculture, 9.3% diversify farm and non-farm income while 6.0% of the respondents intensify crop production and secure alternative livelihood other than agriculture.

It can be inferred from the responses in Table 4.12 that changes in the livelihood strategies involve two levels: a change within the same livelihood activity (for instance a farmer switching from cultivation of cassava to the cultivation of vegetables because vegetables have shorter lifespan) and a change from one occupation to other (switching from farming to trading). A typical characteristic of the Table is that certain strategies are peculiar to a particular source of livelihood. For instance, diversification and intensification of crop production are only associated with households who have farming as their livelihood source

while securing alternative livelihood other than agriculture are adopted by those in non-farming income generating activities.

Table 4.12: Respondents' Coping Strategies to Urbanisation

Strategies	Major source of income		Total	Percentage
	Farming	Non-farming		
Diversify crop production	5	0	5	3.3
Diversify non-farm income		12	12	8.0
Diversify farm and non-farm income	11	3	14	9.3
Intensify crop production	13	0	13	8.7
Secure alternative livelihood other than agriculture	0	16	16	10.7
Migrate to look for employment	9	3	12	8.0
Diversify crop production, diversify farm & non-farm income, intensify crop production and secure alternative livelihood	5	0	5	3.3
Intensify crop production & secure alternative livelihood	6	3	9	6.0
Diversify farm & non-farm income and secure alternative livelihood	11	53	64	42.7
Total	60	90	150	100.0

Source: Field Survey, 2011

The strategies adopted by households are based on the purpose they serve. Different set of factors pull and push peri-urban households to adopt a particular strategy. To understand the motive behind the choice of a particular livelihood activity, respondents were asked to state the reasons why they engage in a particular livelihood activity. From the survey (Table 4.13), 27.3% of the respondents explained that it is due to the limited access to land while 24.7% responded that, it is the only available option for them. All respondents who chose migration explained that they migrate because of limited access to land and they also see it as the only option available to them.

Most people resort to non-farm livelihood strategies (diversify both farm and non-farm income and secure alternative livelihood other than agriculture) because of daily/regular income (13.3%). Respondents also combine different livelihood strategies either to supplement income (3.3%) or to reduce risk in times of crop/ business failure (16.7%). Respondents also have a reason to adopt a particular strategy because of its sustainability (14.7%).

Table 4.13: Reasons for Adopting a Particular Livelihood Strategy

Strategies	Reasons for choosing livelihood activity						Total
	Only Option	Regular Income	It is Sustainable	Security in times of risk	Limited access to land	Supplement income	
1	1	0	1	2	1	0	5
2	2	2	1	4	2	1	12
3	3	2	2	3	3	1	14
4	1	0	0	1	11	0	13
5	7	5	2	0	2	0	16
6	4	0	0	0	8	0	12
7	0	1	3	1	0	0	5
8	1	0	3	2	2	1	9
9	18	10	10	11	13	2	64
Total	37	20	22	24	42	5	150
Percentage	24.7	13.3	14.7	16.7	27.3	3.3	100

Source: Field Survey, 2011

Strategies in Table 4.13 defined:

1=Diversifying crop production

2=Diversifying non-farm income

3= Diversifying farm and non-farm income

4= Intensifying crop production

5= Securing alternative livelihood other than agriculture

6= Migrate to look for employment

7= Diversify crop production diversify farm & non-farm income, intensify crop production & secure alternative livelihoods

8= Intensify crop production & secure alternative livelihood

9= Diversify farm & non-farm income and secure alternative livelihood other than agriculture

KNUST

The outcome of the strategies signifies how households are able to put both their productive assets (e.g human capital, land etc) and non-productive assets (household valuables) into proper use in order to effectively develop their livelihood strategies (Barrett *et al.*, 2001). Table 4.14 shows the outcome of the various livelihood strategies adopted by respondents and effectiveness of the strategies. This was to determine how the various strategies enhance or increase the extreme effects of urbanisation. Out of the total number of household heads interviewed, 21.3% of them explained that their income has increased, 40.0% experienced increased well-being, 8.7% of the respondents' productivity has increased, 18.0% achieved food security, 8.7% were managing while only 3.3% had their income decreased. According to the sustainable livelihood framework developed by the DFID (1999), the outcomes of livelihood strategies determine how sustainable or unsustainable a particular livelihood activity is.

Those who had intensified crop production had increased their income, well-being, productivity and achieved food security. Only one person has achieved a decreased well-being. Out of the 10.7% of the respondents who had secured alternative strategies other than agriculture, 6% and 4% had increased income and increased well-being respectively. All

households who experienced decreased well-being have adopted strategies that relate to farming and migration. The results could mean that since farmlands are constantly being converted to urban use, there might not be large tract of land that will allow for extensive cultivation. The outcomes of the strategies support the proposition that livelihood strategies adopted by residents reduce extreme effects of urbanisation since majority of respondent households have achieved positive livelihood outcomes.

After respondents have described the outcome of their livelihoods, they were asked to also state how they are able to determine an improvement in their livelihood. This is because ability to know how well a particular livelihood is doing tells how sustainable or unsustainable a particular activity is. Some of the explanations given by respondents include increased income, ability to afford and access basic household needs, increased yields and ability to save.

Table 4.14: Outcomes of strategies Adopted by Respondents

Strategies	Outcomes						Total
	Increased income	Increased well-being	Increased productivity	Food security	Decreased well-being	managing	
1	1	0	0	3	1	0	5
2	2	8	0	1	0	1	12
3	2	7	2	2	0	1	14
4	1	5	4	2	1	0	13
5	9	6	0	0	0	1	16
6	2	2	3	3	1	1	12
7	1	3	1	0	0	0	5
8	1	4	1	2	0	1	9
9	13	25	2	14	2	8	64
Total	32	60	13	27	5	13	150
Percentage	21.3	40.0	8.7	18.0	3.3	8.7	100

Source: Field Survey, 2011

Strategies in Table 4.14 defined:

1=Diversifying crop production

2=Diversifying non-farm income

3= Diversifying farm and non-farm income

4= Intensifying crop production

5= Securing alternative livelihood other than agriculture

6= Migrate to look for employment

7= Diversify crop production diversify farm& non-farm income, intensify crop production & secure alternative livelihoods

8= Intensify crop production & secure alternative livelihood

9= Diversify farm & non-farm income and secure alternative livelihood other than agriculture

After respondents have described how they determine an improvement in their livelihood, they were asked to indicate how they ensure the sustainability of their livelihood. Table 4.15 indicates level of education and how peri-urban household heads adopt different strategies to ensure the sustainability of their livelihood. From the Table, 49 of the respondents representing 32.7% explained that they always work hard to sustain their livelihood, 45.3% said they save and invest the savings in other ventures, 16.7% said they engage in multiple livelihoods sources while 5.3% said they look for any undeveloped land to farm on. Out of the 32.7% who always work hard to sustain their livelihood, 18% have not had any form of formal education while only 0.7 of the respondents have had tertiary education. Out of the 45.3% (68) of respondents who save and invest their savings in other ventures, 12.7 of them have had education up to the middle school level while 11.3, 8.7% and 8% of them have had education up to high school and tertiary levels respectively.

Table 4:15: Relationship between Respondents’ Level of education and how they ensure Sustainability of their Livelihood

Level of Education	Hard work		Save and invest in other ventures		Engage in multiple livelihood		Look for land to farm		Total	
	N	%	N	%	N	%	N	%	N	%
No School	27	18	12	8	15	10	4	2.7	58	38.7
Primary School	6	4	7	4.7	0	0	3	2	16	10.7
Middle School	11	7.3	19	12.7	3	2	0	0	33	22
High School	4	2.7	17	11.3	3	2	1	0.7	25	16.7
Tertiary	1	0.7	13	8.7	4	2.7	0	0	18	12
Total	49	32.7	68	45.3	25	16.7	8	5.3	150	100.1

Source: Field Survey, 2011

4.5 Alternative Livelihoods

It was discovered through the survey that the growth of Kumasi has created multiple livelihood opportunities in the communities under study as a result of their proximity and connectivity to the city. Table 4.16 indicates respondents’ view on whether the growth of Kumasi is opening up new job opportunities in the study areas. Since urbanisation is believed to destroy and create livelihood opportunities, respondents were asked to indicate whether alternative livelihood has been created since farming is becoming economically unviable. From the Table, 98.7% of the respondents affirm that the growth of Kumasi is opening up new job opportunities while 1.3% of them held a contrary view. Surprisingly, the 1.3% who held the view that Kumasi’s growth has not opened up new job opportunities were found in Esereso, the most urbanised among the three communities.

Table 4.16: Respondents' Views on the Relationship between the Growth of Kumasi and New Job Opportunities

Responses	Esereso	Deduako	Appiadu	Total	Percentage
Yes	48	50	50	148	98.7
No	2	0	0	2	1.3
Total	50	50	50	150	100

Source: Field Survey, 2011

It is believed that the Kumasi peri-urban interface (KPUI) presents countless job opportunities for its residents. It became therefore necessary to examine the kind of job opportunities that have been created and this has been captured in Table 4.17. The responses given were trading (17.3%), artisan (12.7%), provision of services (14.0%), vegetable farming (5.3%), construction (28.7%) and manufacturing (13.3%). These job opportunities serve as safety nets which absorb the indigenous residents who lost their farms to urban use. The survey reveals construction (28.7%) (sand and stone winning and unskilled labourers at construction sites, masonry) as the most frequently mentioned job that residents can take advantage of. Its predominance among all the responses may be due to the proliferation of new infrastructure development such as the growing demand for houses in the peri-urban area. Though construction offers short term or temporally alternative job opportunity for most people living in the peri-urban area, according to Brook and Dávila (2000), it is more likely to be dominated by men. This is because, as it has been explained earlier, in the peri-urban interface of Kumasi, certain jobs are considered most appropriate and acceptable for men to do. It can also be inferred from Table 4.17 that, out of the 28.7% who were of the view that the growth of Kumasi has created construction opportunities, 12%, 10% and 6.7% of them were from Appiadu, Esereso and Deduako respectively. Construction is the most dominant job opportunity in the communities because these are areas where current development is taking place.

Sachet water production, the most predominant industrial activity emerging in the peri-urban area dominates in Esereso and Appiadu. It is argued that the process of peri-urbanism is characterised by changing local economic and employment structures, from agriculture to manufacturing (Hudala *et al.*, 2008). However, observation from the study areas indicates that the process of peri-urbanism in the study areas is not characterised by the concentration of heavy industrial activities as compared to other peri-urban areas in the world (Bah *et al.*, 2003; Narrain and Nischah, 2007; Mandere *et al.*, 2010). The trend of Kumasi peri-urbanism is characterised by the changing employment structure from purely agricultural activities to commercial activities rather than heavy concentration of manufacturing industries. This trend of change is evident in the argument presented by Keiser *et al.* (2004) and Songsore (2009) that urbanisation in Africa is characterised by absence of industrial expansion because many cities in Africa were developed as colonial administrative or trading centres rather than industrial zones.

Table 4.17: The kind of Opportunities Presented by the Growth of Kumasi

Job Opportunities	Esereso	Deduako	Appiadu	Total	Percentage
Trading	10	14	2	26	17.3
Artisan	4	9	6	19	12.7
Provision of services	5	4	12	21	14
Vegetable farming	2	5	1	8	5.3
Construction	15	10	18	43	28.7
Trading and Artisan	3	8	0	11	7.3
Manufacturing	9	0	11	20	13.3
Total	48	50	50	148	98.7

Source: Field Survey, 2011

4.6 Conclusion

Analysis of urban functions in rural development is underpinned on Modernisation and Dependency theories in development thinking. The study analysed the effects of urbanisation on peri-urban livelihoods along the lines of these prevailing ideologies in development literature. The study discussed that urbanisation serves as both a threat and an opportunity to the livelihood of people living in peripheral villages just as it was established in the conceptual framework in Figure 2.2 that urbanisation destroys and creates assets at the same time. The negative effects of urbanisation process in the peri-urban area are manifested in the greater loss of agricultural land and the growing integration into the urban monetised economy. Urban intrusion is gradually displacing the traditional livelihood activity (farming) in peri-urban areas. On the contrary, urbanisation has also created demand for non-farm job opportunities and greater access to infrastructure facilities. However, based on the results from the study, the study discussed that the nature of the effects of urbanisation is a factor of sources of livelihood, degree of control of assets and level of exposure to urban influence. In other words, urbanisation is more favourable to non-farming activity and at the same time serving as a threat to farming activities in the peri-urban area. Respondents resort to both farm and non-farm livelihood strategies to cope with the effects of urbanisation. Strategies such as reduction in expenditure, trading to supplement income, farming to enhance food security, farming on any available land, migrating to more rural areas, engaging in multiple sources of income, borrowing and sale of asset are also adopted by respondents in order to cope with the effects of urbanisation.

CHAPTER FIVE

URBANISATION: INSTITUTIONAL EXPERIENCES AND INTERVENTIONS

5.1 Introduction

The Framework in Figure 2.2 identified institutions (District Assemblies and Chieftaincy institutions) as the mediating environment that conditions people's access to assets and their choice of livelihood strategies. Livelihood strategies are made up of a range of assets and activities that are undertaken to achieve household livelihood objectives. This section discusses how institutions function to improve the livelihood of indigenes who lose their farmlands to urban use. The essence of institutional aspect of the research stems from the fact that most often, availability and access to livelihood assets are regulated by institutional framework which may facilitate or deny entitlements.

5.2. The Experiences and Interventions of District Assemblies in Urbanisation Process

It is important to examine the experiences and understanding of the urbanisation process from the perspective of local government officials. This is because as the highest political authority in the district with the responsibility of ensuring the overall development and the preparation of development plans of the district, how the Assemblies conceptualise Kumasi's expansion will inform the policies, programmes and strategies designed to develop and mitigate the effects of urbanisation. Moreover, the local government system is conceptualised to be more responsive to local needs (Satterthwaite and Tacoli, 2003). The study sought information from District Development Planning Officers and Assembly men living in the three communities. The Assembly men form part of the elected members within the District Assembly framework whose responsibility is to articulate the needs and aspirations of the people and effectively relate them to policy making and developmental programmes (Kyei, n.d).

5.2.1 Experiences of District Assembly Officials in Urbanisation Process

Transformation in the livelihood of people living in peripheral villages is argued to be one of the major effects of urbanisation. To understand whether there have been changes in the economic activities, the views of both Assembly men and Planning Officers were sought regarding the previous and current major livelihood activities in the communities. They all held a common view that farming used to be the main livelihood activity in the communities. However with the emergence of urbanisation, most people have shifted from farming to trading in farm produce, manufactured products and other commodities. However, different reasons were given for why petty trading remains the current dominant economic activity in the communities. The Planning Officers attributed the preference for trading to high market demand for goods and services as a result of influx of migrants into the communities. The Assembly man of Esereso gave the reason that most of the people who engage in petty trading are semi-literates and illiterates and so are not in the position to apply for 'white collar jobs'. The Assembly man of Deduako on the other hand is of the view that the people prefer this option because most of the indigenes have limited access to land and also do not have the requisite skills to enable them acquire jobs in the formal sector while the Assembly man of Appiadu explained that most of the people who have lost their farmlands are the aged who do not have the strength to engage in vigorous economic activities.

There are also varied opinions about the effects of Kumasi's expansion on the economic activities in the community. The Planning Officers and the Assembly men of Deduako and Appiadu were of the view that the expansion of Kumasi is threatening farming activities because some farmers are losing their farmlands to urban use and construction purposes while at the same time it is opening up new livelihood opportunities in the community. The Bosomtwe District Development Planner commented on how most farmers are treated unfairly because they are denied of the money generated from the sale of land. Moreover,

there is no support for those who lose their farmlands to urban use unlike the farmers displaced by the activities of mining companies (Temeng and Abew, 2009). In other words, no alternative livelihood has been developed to absorb farmers whose farmlands have been converted to houses. On the contrary, the Assembly man from Esereso did not share the view that the expansion of Kumasi is threatening people's livelihood. He was of the view that the expansion of Kumasi is rather opening new livelihood opportunities in the community because the growth of Kumasi has increased the population of the community which has created market for trading activities and majority of the people in the community have taken advantage of the situation to do business. He concluded that the livelihood situation in the community now has improved as compared to the past years.

On the issue of the best livelihood option (s), the Officer from KMA and the Assembly man from Deduako are of the view that the best livelihood options are manufacturing and less land intensive agricultural practices. They explained that manufacturing is more sustainable because it is a productive business venture with the potential of employing others and also serve as sources of supplementary income. Moreover, there is high demand for manufactured products in the city. On the contrary, the Planner from the Bosomtwe District and the Assembly men from Esereso and Appiadu held the view that since the people who lose their lands to urban use do not have the requisite skills to secure jobs in the formal sector, petty trading is the best livelihood option for them. They think trading is more sustainable because as Kumasi keeps expanding, demand for goods and services also increases. The Assembly man of Esereso added that trading is the best livelihood option because that is what the people know best and can do. He explained that previously farming was not the only economic activity in Esereso. Majority of farmers used to combine farming with trading and now even the youth are engaging in trading activity. The views expressed by the officials show that little attention or no formal recognition is given to agriculture. This supports the

views expressed by Kutiwa *et al.* (2010) that in practice agriculture is usually perceived as rural activity and not considered as an integral component of the city. While there is a growing awareness about the role of urban agriculture in the context of food security and poverty alleviation for the urban populations, urban and peri-urban agriculture still largely remains an informal sector that is not being integrated in agricultural policies or urban planning (Hoornweg and Munro-Faure, 2008). Since both rural and urban households rely for their livelihoods on the combination of rural and urban resources, including non-farm employment for rural residents and peri-urban farming for urban dwellers, it is essential that policies and programmes reflect the importance of ‘urban’ part of rural development and ‘rural’ part of urban development (Satterthwaite and Tacoli, 2003).

Although all the three communities are peri-urban in nature, the perception of the Assembly men revealed varied opinions on the major challenges currently facing the communities as a result of Kumasi’s growths. The Assembly man of Esereso and Deduako were of the view that indiscriminate dumping of refuse is a major challenge to sanitation in the communities. This problem is more predominant in the newly developing areas (new sites) where no public refuse dumps are provided. The outcome of the interviews also show that major streams in the study areas that were previously used as drinking water sources are now used as sinks for disposing of solid and liquid wastes. For instance, the public refuse dump at Esereso, off Adagya road has been sited so close to the Oda River (Plate 5.1). Meanwhile, most of these streams are used as alternative sources of water for irrigation as well as drinking water sources for communities downstream. The use of the peri-urban natural resources as sinks for solid and liquid waste disposal poses a serious health hazards to the inhabitants in the communities.

Plate 5.1: Poor Waste Management at Esereso



Source: Field Photograph, 2011

In addition, transportation problems remain a critical challenge in Esereso and Deduako. The rapid growth of the population have put pressure on the few cars which ply the areas and almost all social amenities. The Assembly man of Deduako added that there is also poverty due to unemployment in his community while the Assembly man of Appiadu is of the view that there are poor road networks connecting the newly developing areas (new sites) and insufficient water supply. On the issue of how these problems are addressed, the Assembly man from Esereso explained that efforts are currently underway to establish a 'lorry station' with the consent of the District Assembly to address the problem of transport in the community. He added that a 30 seater KVIP is being constructed by the Assembly to reduce pressure on toilet facilities. The Assembly man from Deduako on the other hand addresses the problems in his community by presenting the problems to KMA and through this effort the Assembly has provided containers at vantage points for periodic refuse collection to solve the problem of indiscriminate dumping of refuse. The Assembly man from Appiadu also explained that he is now seeking for help from the Assembly to construct road and provide

potable water in the new developing areas because the water provided by the chief can no longer cater for the expanding community. The views expressed by the Assembly men supports the claims by Kyei (n.d) that because of their promises to the electorate, their ambition in their tenure of office in the Assembly is to ‘fight’ for one of the social services in villages, an essential action if they are to continue in the Assembly.

5.2.2 Interventions of District Assemblies in the Urbanisation Process

District Assemblies are known to be more responsive to local needs and aspirations with issues concerning community development. However, the interviews conducted revealed that the needs of farmers whose farmlands have been converted to urban use are largely marginalised. There are varied views expressed by District Assembly Officials and Assembly men on the role played by District Assemblies in improving the conditions of indigenes who have been displaced of their farmlands. The Officer from KMA and Assembly men of Esereso and Appiadu admitted that the Assembly has a role to play in improving the conditions of indigenes whose farmlands have been converted to urban use. However, their major challenges to carry out this duty have been inadequate financial resources, delay in the release of funds, low saving capacity, poor business acumen, low commitment and dedication on the part of beneficiaries. On the contrary, the Officer from the Bosomtwe District and the Assembly man from Deduako held a contrary view. They explained that the Assembly has no policy or specific supports directed towards people whose farmlands have been converted to urban use. However, the Assembly addresses the needs of the general population but not the specific needs of individuals who have been affected by Kumasi’s expansion because such people have not yet presented their needs to the Assembly. The views expressed indicate that although the Assembly addresses the needs of the community, those of the indigeneous

community members whose farmlands have been converted to urban use are not given special priority.

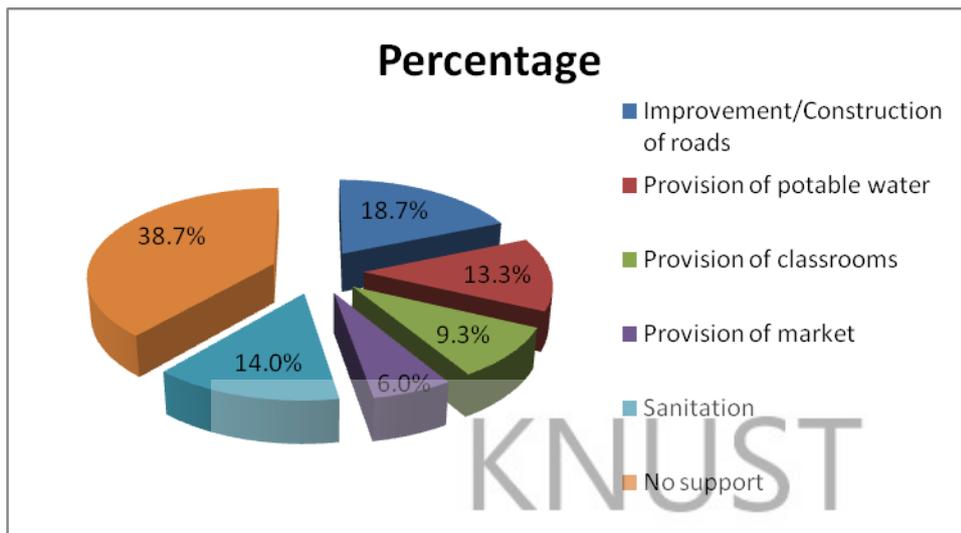
The outcome of the interviews shows that the Assemblies have developed two major strategies to improve the livelihood conditions of peri-urban dwellers. These include creation of employment and provision of social amenities in the areas under their jurisdiction. The District Assemblies create an enabling environment in the areas of market infrastructure; road networks; classroom blocks, water and sanitation related projects, electricity; health and other facilities. For instance, according to the Assembly man of Esereso, the community and the Assembly have collaborated to allot a space to those who sell and plans were underway to provide start-up capital for those who wanted to engage in business. However, according to the Officer from KMA, community members are sometimes expected to contribute financially or provide labour support and maintenance before facilities are provided. This is to ensure domestic ownership of development projects in the communities.

Another way through which the Assemblies support community members to cope with the effects of urbanisation is by organising business development workshops, skills training and provision of financial assistance in the form of loan which aim to strengthen their livelihood and build their capacity. According to the Assembly man of Esereso, a scheme has been established by the Bosomtwe District Assembly to give people the opportunity to obtain loans for trading. The Assembly man of Appiadu added that he has collaborated with a local non-governmental organisation (Social Investment Fund) in Kumasi which gives training to people to learn new vocational skills (tie and dye business, dressmaking etc). However, the Officer from KMA added that projects are undertaken in the communities only when people present their needs to the Assembly. On how the communities are selected, he explained that though many people present their needs, the capacity of the Assembly cannot serve every

community at the same time. In this respect, the threshold population and the need factor are taken into consideration before communities are selected for projects to commence. The Assemblyman of Appiadu on the other hand presents a different view on the situation. According to him, no effort has been made by the Assembly to improve the living conditions of the people or help mitigate the negative effects of urbanisation. He suggested that the Assembly should come closer to the people to identify their needs.

The Assemblies' role in the urbanisation process was also confirmed by residents in the communities. When a question was asked about how the District Assembly supports them to cope with the effects of urbanisation, the respondents were of the view that the District Assembly does not provide any support to them. Probing further, respondents were quick to add that the District Assembly provides social amenities for the community (Figure 5.1). The responses from the study indicate that at the household level, respondents do not perceive the provision of social amenities by the Assembly as a way of improving their livelihood or solution to their poverty problems. Another reason why respondents claim they do not receive any support from the local government institutions could be due to the fact that the growth of non-farm income generating activities in the study areas has been spontaneous and was not as a result of deliberate attempt by authorities to develop alternative livelihood for those who lose their farmlands to urban use. Although the responses in Figure 5.1 show that the Assemblies are doing quite well in the provision of social amenities, there is still the need to build the capacity of the vulnerable group through skills development and the provision of alternative livelihood activity that will enable them to be gainfully employed.

Figure 5.1: How the District Assembly Supports Respondents



Source: Field Survey, 2011

Interviews with the District Assembly personnel and Assemblymen revealed that the Assemblies support community members to cope with the effects of Kumasi's expansion through creation of employment and provision of social amenities. However, the needs of the indigenous residents whose farmlands have been converted to urban use is still ignored and excluded from the development process. Moreover, evidence to support the existence of some of the amenities officials claim they have provided in the communities are basically lacking. For instance investigations conducted during the study indicate that Esereso is the only community with market infrastructure. Moreover, none of the three communities has health facilities. There is therefore the need to include the needs of the marginalised group in development process.

5.3 The Role of the Chieftaincy Institution in the Urbanisation Process

Chieftaincy institutions are considered as one of the external environment that influences people's access to assets and strategies. This is because the livelihood of most indigenous residents in the communities are strongly linked to land. In the peri-urban Kumasi, most land is customary land of which traditional authorities are the custodians and administrators (Ubink, 2006). The outcome of the interviews with respondents also presents changes in the ownership of land and land conversion as sources of vulnerability to the livelihood of the indigenes. Since in practice chiefs still control the management and the allocations of customary land, it is essential to examine the roles and experiences of chiefs in the livelihood of community members as they lease land out for urban development.

Interviews with the chiefs of Deduako and Appiadu confirmed that there has been a change in the livelihood activities of community members in the past 10 years and this was attributed to the acquisition and conversion of lands by migrants to building plots as a result of Kumasi's expansion. They also affirmed that the sale of land for residential buildings is exclusively in the hands of chiefs. The chief of Appiadu however added that the proceeds from the sale of land are used to develop the community. They however admitted that the conversion of farmlands to residential houses is threatening farming activities and this has resulted in changes in livelihood activities. The Chief of Appiadu revealed that farming and pottery used to be the main livelihood activities of the community while the Chief of Deduako mentioned farming as the dominant livelihood activity of the community previously. They however explained that currently majority of members in the communities are engaged in trading. The transformation in livelihood activity of community members was attributed to the limited access to farmlands and the exposure of the communities to Kumasi's influence.

On how sustainable the present livelihood activity is as compared to the previous activity, the chiefs were of the view that trading is more sustainable than farming when one has the means to start trading. They further explained that once one has the capacity to start a business there is always ready market for goods and services because of easy access to the city and daily flow of goods from the city to the community to be sold. According to the chief of Deduako, this has improved the living conditions of the people since they can now sponsor their wards in schools.

Although the roles played by chiefs are perceived as ceremonial in nature, they continue to function as agents of development to complement efforts by local government institutions at the grassroots level. The chief of Appiadu believes that the major role of chiefs is to initiate development projects in their localities while the chief of Deduako held the view that the chiefs unite their people for community development. The chief of Appiadu added that though he acts as development agent, his major challenge of carrying out this duty is basically lack of funds while the chief of Deduako acknowledged the unwillingness of the youth to participate in community development as his major challenge. The chief of Deduako added that formally they used to organise communal labour on weekly basis but now people do not participate actively in communal labour as they used to. The issue of low participation in community development could be due to the fact that since farming activity is declining most people now work in the city where they leave home very early and come back late. The refusal to participate actively in community development could also be due to dissatisfaction expressed by some community members about the sale of land without compensation. Community members now have to search for non-farm jobs in order to make ends meet.

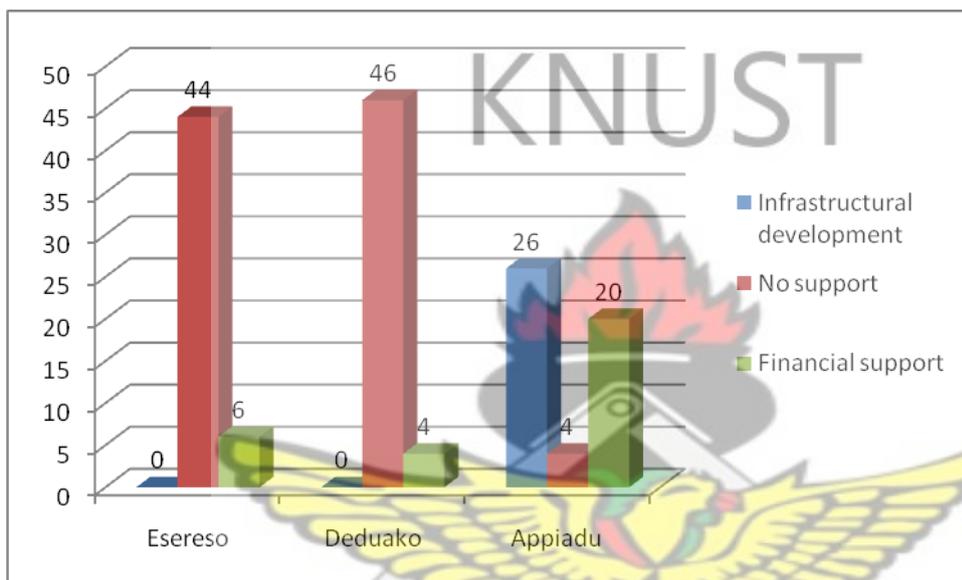
On the issue of how they help in improving the livelihood of the people in their communities, the Chief of Appiadu explained that he does so through the construction of classroom blocks,

durbar ground, computer laboratory, provision of water and a conference centre where people organise their various activities. Moreover, he has been able to establish a financial institution (Appiaduman Financial Institution) through the proceeds from the sale of stool land and benevolent support from development partners. The financial institution that serves the community and its surroundings help members to build their capital asset through savings and acquisition of loans for their businesses. On the other hand, the chief of Deduako helps in improving the living conditions of community members by meeting community members twice a year to discuss the needs of the community.

Figure 5.2 presents responses given by residents on how chiefs support them to cope with Kumasi's growth. Out of the total sample population, 20% (30 households) of the residents were of the view that chiefs support them financially in the form of gifts and loans. The issue of financial support is more prominent in Appiadu. According to the respondents from Appiadu, the chief supports needy people in the community and has also established a financial institution that helps people to build their financial capital base. However through an interview with the Chief, it was explained that since the financial institution was established through the proceeds from the sale of land and benevolent support from other development partners, it belongs to the community because the land is communally owned. Figure (5.2) also shows that all those who mentioned infrastructure development (17.3%) were from Appiadu. They explained that chiefs help in the provision of infrastructure such as the feeder road that links the community with Emina, community centre, durbar grounds, classroom blocks, water supply among others. The dissatisfaction of the people about the performance of chiefs is expressed by 62.6% of the respondents who indicated that they do not receive any support from Chiefs. Respondents from Deduako complained bitterly of how their lands have been sold to migrants without any compensation. However, the story told about the sale of land is different at Esereso. In Esereso, it was discovered that because of

chieftaincy disputes, the community did not have a chief for close to 10 years. During this period, community members (family members) controlled the sale of land. The views expressed above indicate how Chiefs serve as constraint or agents enhancing or reducing livelihood assets.

Figure 5.2: How Chiefs Support Respondents in Strategising their Livelihood

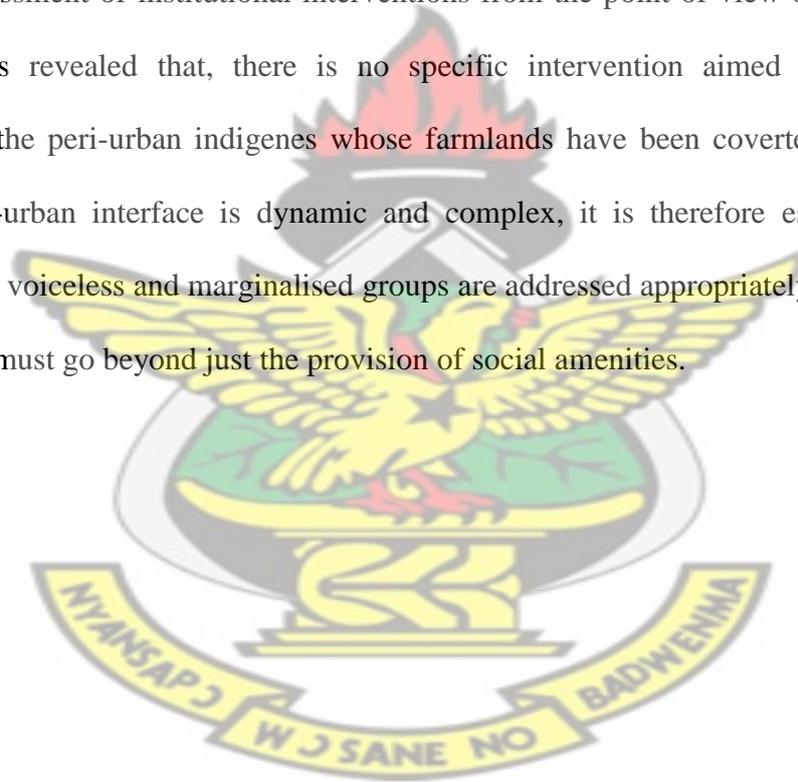


Source: Field Survey, 2011

The interviews with the chiefs indicate that the role played by chiefs determines access to assets through creation (provision of social amenities) and destruction (sale of farmlands to urban developers) of livelihood assets. It can also be argued that the activities of chiefs increase the vulnerability of the poor in the peri-urban area if the proceeds from the sale of land are not used to empower and build the capacity of the poor.

5.4 Conclusion

Interviews conducted during the study revealed that local government and chieftaincy institutions play a significant role in improving the livelihood conditions of community members through employment creation and provision of social amenities. The responses also revealed that local government is more responsive to local needs than chieftaincy institution. However, the responses given by residents show that availability of social amenities does not necessarily reflect better livelihood conditions. Residents rather want to be able to command resources (including productive assets) and exercise choice to enhance their income. Moreover, assessment of institutional interventions from the point of view of both residents and institutions revealed that, there is no specific intervention aimed to improve the livelihoods of the peri-urban indigenes whose farmlands have been converted to urban use. Since the peri-urban interface is dynamic and complex, it is therefore essential that the priorities of the voiceless and marginalised groups are addressed appropriately. The responses by institutions must go beyond just the provision of social amenities.



CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This study has explored the effects of urbanisation on the livelihood of peri-urban indigenes whose farmlands have been converted to urban use in peri-urban Kumasi, with particular reference to Esereso, Dedeuako and Appiadu. It also examined the strategies adopted by affected people to cope with the effects of urbanisation. Moreover, the study tried to identify alternative sources of livelihood and strategies adopted by the traditional and local government institutions to support displaced indigenes.

6.2 Summary of Research Findings

6.2.1 *Effects of urbanisation on peri-urban livelihoods*

Drawing on the two theories (Modernisation and Populist theories) that explain urban functions in peripheral villages from the literature, the study discussed that the effects of Kumasi's growth manifests itself negatively and positively, both at the household and community levels. It was also established that the effects of urbanisation on livelihood could be favourable or unfavourable depending on sources of livelihood, access to assets and the level of exposure to urban influence. At the household level, the study affirms the Populist's view that urbanisation is a parasitic process that undermines agriculture. The study revealed that urbanisation is leading to a gradual displacement of agriculture as a result of the growing urban demand for peri-urban natural resources such as land. The research indicated that there has been a reduction in the number of people employed in agricultural sector. Agricultural land use is getting narrower because of urban demand for peri-urban land for residential purposes. The change detection results also confirm that there is an inverse relationship between urban land cover and other cover classes in the study area. The study revealed that

about 41.5% of farmland, 0.52 of water and 9.54 of vegetative cover classes have been converted to urban use between 1986 and 2007. It was also discovered that the emergence of urban monetary economy has subjected peri-urban dwellers to hardships and high cost of living as a result of increasing commercialisation and quantification of every good or service in monetary terms. This serves as a major constraint on peri-urban livelihood. At the community level, the negative effects of urbanisation are manifested in the growing unemployment problem, especially, among those who have limited access to livelihood assets to develop their livelihood strategies and environmental degradation of natural resources. Drawing on these results, it is established that urbanisation serves as a constraint on people whose livelihood depend on natural resources.

Moreover, the study supports the modernisation version of urbanisation. At the community level, it was discovered that due to peri-urban proximity and connectivity to Kumasi, these areas have undergone vigorous infrastructure development and there is greater market demand for goods and services together with the opportunity to acquire skills and knowledge for capacity building. At the household level, it was discovered that the growth of Kumasi has created multiple cash income job opportunities as alternative sources of livelihood for peri-urban dwellers. Drawing on the results from the study it was established that the positive effects of urbanisation are more favourable to the growth of non-farm income generating activities than farm income generating activities.

6.2.2 Coping Strategies

The study also discovered that, livelihood strategies are developed based on the nature of the effects of urbanisation and entitlement to livelihood assets. The study broadly classified these livelihood strategies into farm and non-farm income generating activities. Household members either changed occupations (changing from farming to trading) or switched from

one livelihood activity to another within the same livelihood (changing from the cultivation of maize to cabbage) or diversified their livelihood sources. They resorted to intensification, migration and diversification of resources in order to cope with urbanisation. It was discovered that most households in the study areas rarely depend on one livelihood activity to survive. Most households combine both farm and non-farm strategies in order to cope with the effects of urbanisation. The study also discovered that most households keep household members in different occupations as a survival strategy to cushion the shock of urbanisation. The results from the survey also revealed that with the dwindling land size and commercialisation of peri-urban lands, people who still engage in farming activity resort to all forms of strategies to increase productivity. Farmers mostly take advantage to farm on any open space yet to be developed. Farming is mostly done on open spaces reserved for future use, on building sites, along riverbanks, drains and water catchment areas. Moreover, the study revealed that agricultural practices have changed from extensive cultivation of cash crops to intensive cultivation of vegetables. Due to the reduction in the quantity and quality of agricultural land, farmers have resorted to the application of modern technology such as the application of fertilizer, irrigation, pest control management and soil maintenance to increase productivity.

6.2.3 Alternative Sources of Livelihood Opportunities

Availability of alternative sources of livelihood to absorb displaced indigenes is very essential when it comes to risk reduction. The research discovered that urbanisation has brought livelihood opportunities in the study areas. These opportunities have been developed spontaneously. Essentially, the specific livelihood opportunities that urbanisation has presented include trading/business, artisan, provision of services, vegetable farming, construction and sachet water production. However, construction was the frequently

mentioned job that people normally engage in. Trading/business was rated as income generating activity with high demand. People normally trade in cooked food; non-cooked foods such as vegetables and food stuffs; provision shop; electrical appliances; drinking spot; cosmetics; building materials and cell phone credit transfer. Among the reasons given for adopting the livelihood activity with high demand were high incomes, daily/regular income, to supplement income, limited access to land and as sustenance. However, few of the respondents gave the following reasons for not adopting: lack of start-up capital and skills, gender dimension of certain economic activities and age.

6.2.4 Strategies Adopted by Institutions to Support Displaced Indigenes

Local government and traditional institutions provide support in the form of provision of infrastructure such as roads, market, classroom blocks, sanitation and waste management. They also build the capacity of the poor through training and small loan schemes. The interviews conducted with the various institutions confirmed that development interventions tend to marginalise residents who lose their farmlands to urban use. The household survey also confirmed neither the District Assembly nor the chiefs provide any support to cope with urbanisation at the household level. In other words, there has not been any specific intervention by chiefs and District Assemblies to support peripheral residents whose farmlands have been converted to urban use. Interventions are targeted at the general population and not victims of urbanisation per se and even these interventions are not aimed at providing alternative means of livelihoods to absorb those whose farmlands have been absorbed by urbanisation. Traditional and local government institutions were described as ineffective with issues regarding household livelihood strategies.

6.3 Conclusion

After a thorough investigation into the effects of Kumasi's horizontal expansion on peri-urban livelihood, it came to light that the Kumasi peri-urban interface presents both constraints and opportunities to people living in peripheral villages. The study discovered that sprawling poses a serious threat to peri-urban dwellers who depend on natural resources for survival. It was discovered that 98.7 percent of the people have been displaced of their farmlands as a result of rapid conversion of agricultural lands to urban use and the number of people engaged in agricultural activities has been reduced from 89.3 percent to 40 percent. This development is leading to a decline or displacement of agricultural livelihood. Kumasi peri-urban interface is also subjecting peri-urban livelihood to hardships and high cost of living as a result of the emergence of urban monetary economy which allows for commercialisation and quantification of every good or service.

In as much as the negative effects of urbanisation are so much acknowledged in the peri-urban areas, peri-urbanism is creating multiple non-farm livelihood opportunities as alternative means of surviving through the emergence of urban monetary economy. Triggered by the trickle-down effect of Kumasi's growth, peri-urban areas, by virtue of their proximity and connectivity to the city, now have greater access to infrastructure, demand for goods and services and opportunity to acquire skills and knowledge. Even though there has been a reduction in the number of people employed in the agricultural sector, the growth of Kumasi has created multiple cash income job opportunities such as trading, construction work, among others as alternative means of livelihood. These livelihood opportunities are developed spontaneously and not as a result of a deliberate attempt by authorities to develop alternative means of livelihood. Based on the results from the study, it was established that the effect of urbanisation is a function of the sources of livelihood, the level of exposure to the effects of

urbanisation and the capability of households to exercise their choices through the assets at their disposal.

The combined negative and positive effects of urbanisation have culminated in the adoption of both farm and non-farm livelihood strategies including intensification and diversification of resources and migration to either develop the potentials of urbanisation or reduce the extreme effects of urbanisation. However coping strategies are developed in response to the effects of urbanisation. These are largely determined by the nature of the effects of urbanisation on respondents' livelihood. Based on the results from the study, it was established that non-farming households are more diversified than farming households.

Drawing on the results from the survey, conclusion can be drawn that, interventions from local and traditional institutions are towards the general population of the study areas and not specifically towards those whose livelihood have been negatively affected. These interventions are not aimed at providing alternative means of livelihood to absorb the affected indigenes. Based on the survey results and the interviews conducted, it can be said that, local government institutions are more responsive to local needs than traditional institutions.

6.4 Recommendations

6.4.1 Short-term

The spread effects of Kumasi's growth entail both opportunities and constraints to peri-urban livelihood. Based on the constraints and opportunities of Kumasi's growth, the research recommends that through a planned programme and coordinated efforts by District Assemblies and traditional rulers in partnership with other agencies, alternative means of livelihood should be provided in these communities to ensure a proper integration of peri-urban dwellers into urban monetary economy. This can be done through the diversification of

the peri-urban economy and development of the non-farm income generating activities to absorb farmers who lose their farmlands to urban use. Peri-urban agriculture should also be encouraged in the form of intensive agriculture to ensure sustained urban and peri-urban food supply. District Assemblies and local authorities in discharging these responsibilities must overcome among other constraints inadequate human and financial resources, land disputes and undue political interference.

There should be a direct intervention at the household level to build the capacity of the poor through skill training, skill development and access to credit and infrastructure facilities. People must be given adequate training in their fields of interest to equip them with alternative strategies that will ensure sustainable livelihood development. Access to credit should be expanded to cover the peri-urban poor. It is important to encourage women's acquisition of skills as this contributes to the sustainability of peri-urban livelihoods.

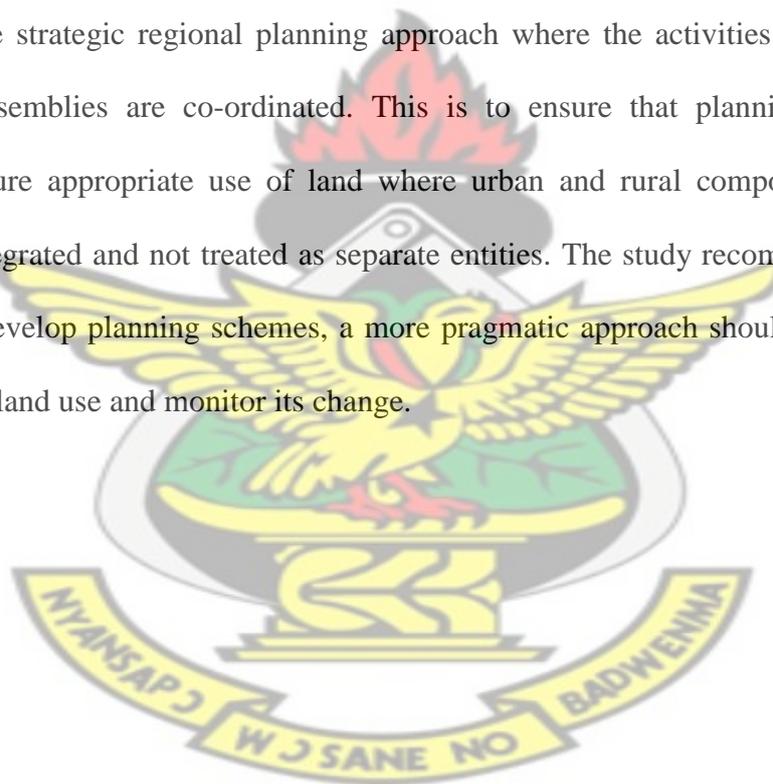
6.4.2 Long-term

In the long-term, there should be emphasis on the role of research. A holistic and systematic approach should be adopted to identify 'who' and 'where' the people whose livelihoods have been negatively affected as a result of urbanisation are since there are no records on such people. Studies must emphasise on examining the impacts of urbanisation from the perspective of those affected by peri-urbanism and how they develop their coping strategies. Identifying the effects of urbanisation from the perspective of the affected individuals, and how they cope with the effects will inform the kind of policy intervention to be adopted.

Moreover, the study recommends a speed up work on the national urban policy leading to its full implementation. The necessary support needed to bring it to reality should be given by all stakeholders involved so as to address the problems of urbanisation and peri-urbanism. The

Land Administration Programme must also be fast-tracked to bring harmony in the land market. Activities of all actors in land use planning and zoning; land administration, land allocation and land utilisation must also be co-ordinated so as to control the rate at which agricultural lands are converted to urban use. The land policy should also be fully implemented. To check urban sprawl, emphasis should be placed on the need to build compact cities (vertical development) rather than decentralised cities (horizontal growth) in order to protect prime agricultural lands.

Lastly, since the city is growing beyond its administrative boundaries, the study recommends a comprehensive strategic regional planning approach where the activities of Metropolitan and District Assemblies are co-ordinated. This is to ensure that planning schemes are enforced to ensure appropriate use of land where urban and rural components of spatial planning are integrated and not treated as separate entities. The study recommends that, it is not enough to develop planning schemes, a more pragmatic approach should be adopted by planners to map land use and monitor its change.



REFERENCES

- Aberra, E. and King, R., (2005), *Additional Knowledge of Livelihoods in the Kumasi Peri-Urban Interface (KPUI)*, Ashanti Region, Ghana, Development Planning Unit, and University College London.
<http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html>, accessed on 2nd October, 2010
- Adu-Ampong, E.; Cudjoe, F.; Edusah, A. R.; Hoogsteen, M.; Oteng, L.; Vlek, F.; Wijtten, Z. and van de Water, E., (2008), *Socio-economic Transitions, Changing Livelihoods in the Peri-Urban Interface: A Case Study of Ahenamah Kokoben and Tikrom in the Peri-Urban Interface of Kumasi*, TSPA-Project Report: pp.7-12.
http://www.major-freezel.com/changing_livelihoods_in_the_PUI_AduAmpong_et_a_2008.pdf accessed on 2nd October, 2010
- Ashong, K.; Adjei, B.F.; Ansah, E.O.; Naaso R.; King, R.S.; Kunfa, E.; Quashie Sam, J.S.; Awudza, J.A.M. and Simon, D., (2004), *Who can help the Peri-Urban Poor? (Boafo ye na) Adoption and Impact of Livelihood Activities on Community Members in the Kumasi Peri-Urban Interface-R8090 Revised Research Report 4*, CEDEP-Kumasi, Ghana, KNUST-Kumasi, Ghana, CEDAR-Surrey, UK.
- Atamanov A. and Van den Berg, M., (2011), *Microeconomic Analysis of Rural Non-farm Activities in the Kyrgyz Republic: What Determines Participation and Returns?*, Maastricht Graduate School of Governance, University of Maastricht, Maastricht and Development Economics, Wageningen University, Wageningen, The Netherlands: pp. 8-13
- Attua, E. M. and Fisher, J. B., (2011), *Historical and Future Land Cover Change in a Municipality of Ghana*, *Earth Interactions*, Volume 15 (2011), Paper No. 9: pp 10
<http://www.earthInteractions.org>, accessed on 4th April, 2012
- Attua, E. M. and Laing, E., (2001), *Land Cover Mapping of the Densu Basin: Interpretations from Multi-spectral Imagery*, *Bulleting of the Ghana Geographical Association*, No. 23
- Bah, M.; Cissé, S.; Diyamett, B.; Daillo, G.; Lerise, F.; Okali, D.; Okpara, E.; Olawoye, J. and Tacoli, C., (2003), *Changing Rural-Urban Linkages in Mali, Nigeria and Tanzania*, *Environment and Urban*, Vol. 15 No 1: 18
- Baker, J. And Pedersen, P. O., (1992), *The Rural-urban Interface in Africa*, Uppsala, The Scandinavian Institute of African Studies.
- Barrett, C.B.; Reardon, T. and Webb, P., (2001), *Non-farm Income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics, and Policy Implications*, *Food Policy*, 315-331, Elsevier: pp 1-17.
- Braun, von J., (2007), *Rural-urban Linkages for Growth, Employment and Poverty Reduction*, International Food Policy Research Institute, Washington D.C, U.S.A: pp 1-7

- Brook, R. M. and Dávila, J. D., (eds.) (2000), *The Peri-Urban Interface: A Tale of Two Cities*, School of Agricultural and Forest Sciences, University of Wales and Development Planning Unit, University College London: pp 170-195.
- Buechler, S. J., (2004), *Sustainable Livelihoods Approach for Action Research on Waste Water Use in Agriculture*, International Water Management Institute (IWMI) South Asia Regional Office, Patancheru, India: 12-19.
- Chambers, R and Conway G., (1992), *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*, IDS Discussion Paper No. 296; Brighton, Institute of Development Studies.
- Centre for Development of People (CEDEP), (2005), *who can help the peri-urban poor (R8090)*, Final Technical Report, Kumasi.
- Chirisa, I., (2010), *Peri-urban Dynamics and Regional Planning in Africa: Implications for Building Healthy Cities*, Journal of Agricultural Extension and Rural Development, vol. 2 (5) ISSN-2141-2154, Academic Journal: pp 16-25.
www.academicjournal.org/JAERD, accessed on 13th August 2010.
- Cinner, J.E. and Bodin O., (2010), *Livelihood Diversification in Tropical Coastal Communities: A Network Based Approach to Analysing 'Livelihood Landscapes'*, PLoS One, 5(8): e11999.
- Cohen, B., (2004), *Urban Growth in Developing Countries: A Review of Current Trends and a Caution Regarding Existing Forecasts*, National Research Council, Washington, DC, USA
- Cohen, J. M. And Garret, L. J., (2009), *Food Price Crisis and Urban Food (in) Security*, Sage Publications on behalf of IIED: 469-470.
<http://eau.sagepub.com/content/22/2/467>, accessed on 9th January, 2011
- Dávila, J. D. (2002), *Rural-urban Linkages, Problems and Opportunities*, Espaço & Geografia, 35:64 ISSN: 1516-9375Vol.5, No 2.
- Deblij, H. D., (1996), *Human Geography: Culture, Society and Space*, John Wiley and Sons, New York.
- DFID, (Department for International Development) (1999), *Sustainable Livelihoods Guidance Sheets*.
- Duraton G., (2008), *Cities: Engines of Growth and Prosperity for Developing Countries?*, the International Bank Reconstruction and Development/ the World Bank on behalf of the Commission on Growth and Development.
- Edusah, S.E. (2008), *Land Use, Land Allocation and the Environment in Kumasi and its Peri-urban Communities of Ghana*, 12th EADI General Conference on Global Governance for Sustainable Development: The Need for Policy Coherence and New Partnerships, Geneva.

- Ellis F. (2000), *Rural Livelihoods and Diversity in developing Countries*, Oxford University Press.
- Ellis, F., (1998), *Household Strategies and Rural Livelihood Diversification*, *J. Dev. Stud.* 35(1): 1-38
- FAO, (Food and Agricultural Organisation) (2008), *Soaring Food Prices: Facts, Perspectives, Impacts and Actions Required*, Information Paper Prepared for the High Level Conference on World Food Security: The Challenges of Climate Change and Bioenergy, FAO, Rome, 3-5 June.
- Farrington, J.; Ramsut, T. and Walker, J. (2002), *Sustainable Livelihoods Approaches in Urban Areas: General Lessons, with Illustrations from Indian Cases*, ODI, London.
- Gantsho, S.V.M., (2008), *Cities as Growth Poles: Implications for Rural Development*. A Paper Presented at Annual Meetings Seminar, Maputo, Mozambique.
- Ghana Statistical Service (2011), *2000 Housing and Population Census*, <http://www.statsghana.gov.gh/KeySocial.html>, accessed on 15th September, 2011
- Ghana Statistical Service (2009), *2000 Housing and Population Census*, KMA.
- Ghana Statistical Service (2000), *2000 Housing and Population Census*, Kumasi.
- Gregory, P., (2005), *A Synthesis of Peri-urban Research of Kumasi, Hubli-Dharwad and Kolkata Peri-urban Interfaces*, Final Report on Project R8491, DFID Natural Resources Systems Programme, Development Planning Unit, University College London.
<http://www.ucl.ac.uk/dpu/pui/research/previous/synthesis/index.html>, accessed on 23rd July, 2010.
- Gwebu, T. (2004), *Patterns and Trends of Urbanisation in Botswana: Policy Implications for Sustainability*, Department of Environmental Science, University of Botswana, Botswana.
- Herbert, D.T. and Thomas, C.J., (1990), *Cities in Space: City as Place*, University College of Swansea, David Fulton Publishers.
- Hiadar, M. (2009), *Sustainable Livelihood Approaches: The Framework, Lessons Learnt from Practice and Policy Recommendations*, Expert Group Meeting on Adopting the Sustainable Livelihoods Approach for Promoting Rural Development in the ESCWA Region, Economic and Social Commission for Western Asia (ESCWA)
- Hinojosa, L. (2009) *EU-Mercosur Trade Agreement: Potential Impacts on Rural Livelihoods and Gender (with focus on biofuels feedstock expansion)*, Brooks World Poverty Institute and Impact Assessment Research Centre, School of Environment and Development, University of Manchester, UK.
www.mdpi.com/journal/sustainability, accessed on November, 2009.

- Hoornweg, D. and Murno-Faure, P. (2008), *Urban Agriculture for Sustainable Poverty Alleviation and Food Security*, Final Draft, World Bank, and FAO.
- Hudala, D.; Winarso, H. and Woltjer J., (2008), *Peri-urbanisation in East Asia: A New Challenge for Planning*, International Development Planning Review 29 (4).
- Hussein, K. and Nelson, J. (1998), *Sustainable Livelihoods and Livelihood Diversification*, IDS Working Paper 69: 5
- Ianquinta, D. L. and Drescher, A. W., (2000), *Defining Peri-urban: Understanding Rural-urban Linkages and their Connection to Institutional Contexts*, Paper Presented at the Tenth World Congress the International Rural Sociology Association, 1 August 2000, Rio de Janeiro, 25 pages.
- IFAD, (International Fund for Agricultural Development) (2001), *Rural Poverty Report 2001: The Challenge of ending Rural Poverty*, Oxford University Press, Oxford.
- IIED, (International Institute for Environment and Development) (2006), *Innovation in Securing Land Rights in Africa: Lessons from Experience*, IIED, London.
- Kasanga, K. and Kotey, N. A., (2001), *Land Management in Ghana: Building on Tradition and Modernity*, IIEED, London.
- Keiser, J.; Utzinger, J.; Caldas de Castro, M.; Smith, A. T.; Tanner, M. And Singer H. B. (2004), *Urbanisation in Sub-Saharan Africa and Implication for Malaria Control*, Office of population Research, Princeton University, Princeton, New Jersey.
- Kumasi Metropolitan Assembly (KMA) (2011) *KMA Medium Term Development Plan 2010-2013*, Kumasi: Kumasi Metropolitan Assembly, Ministry of Local Government, Rural Development and Environment, Ghana.
- Kutiwa, S.; Boon, E. and Devuyt, D. (2010), *Urban Agriculture in Low Income Harare: An Adaptive Response to Economic Crisis*, Journal on Human Ecology, 32 (2): 85-96, Kamla-Raj, Vrije Universiteit Brussel, Belgium: pp 85-87.
- Kyei, P.O. (n.d) *Decentralisation and Poverty Alleviation in Rural Ghana: Perspectives from District Elites and Voices of the Rural Poor*, Faculty of Social Sciences, KNUST, Kumasi.
- Lei, Q.I. and Bin L.U. (2008), *Urban Sprawl: A Case Study of Shenzhen, China*, 44th ISOCARP Congress.
- Mancebo, F., (2009), *Coping with Urban Sprawl: Towards a Sustainable Peri-Urbanisation*, Les annales de la recherché urbaine, 102 EN.
- Mandere, M. N., Ness B., Anderberg, S. (2010), *Peri-urban Development, Livelihood Change and Household Income: A Case Study of Peri-urban Nyahururu, Kenya*, Journal of Agricultural Extension and Rural Development, vol. 2 (5) ISSN-2141-2154, Academic Journal: pp 73-79.
www.academicjournal.org/JAERD accessed on 17th August, 2010.

- Marshall, F., (2008), *What does Peri-urban Sustainability Mean in the Context of Delhi?*
 URL: <http://stepscentre-thecrossing.blogspot.com/2008/12/what-does-peri-urban-sustainability.html>
- Matuscke, I., (2009), *Using Food Density Maps to Identity Future Food Security Hotspots*, Global Perspective Studies Unit, Food and Agriculture Organisation of the United Nations, Contributed Paper Prepared for Presentation at International Association of Agricultural Economists Conference, Beijing, China: pp 2.
- Maxwell, D.; Levin C.; Armar-Klemesu M.; Ruel M.; Morris S.; Ahiadeke, C. (2000), *Urban Livelihoods and Food and Nutrition Security in Greater Accra, Ghana*, IFPRI.
- Mbiba, B. (2001), *Peri-Urban Transformations and Livelihoods in East and Southern Africa: Insights from the Peri-Net Research Experience*. A paper presented at DPU International Conference, London.
- McGranahan, G.; Satterthwaite, D.; Tacoli, C. (2004), *Rural-urban Change, Boundary Problems and Environmental Burdens*, IIED Working Paper 10 on Rural-Urban Interactions and Livelihood Strategies.
- Mends, T. M. and Meijere, de J. (2006), *A Study of the Institution of the Customary Land Tenure System in the Supply of Property Rights for Urban Development-An Example of Accra, Ghana*, 5th FIG Regional Conference, Accra, Ghana.
- Morris, M.; Butterworth, J.; Lamboll R.; Lazaro, E.; Maganga, F. and Marsland, N. (n.d), *Understanding household coping strategies in semi-arid Tanzania*, Final Technical Report on Project R7805, DFID Natural Resource Programme.
- Mutizwa-Mangiza, N.D. (2009), *A New Role for Urban Planning in a Changing Environmental Climate*, Royal Town Planning Institute, London.
- Narain, V. and Nischal, S. (2007), *The Peri-urban Interface in Shahpur Khurd and Karnera, India*, Environment and Development, vol 19(1): 261-273. DOI: 10.1177/0956247807076905.
<http://eau.sagepub.com/content/19/1/261> accessed on 1st August, 2010.
- Nsiah-Gyabaah, K. (n.d) *Urbanisation Process: Environmental and Health Effects in Africa*, Panel Contribution to the PERN Cyberseminar on Urban Spatial Expansion, Sunyani Polytechnic, Sunyani.
- Osumanu K.I.; Abdul-Rahim L.; Songsore J.; Braimah F.R. Mulenga M. (2010), *Urban Water and Sanitation in Ghana: How Local Action is Making a Difference*, IIED.
- Olujimi, J. (2009), *Evolving a Planning Strategy for Managing Urban Sprawl in Nigeria*, Journal on Human Ecology, v25 (3): 201-208, Kamla-Raj.
- Otoo, E. A.; Whyatt D. J. And Ite U. E (2006), *Quantifying Urban Growth in Accra Metropolitan Area (AMA), Ghana and Exploring Casual Mechanisms*, 5th FIG Regional Conference on Promoting Land Administration and Good Governance, Accra, Ghana.

- Owusu, G. (2005), *Small Towns in Ghana: Justification for their Promotion Under Ghana's Decentralisation Program*, African Studies Quarterly, Vol. 8, issue 2.
- Owusu, G. and Agyei, J. (2007), *Changes in Land Access, Rights and Livelihoods in Peri-urban Ghana: The case of Accra, Kumasi and Tamale metropolis*, Accra: ISSER
- Preston, D. (1994), *Rapid Household Appraisal: A Method for Facilitating the Analysis of Household Livelihood Strategies*, Applied Geography, Vol. 14, series 3, pp 203-213
- Potter R.B.; Binns T.; Elliot J.A. and Smith D., (2008), *Geographies of Development: An Introduction to Development Studies*, 3rd edition, Pearson Education Limited, London.
- Quashie-Sam, S.J.; Awudza, J.A.M; King, R.; Kunfaa, E., Simon, D.; Adjei, B.F. and Ashong, K (2005), *Contributions of the New Entrants in the Middle and Upper Income Groups to Community Development in the Kumasi Peri-urban Interface*, DFID R8090: who can help the peri-urban poor? (Boafo ye na project).
- Satterthwaite, D. and Tacoli (2003), *The Urban Part of Rural Development: The Role of Small and Intermediate Urban Centres in Rural and Regional Development and Poverty Reduction*, IIED, UK.
- Satterthwaite, D. (2005), *The Scale of Urban Change Worldwide 1950-2000 and its Underpinnings*, IIED, Human Settlements Discussion Paper Series.
- Satterthwaite, D.; McGranahan, G. and Tacoli C. (2010), *Urbanisation and its Implication for Food and Farming*, Royal Society Publishing, *Phil. Trans. R. Soc. B* 2010 365, 2809-2820 (doi: 10.1098/rstb.2010.0136)
rstb.royalsocietypublishing.org, accessed on 1st August, 2011
- Seppala, P., (1996), *The Politics of Economic Diversification, Reconceptualising the Rural Informal Sector in South East Tanzania*, in *Development and Change*, 27, 557, 78
- Scoones, I., (1998), *Sustainable Rural Livelihoods: A Framework for Analysis*. IDS Working Paper No. 72; Brighton, Institute of Development Studies.
- Serrat, O. (2008), *The Sustainable Livelihoods Approach*, Asian Development Bank, Manila, Philippines.
<http://www.livelihoods.org/index.html>, accessed 7th November, 2009.
- Simon, D.; McGregor, D. and Nsiah-Gyabaah, K. (2004), *The Changing Urban-Rural Interface of African Cities: Definitional Issues and an Application to Kumasi, Ghana*, Environment and Urbanisation, Vol. 16 No. 2
- Simon, D.; McGregor, D.; and Thompson, D. (2006), *Contemporary Perspectives on the Peri-urban Zones of Cities in Development Areas*, in *Peri-Urban Interface: Approaches to Sustainable Natural and Human Resource Use*, edited by D.
- McGregor, D. Simon, and D. Thompson, pp. 3-17, London, UK: Earthscan Publications Ltd.

- Songsore, J., (2009), *The Urban Transition in Ghana: Urbanisation, National Development and Poverty Reduction*, a Study Prepared for the IIED as Part of its Eight Country Case Studies on Urbanisation.
- Songsore, J., (2003), *Towards a Better Understanding of Urban Change: Urbanisation, National Development and Inequality in Ghana*, Ghana Universities Press, Accra.
- Tacoli, C. (2002), *Changing Rural-Urban Interactions in sub-Saharan Africa and their Impacts on Livelihoods: A Summary*, Working Paper Series on Rural-Urban Interactions and Livelihood Strategies, Working Paper 7, IIED, UK.
- Tacoli, C. (2004), *Rural-urban linkages and pro-poor agricultural growth: an over view*, IIED, UK.
- Temeng, V. A and Abew, J. K. (2009), *A Review of Alternative Livelihood Projects in Some Mining Communities in Ghana*, Euro Journals Publishing, Inc, ISSN 1450-216X, Vol.35 No.2, pp217-228.
<http://www.eurojournals.com/ejsr.htm>, accessed on 11th November, 2011.
- Thomas, A., (2000), *Meanings and View of Development*, in *Poverty and Development into the 21st Century*, edited by T. Allen and A. Thomas, The Open University, UK
- Thomas, S. (2008), *Urbanisation as a Driver of Change*, The Arup Journal, 43 (1) pp 58-66, Cardiff, UK.
- Thuo, A.D.M. (2010), *Community and Social Responses to Land Use Transformations in the Nairobi Rural-urban Fringe, Kenya*, Field Actions Science Reports, Special Issue 1- Urban Agriculture,
 URL : <http://factsreports.revues.org/index435.html>, accessed on 1st August, 2009.
- Todaro, M., (1977), *Economic Development in the Third World*, Longmans Press, New York
- Trzyna, T. (2007), *Global Urban and Protected Areas: Challenges and Opportunities Posed by a Major Factor for Global Change and Creative Ways of Responding*, CIPA Environmental Studies, Series No. 12, pp 52, California Institute of Public Affairs, Sacramento, USA.
<http://www.InterEnvironment.org/cipa/urbanisation.htm>, accessed on 1st August, 2009.
- Ubink, J. (2006), *Land, Chiefs and Custom in Peri-urban Ghana*, A Paper for Presentation on 'Indigenous peoples' and Local Community Rights and Tenure Arrangements', As Part of the International Conference on Land, Poverty, Social Justice and Development ISS and ICCO, The Hague, The Netherlands.
- UNFPA (2007) *'Unleashing the Potential of Urban Growth'*, State of World Population 2007, New York: UNFPA.

United Nations (2008), *An Overview of Urbanisation, Internal Migration, Population Distribution and Development in the World*, United Nations Expert Group Meeting on Population Distribution, Urbanisation, Internal Migration and Development. New York, 21-23 January 2008.

United Nations Secretariat: Department of Economic and Social Affairs: Population Division. World Population Prospects: The 2007 Revision, UN: 2008
<http://esa.un.org/unup>, accessed on 10th October, 2011.

Uphoff, N. and Buck, L., (2006), *Strengthening Rural Local Institutional Capacities for Sustainable Livelihoods and Equitable Development*, Cornell International Institute for Food, Agriculture and Development (CIIFAD), edited by Sjorslev, J., a paper prepared for the social development of the World Bank, Washington DC.

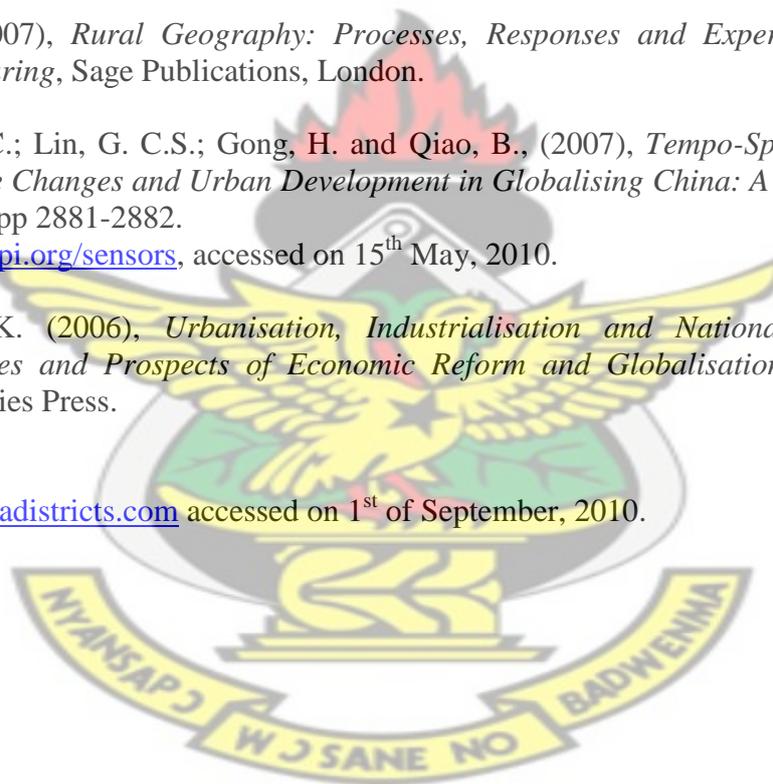
Waugh, D., (1995), *Geography: An Integrated Approach*, 2nd edition, Thomas Nelson & Sons Ltd, UK.

Woods, M., (2007), *Rural Geography: Processes, Responses and Experiences in Rural Restructuring*, Sage Publications, London.

Xie, Y.; Fang, C.; Lin, G. C.S.; Gong, H. and Qiao, B., (2007), *Tempo-Spatial Patterns of Land Use Changes and Urban Development in Globalising China: A Study of Beijing*, Sensors: pp 2881-2882.
www.mdpi.org/sensors, accessed on 15th May, 2010.

Yankson, P.W.K. (2006), *Urbanisation, Industrialisation and National Development: Challenges and Prospects of Economic Reform and Globalisation*, Accra, Ghana Universities Press.

<http://www.ghanadistricts.com> accessed on 1st of September, 2010.



APPENDICE

APPENDIX 1

URBANISATION OF THE RURAL LANDSCAPE: ASSESSING THE EFFECTS AND COPING MECHANISMS IN PERI-URBAN KUMASI.

Structured Interview and Questionnaire Schedule for Sampled Household Heads.

A. Personal Information

1. Age

- a. Under 30 years ()
- b. Between 30-60 years ()
- c. Over 60 years ()

2. Sex

- a. Male ()
- b. Female ()

3. Level of Education

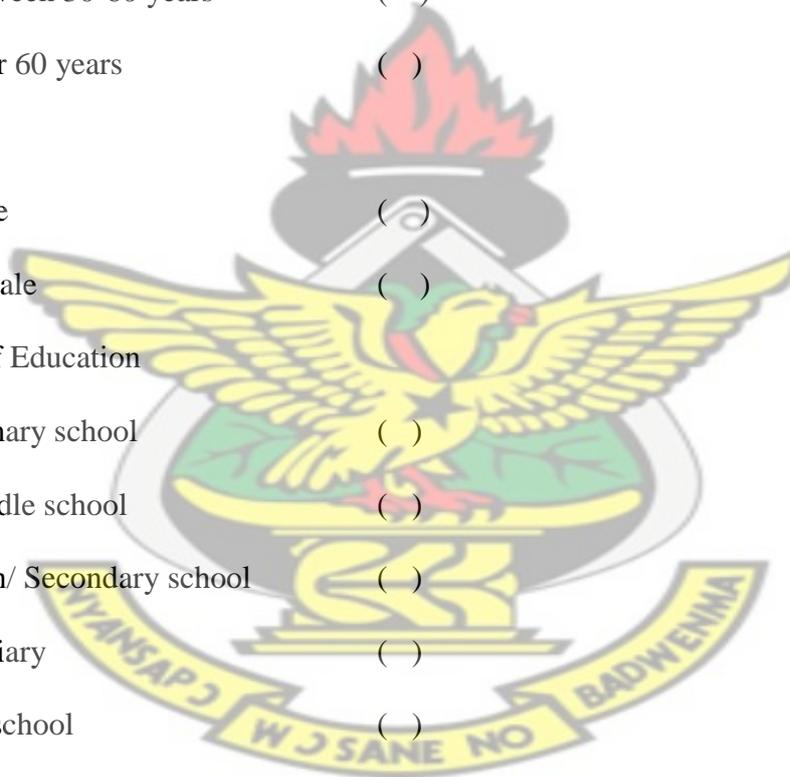
- a. Primary school ()
- b. Middle school ()
- c. High/ Secondary school ()
- d. Tertiary ()
- e. No school ()

4. Marital status

- a. Married ()
- b. Unmarried ()
- c. Divorced ()
- d. Widowed ()

5. Household size.....

KNUST



6. How many of them are in income generating activities?.....
7. How many of them are in non-income generating activities?.....
8. How long have you lived here?.....

B. Effects of urbanisation on livelihoods

9. Do you think some people have been displaced off their farmlands? Yes () No ()
10. Have you farmed before? Yes () No ()
11. Has your farmland been converted to residential buildings? Yes () No ()
12. Did you own the land? Yes () No ()
13. If no, how did you acquire the land?.....
14. If yes to question 11, do you think this is as a result of the expansion of Kumasi?
Yes () No ()
15. Were you compensated for losing your farmland? Yes () No ()
16. When a farmer loses his/her farmlands, what does he/she resort to?.....
.....
.....
17. Do you approve or disapprove of Kumasi's growth?
 - a. Approve ()
 - b. Disapprove ()
 - c. Indifferent ()
18. What is the current source of your income?
 - a. Farming ()
 - b. Non-farming ()
19. Why do you resort to this type of livelihood?.....

d. Public service ()

e. Others ()

30. How has your income changed in the last five (5) years?

a. It has increased ()

b. It has decreased ()

c. It has remained the same ()

31. Do you think the expansion of Kumasi has caused this? Yes () No ()

32. How would you assess the effect of Kumasi's growth on your livelihood?

a. Strong negative effects ()

b. Strong positive effects ()

c. No effects ()

33. How has the expansion of Kumasi affected your livelihood?.....

.....
.....

34. Do you feel you will be better off, same or worse off in the future?

a. Better off ()

b. Worse off ()

c. Same ()

35. How is the growth of Kumasi affecting the development of your community?.....

.....
.....
.....

C. Alternative Sources of Livelihood Opportunities

36. Is the growth of Kumasi opening up new job opportunities in your community?

Yes () No ()

37. If yes, specify the kind of job opportunity urbanisation has brought into your community.....

38. Which income generating activities are in high demand?.....

39. Would you be willing to adopt this type of livelihood? Yes () No ()

40. If yes, why.....

41. If no, why.....

42. What would you need in order to ensure a better livelihood?.....

43. What might be the potential barriers to achieving a sustainable livelihood?.....

D. Coping Strategies Adopted by Respondents

44. How do you strategise to cope with urbanisation? (Tick all that apply)

- a. Diversify crop production ()
- b. Diversify non-farm income ()
- c. Diversify farm and non-farm income ()
- d. Intensify crop production ()
- e. Expand farm size ()
- f. Secure alternative livelihood other than agriculture ()
- g. Migrate to look for employment ()
- h. Others ()

45. Why do you resort to the type of livelihood activity chosen in question 38?.....

.....
.....

46. What has been the outcome of the strategy ticked in question 38?.....

.....
.....

47. Are you satisfied with the outcome of the strategy now than before urbanisation?

Yes () No ()

KNUST

48. If yes, why?.....

49. If no, do you still prefer your previous strategy? Yes () No ()

50. If yes, why?.....

51. How do you determine an improvement in your livelihood?.....

.....
.....

52. How do you ensure the sustainability of your livelihood?.....

.....
.....

53. What are the major problems you face in an attempt to cope with the growth of Kumasi?.....

.....
.....

54. What measures do you take to deal with these problem (s) above?.....

.....
.....

55. Are any of your household members engaged in any job for money? Yes () No

()

56. If yes, list the occupation of your household members.....

.....
.....

57. Are any of your household members engaged in any job for food? Yes () No ()

58. If yes, list the occupation (s) of your household members.....

.....

59. Do you receive money/support from relatives both abroad and in the country?

Yes () No ()

KNUST

60. How does the chief help in strategizing your livelihood.....

.....
.....

61. What are the effects do these supports have on your livelihood?.....

.....
.....

62. How would you describe the effectiveness of chiefs in community development?

- a. Very effective ()
- b. Somewhat effective ()
- c. Ineffective ()

63. How does the District Assembly support you to cope with Kumasi's growth?.....

.....
.....

64. What are the effects do these support have on your livelihood?.....

.....
.....

65. How would you describe the effectiveness of chiefs in community development?

- a. Very effective ()
- b. Somewhat effective ()
- c. Ineffective ()

E. For Respondents who engage in Farming as Livelihood Option

66. How did you acquire your farmland?

- a. Inheritance/family land ()
- b. Renting ()
- c. Gift ()
- d. Purchasing ()
- e. Temporary Borrowing ()
- f. Share cropping ()

67. Do you face difficulty accessing land? Yes () No ()

68. If yes, how.....
.....

69. Where do you normally farm?

- a. Backyard
- b. Along river banks, drains and water catchment areas
- c. Open spaces reserved for future use
- d. On building sites
- e. Others (specify).....

70. What measures do you take to ensure increased productivity? (tick all that apply)

- a. Irrigation ()
- b. Maintenance of soil fertility ()
- c. Pest control management ()
- d. Conserve soil from erosion ()
- e. Conservation of water ()
- f. Others (specify).....

71. How has agricultural practices changed?.....
.....

72. About how many years ago did you start witnessing changes in agriculture?.....

APPENDIX 2

Structured Interview for District Assembly Personnel and Assembly Men

1. Do you think the expansion of Kumasi is threatening people’s livelihood? Yes ()
Yes No ()
2. If yes, how?.....
.....
.....
3. Do you think the expansion of Kumasi has opened livelihood opportunities in your community? Yes () No ()
4. If yes, how?.....
.....
5. Does the District Assembly have a role in improving the livelihood conditions of farmers who lose their farmlands to urban use? Yes () No ()
6. If yes, in what ways does the assembly support displaced indigenes?.....
.....
.....
7. What are some of the challenges you face in carrying out this duty?.....
.....
.....
8. What major challenges do people normally face in this community?.....
.....
.....
9. How do you address the challenges in the community?.....
.....
.....

10. What used to be the main livelihood activity in this community?.....

.....

11. What is/are the dominant economic activity (ies) in this community?.....

.....

12. In your opinion, what do you think is/are the best livelihood option (s)?.....

.....

13. Why do you think the livelihood option mentioned in question 10 is the best?.....

.....

14. How sustainable is the type of livelihood option mentioned in question 10?.....

.....

15. What do you do to ensure the sustainability of livelihood activities in your community?.....

.....

16. What are some of the development projects undertaken by the Assembly to improve the lives of community members?.....

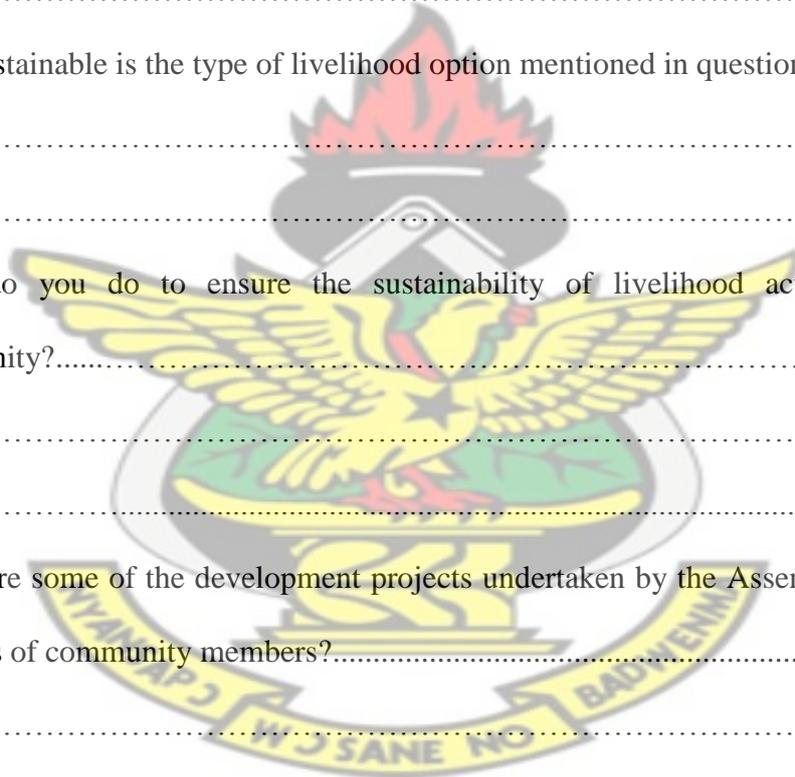
.....

17. How does the Assembly ensure appropriate use of land?.....

.....

.....

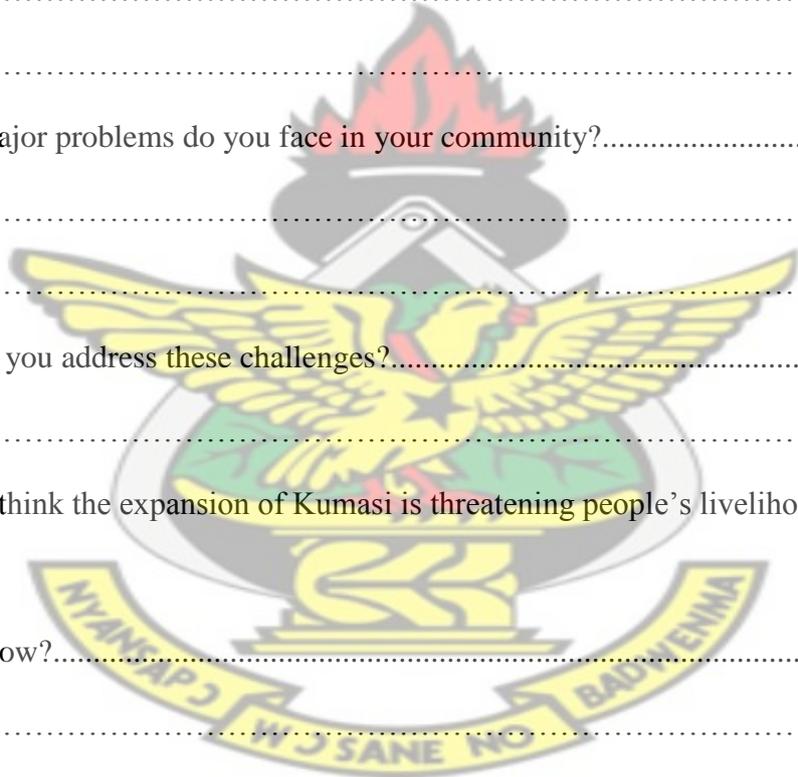
KNUST



APPENDIX 3

Structured Interview for Chiefs

1. How long have you lived here?.....
2. How long have you been a chief?.....
3. What major role does the chief play in community development?.....
.....
.....
4. What are some of the major difficulties you face in carrying out this duty?.....
.....
.....
5. What major problems do you face in your community?.....
.....
.....
6. How do you address these challenges?.....
.....
7. Do you think the expansion of Kumasi is threatening people's livelihoods? Yes ()
No ()
8. If yes, how?.....
.....
9. Do you think the expansion of Kumasi has opened livelihood opportunities in your
community? Yes () No ()
10. If yes, how?.....
11. What used to be the main livelihood activity (ies) in your community?.....
.....



12. Has there been a change in livelihood activity in your community in the past 10 years? Yes () No ()

13. If yes, what is the main livelihood activity in your community?.....
.....

14. If no, do you anticipate any change in the future? Yes () No ()

15. If yes, why?.....
.....
.....

KNUST

16. Do you think the change in the main economic activity of this community is as a result of the expansion of Kumasi? Yes () No ()

17. What is the main economic activity in your community?.....
.....
.....

18. How sustainable is this type of livelihood as compared to the previous type of livelihood?.....
.....

19. What do you do to ensure the sustainability of livelihood activities in your community?.....
.....

20. Looking at the effects of Kumasi's expansion, how do you help members in your community to cope with urbanisation?.....
.....

21. How do you help in improving the livelihood conditions in your community?.....
.....
.....

APPENDIX 4

Interview Guide as used in the Focus Group Discussion

The focus group discussion centred on the following themes:

1. Effects of Kumasi's growth on peri-urban livelihoods.
2. Ways to effectively manage the problems associated with urbanisation.
3. Identify ways to strengthen the various livelihood opportunities that urbanisation presents.
4. Find ways to strengthen the various livelihood strategies adopted in the communities.

The discussions were based on the following issues

- When you started witnessing urban intrusion, what was your reaction and what was your response to the effects at the initial stage
- What is your opinion about the current growth of Kumasi? Has it improved or deteriorate people's lives (discuss the positive and negative social, economic and environmental effects of urbanisation)
- Anticipation of future positive or negative changes on people's livelihoods
- Factors contributing to urban expansion
- How to reduce extreme negative effects of urbanisation
- How to develop and sustain emerging job opportunities
- Coping mechanisms or livelihood strategies at the household level (are they the best option, are the sustainable)
- The need to maintain agriculture
- Discuss whether there has been any interventions at the household level by chiefs and DAs to support the worst affected group
- How do you want District Assemblies to function?
- How do you want the Chiefs to function?