RESEARCH IN GHANAIAN PUBLIC UNIVERSITIES

Perceptions and experiences of academic staff at the University of Ghana

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Master Thesis

European Master in Higher Education

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UNIVERSITY OF OSLO

Spring, 2010

ABSTRACT

With the advent of the knowledge economies, research is recognised as a catalyst for accelerated national growth. Many countries are therefore investing hugely in university research. However, in developing countries especially in Sub-Saharan Africa, university research is fraught with a myriad of challenges making the research activities of academics weakened and sometimes neglected. Using mainly primary data gathered through interviews, this study sought to examine the perceptions and experiences of academic staff at the University of Ghana on their research activities.

The findings of the study indicate that research organisation at the University of Ghana is faced with challenges arising out of the highly individualised research activities of the academics making coordination a big challenge which is compounded by the lack of research policy at the University.

In addition to inadequate funding for research, the findings reveal that academics at the University of Ghana have little time to conduct research due to the heavy teaching load and sometimes academics engaging in extra jobs to augment their salaries. Poor research infrastructure was also found to be a major hindrance to the research activities of the academics.

The study also found that attempts are being made by the University of Ghana to improve upon the research activities of academics through organisation of workshops to sharpen their research skills and the establishment of the Research and Conference Fund which offer grants to academics.

On the whole, the study found that the research environment at the University of Ghana is not favourable for research and needs significant improvement. The study therefore recommends that the government as a matter of urgency should support the university's research activities by providing budgetary support and investing in research infrastructure. Attempts should be made by the University of Ghana to lessen the heavy teaching loads of academics to give them time to conduct research.

ACKNOWLEDGEMENT

First and foremost, I thank the Almighty God for seeing me through the entire programme successfully.

I have been able to come this far because of the words of encouragement and the invaluable assistance from people who in diverse ways contributed immensely to the completion of this work.

I am very grateful to my supervisor, Prof. Peter Maassen whose concrete and precise suggestions and comments contributed greatly to the successful accomplishment of this work. Prof., thank you very much.

To my wife Mary, I say thank you for taking care of the family in my absence and I appreciate your words of encouragement which kept me going.

Special thanks goes to my good friend James Anyan who has been extremely helpful to me from the very beginning of the HEEM programme to the completion of the piece of work.

I would like to thank Jones Obeng Boampong Baryeh and Victoria Britwum for being such wonderful friends.

The list is endless. To all whose names are not mentioned here, I value your contributions and say thank you very much.

Thanks!
George Gyan, June 2010

DEDICATION

To my parents: Charles Buadi-Gyan & Christiana Fordjour

&

My wife & son Mary Kyeremaa & Kelvin Ampaabeng Gyan

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LIST OF ABBREVIATIONS

AAU	Association of Africa University
ACU	Association of Commonwealth University
AGI	Association of Ghanaian Industry
CEGENSA	Centre for Gender Studies and Advocacy
CIEE	Council for International Education Exchange
CSIR	Council for Scientific and Industrial Research
CUSAG	Commonwealth Universities Student Exchange Consortium
DATAD	Database of African Theses Dissertation
ERP	Economic Recovery Programme
FARF	Faculty Development and Research Fund
FTE	Full-Time Equivalent
GAAS	Ghana Academy of Arts and Sciences
GDP	Gross Domestic Product
GERD	Gross domestic Expenditure on Research and Development
GES	Ghana Education Service
GETFund	Ghana Education Trust Fund
GUP	Ghana University Press
HC	Human Capital
HE	Higher Education
HEIs	Higher Education Institutions

IAU	International Association of Universities
ICT	Information, Communication Technology
ISEP	International Students Exchange Programmes
ISI	Institute for Scientific Information
ISSER	Institute for Statistical Social and Economic Research
KNUST	Kwame Nkrumah University of Science and Technology
LECIA	Legon Centre for International Affairs
LEJIA	Legon Journal for International Affairs
MOEYS	Ministry of Education, Youth and Sports
NAB	National Accreditation Board
NCTE	National Council for Tertiary Education
NDPC	National Development Planning Commission
NGOs	Non-Governmental Organisations
NMIMR	Noguchi Memorial Institute for Medical Research
NUFU	Norwegian Universities' Committee for Development Research and Education
PNDC	Provisional National Defence Council
POTAG	Polytechnics Teachers Association of Ghana
QA	Quality Assurance
R&D	Research and Development
SAP	Structural Adjustment Programme
SSA	Sub-Saharan Africa

STI	Science, Technology and Innovation
TEWU	Teachers and Educational Workers Union
TTFPP	Third Trimester Field Practical Programme
UCC	University of Cape Coast
UDS	University for Development Studies
UDSM	University of Dar es Saleem
UEW	University of Education, Winneba
UG	University of Ghana
UGBS	University of Ghana Business School
UN	United Nations
UNESCO	United Nations Education, Scientific and Cultural Organisation
URC	University Rationalisation Committee
UTAG	University Teachers Association of Ghana
VAT	Value Added Tax

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Introduction

Some scholars have argued that Higher Education Institutions (HEIs) and their academics for that matter, stand the risk of losing their monopoly as sites and producers of scientific knowledge as a result of the growing competition created by the emergence and establishment of research units outside universities (Enders, 1999; Bleiklie and Powell, 2005; Manuh et al, 2007). The proliferation of the sites of research such as research institutes, private firms, Academies of Arts and Sciences and other research think tanks come on the heels of the 21st Century which undoubtedly has ushered in the so-called knowledge society with its concomitant knowledge economies as pillars and catalysts for national growth of countries.

Much as the HEIs are not the sole sites for research and its dissemination, 'universities are uniquely placed and almost universally expected to take on such responsibility and are reliant on their faculty to make this happen' (Meyer and Evans, 2005:245). The research visibility and reputation of any university therefore, rests among other things, on the calibre of the academic core of the university as they are the fulcrum around whom university research revolves. This assertion is buttressed by Benneh (2002:254) who notes that 'while good research infrastructure: modern laboratories with up-to-date equipment, computers and library facilities would, no doubt, facilitate the conduct of research, the strongest driving force in the research enterprise is researchers'.

Over the centuries, research has been and continues to be one of the major raison d'être of many universities the world over. As self perpetuating institutions, universities do not only generate knowledge for academic purposes but also for socio-economic development of countries. The significance of the research function of universities in this knowledge society cannot be overemphasised as countries' "economic competitiveness as well as the civic and social health of societies depend to greater and greater degrees on universities and their ability both to generate new knowledge and to disseminate this knowledge to larger portions of the population" (Teixeira et al., 2006:346).

It is, however, pertinent to add that the conditions and the environment within which universities' research is conducted vary from one university to another and from one country to another. Differences exist among universities and academics in the form of how research is organised, what is to be researched, the funding structure of university research, the role and focus of donor agencies in university research and the policy underpinning of research. These issues to a large extent influence the conduct of research in universities. Differences also exist in the support mechanisms and commitments of governments to university research. For example, while investment in research is increasing in emerging economies such as Brazil, China, Singapore and South Africa, the situation of research universities in low-income countries remains bleak (Kearney, 2009).

Meek and Davis (2009: 76) also observe that in some developing countries, higher education institutions were originally established mainly to engage in teaching and it will take a good deal of effort and an appropriate policy environment to nourish a research culture.

In the Ghanaian context, the government's White Paper on the report of the Anamuah-Mensah Committee on Review of Educational Reform in Ghana recognises the value of knowledge in nation building and clearly states;

Government accepts that education should result in the formation of well-balanced individual with the requisite knowledge, skills, values, aptitudes and attitudes to become functional and productive citizens. ***As the workers of a country aspiring to great economic ambitions they should be trained to become enterprising, and adaptable to the demands of a fast-changing world driven by modern science and technology. Ghana's new system of education ... should be reformed to support a nation aspiring to build a knowledge-based economy within the next generation***. (MOEYS, 2004: 3) [Emphasis is mine]

While the government recognises the world is fast changing and is driven by science and technology, little attention is paid to university research which plays a major and critical role in building a knowledge-based economy. University research in Ghana is characterised by low output and it is difficult to find even the government's policy on research. One hardly comes across figures for Ghana's Gross domestic Expenditure on Research and Development (GERD). Many countries are investing huge sums of money into university research to propel their economic development but nothing of that nature is seen in Ghana. How can a country

aspire to be a knowledge-based economy when it pays lip services to its HE and university research?

Perhaps, aspiring to be knowledge-based economy within the next generation as the government White Paper says means not in the foreseeable future.

1.2 Purpose of the study

The state of research in Ghanaian public universities cannot be described as the best as it is saddled with a myriad of factors contributing to the current sorry state. This study therefore, seeks to examine how academics interpret the conditions under which they conduct their research with particular focus on the University of Ghana (UG). As a result of the pivotal role that academics play in the research activities of the university it is felt that they stand in a better position to shed light on their research activities in the university. To this end, the study will particularly examine how research is organised at the UG and the perceptions and experiences academics hold about their research activities.

1.3 Motivation and Rationale

My motivation for studying the topic stems from the precarious research situation in many public universities in the country which has led to the overarching dominance of the teaching function over research. Having had the opportunity to study in Ghana and three different institutions in Europe, a cursory look at the research function and the research culture in the Ghanaian public universities reveals that these universities are lagging behind in the research function. In the 21st Century, research has become prime activity in many developed and emerging countries but a different picture is seen in Ghana. This has aroused the researcher's curiosity to find out how the academics themselves view their research activities.

Another motivation for going into this study lies in the dearth of information and data on the research function in Ghanaian public universities. Over the years research conducted by academics seem to focus on the economic, social and political issues in the Ghanaian society with poverty reduction, health related matters and gender mainstreaming taking the centre stage. Even within academe 'research on research' has received very little attention. This has

kindled the researcher's motivation to shed light on the research function of Ghanaian public universities from the perspectives of the academics at the University of Ghana.

1.4 statement of the problem

In today's world research has become so important that even the poorest countries require research or access to research findings to progress (Kearney, 2009:12). Kearney (2009: 12) continues to argue that 'an ever-growing number of nations of varying size have now given priority to developing their knowledge base through higher education, research and innovation, and to commit the necessary resources to this goal'. The author further reveals that success stories are becoming more common in all regions, and they are characterized by specific indicators:

- Innovative policies in higher education and research and in Science, Technology and Innovation (STI)
- A will to improve and profile the necessary infrastructure, including universities.
- Efforts to train and retain and attract highly-skilled human capital (HC).
- Increased levels of investment in research and higher education (ibid).

While these indicators have become the 'pillars' supporting and leading in the transformation of many countries into the so-called knowledge economies fostered by the active participation of the countries' universities and HEIs with research as a key component towards the realisation of their developmental goals, the case of Ghana represents a different picture as far as the priority given to these indicators are concerned. The research environment in the Ghanaian universities over the years has barely witnessed any siginificant improvements to support and play the kind of role in contributing to the building of a knowledge economy. Investment in university research has remained low and the universities are characterised by weak research culture, poor infrastructure base, and low academic morale to conduct research. The list is by no means exhaustive.

Universities operate in complex environments characterised by expansions in knowledge and technologies (Wodarski, 1991:278). To this end, quality education requires quality research

(ibid). The public universities in Ghana like many universities the world over are also supposed to perform the three most important functions of a university- teaching, research and service to communities. However, over the years, the teaching function of the public universities in Ghana seems to have gained prominence over research and services to communities. The research function of many public universities in Ghana is seemingly dormant making the universities more of knowledge 'consumers' rather than 'producers'.

Kearney (2009:19) notes that a number of factors explain the reluctance of governments in developing countries to support research. She intimates that the results and long-term impact of research is poorly understood and ignored while attention is directed towards the provision of basic education and health care as areas which require more urgent attention. These explain why less attention is given to university research. In many developing countries research has not been identified as a priority area and this continue to contribute the abysmal research activities of academics in African universities.

Mouton and Waast (2009: 161) on the hand reveal that in developing countries, many constraints and poor working conditions persist which increasingly force academics to revert to consultancy work mainly for international agencies and governments rather than local agencies.This clearly demonstrates that the research environment in many universities in the developing countries are not supportive of research hence academics resorting to consultancy work. This does not only weaken the research culture of the academics but also contributes to the low research output of many universities in developing countries.

In making reference to the university environment, Hendriks and Sousa (2008: 366) argue that the quality of the work context is motivationally significant as an inspiring work context reproduces and supports the social mechanism that defines scientific relevance.

In the light of the foregoing, the research problem of this study is thus formulated as;

How do the academics at the University of Ghana interpret the conditions under which they conduct their research activities?

1.5 Research Questions

1. *How is research organised at the University of Ghana?*
2. *What are the major experiences of the academic staff at the University of Ghana with respect to the conduct of research?*
3. *How can research be improved at the University of Ghana from the perspective of the academic staff?*

1.6 Potential Significance of the Study

It is envisioned that the successful completion of this study will be beneficial to many stakeholders connected with research in the Ghanaian context. First, this study hopes to contribute to the literature on research situation in public universities in Ghana especially the University of Ghana as such literature is rudimentary and in most cases non-existent.

Again, the University of Ghana in particular where this study is conducted and other public universities in Ghana and beyond can refer to the recommendations in shaping their research policy directions.

Moreover, the Government of Ghana through its Ministry of Education as implementing agency and the National Council for Tertiary Education (NCTE) will also be in a position to address the challenges facing the research activities in the public universities by referring to the recommendations from this study.

The international donor agencies which support university research especially in Ghana and other universities in developing countries may also find this study relevant.

Finally, it is hoped that academics and research institutes and centres within public universities in Ghana and other developing countries will find this work useful.

1.7 Delimitation of the Study

This study is conducted at the unit/departmental level at the University of Ghana. To better appreciate the factors which affect university research, the perceptions and experiences of individual academics are considered weighty and germane to the study and they therefore stand in a very good stead to contribute meaningfully to the study by way of soliciting their views on the topic hence, the selection of the departmental level as the focus of this study.

While it is acknowledged that the study focuses on the perceptions and experiences of academics at the University of Ghana and therefore makes generalisation of the findings and conclusions somewhat difficult, it is equally recognised that the factors which affect the conduct of research at the University of Ghana are akin to other public universities in Ghana.

1.8 Structure of the Study

In all, this study comprises six (6) broad chapters with sub-theme(s) under each. Chapter One deals with the introduction to the study and also covers the purpose of the study as well as the motivation and the rationale for studying this particular topic. The statement of the problem, research questions, potential significance of the study, the delimitation of the study, and the structure of the study are also provided under Chapter One. Chapter Two provides the background and context of the study and looks at the knowledge society and the role universities are supposed to play. An overview of the higher education system of Ghana and the profile of the University of Ghana are also treated under chapter two.

The literature review is given a consideration in Chapter Three with the discussion on relevant literature to the study while Chapter Four deals with the research design and methodology. The research strategy, data collection procedures and method constitute the subject matter in the fourth chapter. The chapter further provides the justification for the choice of particular research design and data collection method while acknowledging the inherent limitations of such data collection method. Chapter Five presents and analyses the data gathered from the field which centres on the perceptions and experiences of the academic staff on research at the University of Ghana. The analytical tools for the discussion of the data include; research organisation at the UG, the funding of research, human capacity/critical mass, research policy/coordination, research infrastructure, heavy teaching load, and poor remuneration. The

final chapter which is the Sixth Chapter discusses the findings, and makes some recommendations based on the findings. The chapter ends with some suggestions for further research.

CHAPTER TWO: BACKGROUND AND CONTEXT OF THE STUDY

2.1 The Knowledge Society

Various tags have been used to describe the world depending on the prevailing developmental paradigm. The world has been described as being in an 'information age' as a result of the revolution in the use of Information and Communication Technology (ICT). ICT came to change the face of information flow and communications in all spheres of life. Information which could take days or weeks to send and or receive now takes some few seconds through the use of the internet and mobile telephony. Today, the world is being described as the knowledge society as a result of the recognition of the use of knowledge as a tool for rapid socio-economic development. This has led to a changing relationship between HEIs and the society because of the key role HEIs play in producing knowledge. The 'ivory tower' description of the HEIs particularly the universities is gradually giving way to a more interactive discourse between HEIs and the society. Knowledge, therefore, has come to be seen as major factor in sustainable development. As a result, nations are challenged to enhance their capabilities to create, access, and apply knowledge to address the developmental challenges they face (Ramphele, 2004:16).

In its report, *Understanding Knowledge Societies*, the United Nations (UN) (2005:141) defines knowledge society as ' one in which institutions and organisations enable people and information to develop without limits and open opportunities for all kinds of knowledge to be mass-produced and mass-utilised throughout the whole society'. The UN singles out people and information (knowledge) as the two main assets of knowledge societies. It is without doubt that universities and their academics by virtue of their research function play a key role in this knowledge society by producing and disseminating knowledge not only to students but also the larger society. In the knowledge society, according to Delanty (2001:152) the university is reflexively connected with the society.

UNESCO (2005:17) on the other hand, defines knowledge society as 'a society that is nurtured by its diversity and capacities'. The idea of knowledge societies can therefore be said to be a conscious attempt at creating very conducive environment for societies to thrive within and the key driving force in this knowledge societies is knowledge. For the UNESCO,

knowledge societies are all about capabilities to create and use information to build and apply knowledge for human development. Knowledge and development are therefore inextricably linked together and forms the bedrock to the building of knowledge societies.

The World Bank, as a global development organisation, has also recognised the importance of knowledge in the socio-economic development of nations. In its report, *Constructing Knowledge Societies: New Challenges for Tertiary Education*, the Bank aptly posits that 'the ability of a society to produce, select, adapt, commercialise, and use knowledge is critical for sustained economic growth and improved living standards' (World Bank, 2002:7). The World Bank's focus on education in developing countries hitherto had been on the basic level where much of the Bank's supports were channelled. The realisation of the critical role of knowledge in the economic growth of countries has made the Bank renewed its focus and commitment to helping tertiary education sector contribute meaningfully to socio-economic development and help create the foundation for knowledge-based economies and societies (ibid).

It is instructive to add that not all countries or societies can be described as being knowledge societies or moving towards knowledge societies since disparities exist in countries' capacities to create and utilise knowledge for socio-economic development. There is a knowledge gap between the developing countries and the developed countries. In the same World Bank report on constructing knowledge societies, the Bank recognised this disparity and asserted that 'developing and transition countries are at the risk of being further marginalised in a highly competitive world economy because their tertiary education systems are not adequately prepared to capitalise on the creation and use of knowledge'(World Bank, 2002:6). This bleak picture painted by the World Bank indicates that developing countries occupy the very fringes of the knowledge societies. One major issue of concern in developing countries and more especially countries of the Sub-Saharan Africa (SSA) is how to position the HEIs in the knowledge society and equip or support them to be able to produce and utilise knowledge for the benefits of the people in the developing countries and Ghana is no exception.

Britz et al (2006) shed light on the knowledge society from the Africa perspective and identified four main pillars of knowledge societies which include ICT and connectivity, usable content, infrastructure and deliverability, and human intellectual capacity. The writers argue that the backbone of a knowledge society is a well-developed, well-maintained and

affordable information infrastructure and linking it with the usable content, they contend that, the information available should be affordable, timely, relevant, readily assimilated and in a language that users can understand. ICT makes communication and exchange of information more convenient and faster. While some modest progress is being made with regard to the use of ICT in some African countries, Adam (2003:198) argues that 'ICTs applications in African higher education have been and remain far from satisfactory'. Investment in the ICT sector is therefore a key factor in the socio-economic development of developing countries especially those in SSA. One other important pillar of knowledge society that Britz et al (2006) identified is human intellectual capability. Investments in human capital have been recognised as an important factor in the transformation and the socio-economic development of many countries. According to Kearney (2009:19) 'progressive countries achieve and sustain their levels of development through the benefits that accrue from their investment in knowledge'.

2.2 The Higher Education System of Ghana

Being a former colony of Britain, Ghana's higher education system at its inception was largely modelled on the British archetype higher education system. The establishment of the University College of the Gold Coast (now Ghana) in 1948, as a College of the University of London, to offer programmes in the humanities, arts, sciences and agriculture saw the introduction of formal HE in Ghana (Manuh et al, 2007:34). The University College of Gold Coast was established based on the recommendation of the Asquith Commission which was set up to look into the feasibility of establishing universities in the British colonies. The presentation of the Asquith Report in 1945 to the British Government was the official response to the growing awareness of the need for higher education in the colonial empire in the period of social reconstruction after the Second World War (Southall and Kaufert, 1974). On August 11, 1948 an ordinance was passed for the establishment of the University College of the Gold Coast. The University College attained sovereign university status with the power to award its own degrees by an Act of Parliament, Act 79, of 1961 and the name changed to the University of Ghana (NCTE, 2007).

As in many other higher education systems the world over, Ghana's HE system has also seen series of reforms and reviews all in the bid of improving the HE system. One of the most far-reaching reforms in Ghana's HE was provided by the 1988 University Rationalisation

Committee (URC) which was tasked by the Provisional National Defence Council (PNDC) government to undertake a holistic review of the HE system in Ghana. The URC's proposed reform according to Girdwood (1999) covered four main areas;

- unification of the existing institutions into a co-ordinated tertiary education system and establishment of new bodies and mechanisms to provide system management and control
- measures to ensure the system's overall financial sustainability
- measures to improve the quality and relevance of Ghanaian tertiary education
- significant expansion of the tertiary education system as a whole, to meet the demands of the school leavers and the needs of employers, and to provide greater opportunity of access to those previously denied.

Girdwood (1999:4) reveals that 'the committee's final report set out a creative agenda for change of significant scope and magnitude'. One of the Report's cardinal recommendations was that all post-secondary education institutions should be brought into a single, unified and co-ordinated system. Specific recommendation included the regrouping, rationalisation and upgrading of existing institutions and the establishment of new ones; transfer of oversight of the polytechnics from the Ghana Education Service (GES) to the tertiary education sector (ibid). Girdwood (1999) further asserts that the overall policy framework recommendation by the URC was subsequently re-drafted and formalised as White Paper in 1991, entitled; *Reforms to the Tertiary Education System* and it was approved by the PNDC government.

As part of the reforms *higher education* (a term which was used to refer to only universities) became *tertiary education*, comprising all post-secondary education institutions and was placed under the general direction of the Ministry of Education (Manuh et al., 2007). Again, as a result of the reforms, the tertiary education sector has seen an expansion which now comprises Universities, University Colleges, Polytechnics, Specialised Institutions, Institutes, Colleges of Education and Theological Colleges.

From the humble beginning of one University College in 1948, the then University College of Gold Coast which is now University of Ghana, the number of tertiary education institutions in Ghana has seen some appreciable increase. As at December, 2008 the National Accreditation Board (NAB) had accredited 126 tertiary education institutions in Ghana comprising both

public and private institutions with the majority of the institutions being University Colleges, Polytechnics and Colleges of Education. The accredited tertiary institutions include Eight (8) public universities, 2 other public tertiary institutions, 4 charted private universities, 45 private university colleges, 10 public Polytechnics located in the ten regions of Ghana, 14 public Nursing Training Colleges, 1 private Nursing Training College, 38 public teacher training colleges and 1 private teacher training College. Within the remit of this study, emphasis will be put on the public accredited universities.

The public universities in Ghana were established to produce the requisite manpower for national development. The establishment of the first three universities in Ghana was premeditated and each was assigned particular role. University of Ghana was to be maintained as the 'supplier' of civil servants and managerial personnel and as a centre of socially-oriented research. The Kwame Nkrumah University of Science and Technology (KNUST), the second university to be established in Ghana was to provide the nation with engineers, applied scientists and other technically oriented professionals while the University of Cape Coast (UCC) was to function as the primary source of graduate teachers for the non-university spheres of the educational hierarchy (Southall and Kaufert, 1974). The University of Education, Winneba (UEW) focuses on the training of professional teachers and educational administrators for pre-tertiary education sector in Ghana,[1] a function which is similar to that of UCC. The University for Development Studies (UDS) which was established in 1992 was to meet the high-level manpower needs of the Northern Ghana (Girdwood, 1994). The UDS is the only public university in Ghana which runs the trimester system within an academic year. The unique feature of UDS' trimester system is the combination of the academic and the community-based field practical work known as the Third Trimester Field Practical Programme (TTFPP) which ensures that students live and work closely in communities to formulate specific interventions to address specific challenges.[2]

[1] http://www.uew.edu.gh/index.php?page=about_us

[2] http://www.uds.edu.gh/profile.php

2.2.1 The National Council for Tertiary Education

There are a number of national bodies which have been established and mandated to play supervisory roles and ensure quality and maintenance of high academic standards in the tertiary education sub-sector in Ghana. One of such national bodies is the National Council for Tertiary Education (NCTE). Established by Act 454 of 1993, the Council, among other things, advises the Minister responsible for Education on the development of institutions of tertiary education, financial needs of the institutions, staff remuneration, norms of tertiary education and effective management of the institutions.[3] According to Manuh et al. (2007) the NCTE is the ultimate body for considering policy matters mostly relating to funding.

The administrative wing of the NCTE is headed by an Executive Secretary. Currently, the Council membership is composed of Government nominees, representatives of the Universities, Polytechnics, Ministry of Education, Ministry of Finance and Economic Planning, Ministry of Employment and Social Welfare, the National Accreditation Board (NAB), the Council for Scientific and Industrial Research (CSIR), the National Development Planning Commission (NDPC), Association of Ghanaian Industries (AGI), and the Ghana Academy of Arts and Sciences (GAAS).[4]

2.2.2 The National Accreditation Board

The National Accreditation Board (NAB) is the body charged with the responsibility of Quality Assurance (QA) in the Ghanaian tertiary institutions. The NAB was established in 1993 with the enactment of PNDCL 317 to:

- Accredit both public and private (tertiary) institutions with regard to the content and standards of their programmes,
- Determine, in consultation with the appropriate institution or body, the programme and requirements for the proper operation of that institution and the maintenance of acceptable levels of academic or professional standards;

[3] http://www.ncte-ghana.org/

[4] http://www.ncte-ghana.org/council.php

- Determine the equivalences of diplomas, certificates and other qualifications awarded by institutions in Ghana or elsewhere.[5]

In 2007, the National Accreditation Board Act, 2007, Act 744[6], was enacted and the Board was given additional functions to;

- Publish as it considers appropriate the list of accredited public and private institutions and programmes at the beginning of each calendar year
- Advise the President on the grant of a charter to a private tertiary institution; and
- Perform any other functions determined by the Minister

One body which is conspicuously missing in Ghana's HE system is a National Research Council to oversee and promote the research activities in the HEIs. The potential contribution of such a council to the shaping of a national research policy has over the decades continued to elude Ghana.

2.2.3 Staffing and labour conditions of academics

Staffing continues to be one of the major issues confronting the public tertiary institutions in Ghana. While some institutions lose their academics through the 'brain drain', others also contend with ageing faculty. This creates vacancies in the various faculties. Often, such vacancies are advertised on the institutions' websites and through the media. Qualified applicants are shortlisted and the best applicants are employed by the Universities. The government does not have a direct role in who is employed or not employed as a lecturer in the public HEIs. This responsibility falls under the institutions themselves. However, since they are public tertiary institutions academics in Ghana are paid by the government. Within academe, there are labour unions such as the University Teachers Association of Ghana

[5] http://www.nab.gov.gh/nabsite/pages/aboutus.php?catid=2

[6] http://www.nab.gov.gh/nabsite/downloads/NATIONAL%20ACCREDITATION%20BOARD%20ACT%202007.pdf

(UTAG), Polytechnics Teachers Association of Ghana (POTAG) and the Teachers and Educational Workers Union (TEWU) which are formed to cater for the interest of their members especially with regard to the negotiations for remunerations and better conditions of service with the government.

2.3 The Profile of the University of Ghana

The University of Ghana (UG) was established in 1948 as the University College of the Gold Coast and was affiliated to the University of London to offer courses in the liberal arts, social science, basic science, agriculture and medicine based on the recommendation of the Asquith Commission which was set up in 1943 to look at the establishment of a University in the British colonies. The UG gained its full university status in 1961 by the enactment of Act 79 which allowed the university to be autonomous and award its own degrees.

The UG in its quest to contribute to the development of Ghana is guided by its mission which aims at developing world-class human resources and capabilities to meet national development needs and global challenges through quality teaching, learning, research and knowledge dissemination (UG, 2009).

The UG has three main campuses, namely; Legon, Korle Bu and Accra City campus. The Legon serves as the main campus of the university and lies about 13 kilometres north-east of Accra, the capital of Ghana.[7] The five traditional halls of residence namely; Legon hall (mixed), Volta hall (females only), Commonwealth hall (males only), Akuafo hall (mixed) and Mensah Sarbah hall (mixed) are located on the Legon main campus. The Korle-Bu campus is headed by a Provost and houses the College of Health Sciences while the Accra City campus which was recently inaugurated is the new name for the restructured External Degree Centre of the UG which operated at the Workers College.[8]

The UG's academic programmes include undergraduate (Bachelor) programme, a post-graduate degree programme as well as undergraduate and post-graduate non-degree programmes.

[7] http://www.ug.edu.gh/index1.php?linkid=184

[8] ibid

The student population of UG as at March, 2009, stood at 39,217 of which 58.47% were male and 41.53% female, with 2,362 of the student population being Post-Graduates students and 31,026 as Bachelor Degree students. The Sub-Degrees students stood at 5,829 (ibid). This makes UG not only the oldest public university in Ghana but also the largest in terms of student populations. The current faculty strength of UG stands at 951 (UG, 2009).

The academic activities of the UG centres around its Colleges, Faculties, Institutes/Schools and Centres of Research/Learning which work towards the attainment of the University's mission of producing world-class human resources for national development. Currently, the UG has six (6) faculties which include; Faculty of Arts, Faculty of Social Studies, Faculty of Science, UG Business School, Faculty of Law and the Faculty of Engineering Sciences.[9] The Law Faculty unlike the rest is non-departmentalised. The UG provides 78 undergraduate and 25 graduate programmes in various fields of arts, social sciences, business, physical and biological sciences, medicine, dentistry, allied health sciences, agriculture, engineering sciences and law.[10]

In addition to the 6 faculties, the UG has two Colleges namely; College of Health Sciences which is made up of the Medical School, the Dental School, the School of Public Health, Noguchi Memorial Institute for Medical Research (NMIMR), the School of Allied Health Sciences and the School of Nursing.[11] The other College is the College of Agriculture and Consumer Sciences. There are Eight (8) Centres of research and Learning at the UG which include; Centre for Gender Studies and Advocacy (CEGENSA), Regional Training Centre for Archivists, Language Centre, Centre for Tropical Clinical Pharmacology and Therapeutics, Legon Centre for International Affairs (LECIA), the International Centre for African Music and Dance, Centre for Migration Studies and West Africa Centre for Crop Improvement[12]. The Institutes at UG are the Institute of Continuing and Distance Education, Institute of Africa Studies, Institute of Statistical Social and Economic Research (ISSER), NMIMR and Regional Institute for Population Studies.[13]

[9] http://www.ug.edu.gh/index1.php?linkid=185&sublinkid=66

[10] http://www.ug.edu.gh/index1.php?linkid=184

[11] http://www.ug.edu.gh/index1.php?linkid=186&sublinkid=22&subsublinkid=72

[12] http://www.ug.edu.gh/index1.php?linkid=188&sublinkid=53

[13] http://www.ug.edu.gh/index1.php?linkid=187&sublinkid=88

As the premiere public university in Ghana, a number of other University Colleges and Institutes have affiliation with the UG in the areas of teaching and awards of degrees and diplomas. Currently, there are 16 of such Institutes and Colleges which hold affiliation with the UG and at the international level the UG is also a member of the International Association of Universities (IAU), the Association of Commonwealth Universities (ACU), the Association of African Universities (AAU), the League of World Universities, the Norwegian Universities' Committee for Development Research and Education (NUFU), the Council for International Education Exchange (CIEE), the International Student Exchange Programmes (ISEP) and the Commonwealth Universities Student Exchange Consortium (CUSAC).[14]

[14] http://www.ug.edu.gh/index1.php?linkid=303

CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

Widespread university education in Africa is essentially a post-colonial phenomenon as only 18 out of the 48 countries in SSA had universities or university colleges before 1960 (Sawyerr, 2004:4). The establishment of universities in many parts of SSA was based on the recommendations by commissions instituted by the colonial powers. The premiere universities established in Ghana and Nigeria, for example, were based on the recommendations of the Asquith Commission of 1945 and these universities were affiliated to universities in Britain. The universities established in SSA in essence inherited the same structural features of those in their former colonial powers. They have academic staff with the same designation of positions like professors, associate professors, assistant professors and so on. In most parts of the English speaking African countries, the Vice Chancellors are at the helm of affairs while the French speaking countries also have Rectors. The universities in SSA are also organised into Faculties, Schools, Colleges and Departments and equally have the tripodal and overlapping functions of teaching, research and service.

The immediate post-independence era ushered in the urgent need of persons and systems for continuing and expanding the research support services provided to agriculture, health etc under the colonial administration (ibid). The optimism that characterised this research mandate of the universities in the immediate post-independence era is increasingly giving way to despondency. It is pertinent to add that even though many of the universities in SSA are weak structurally and functionally in terms of their research mandate, they are often the only national institutions with the capacity, skills, and equipment to conduct research (World Bank, 1997; Mama, 2003; Bollag, 2004). In most of the African countries there are no strong alternative structures outside the universities that have the necessary wherewithal in terms of the critical mass, facilities and equipment to conduct research. The universities in developing countries especially those in the SSA have therefore become the leading scientific institutions that conduct research in spite of the myriad of challenges they face. The importance of the research function of the university is highlighted by Clark (1983) who puts knowledge at the centre of the university. According to Clark (1983: 25) “Knowledge is the basic substance upon which and with which people work in academic systems; teaching and research are the

basic activities for fashioning and manipulating this material...” Knowledge is therefore the ‘building block’ of the any university (ibid) and the continuous existence of any university revolves around knowledge. Universities are therefore seen as both producers and consumers of knowledge. However, not all universities are producers and consumers of knowledge. In many parts of the developing countries, the universities have virtually become consumers of knowledge as their research function is characterised by underperformance.

To help us understand and better appreciate the current state of research in the universities of the developing countries especially those in SSA and to unearth the factors which influence the research function of these universities, it is of relevance to refer to the work by Castells (2001) who has distinguished four main functions of the university. The first function according to Castells is the formation and diffusion of ideology where the universities have historically played the role as ideological apparatuses of the mainstream European religious or state ideologies. Universities also act as mechanisms for the selection and formation of dominant elites in society through the socialisation process which draws a distinction between the elites and the rest of society. The third function which is the generation of new knowledge has not received the needed recognition and attention in many countries especially the developing countries. The last of the four functions is the training of the bureaucracy which is popular with the universities now as a result of the need to train a highly skilled labour force for both the public and private sectors. In the case of the developing countries, the universities at their inception and after independence concentrated on the formation of ideology and the selection of the dominant elites functions at the expense of research. However, presently the training of skilled labour has become the dominant university function in many parts of the developing countries and in SSA universities there is an increasing drift towards the teaching function of the university. According to Castells (2001) in many developing countries traditional areas such as Law, Humanities and the Social Sciences have witnessed growth in student numbers at the expense of the Sciences due to the need to train and recruit more people for the administrative and the managerial class of the political system.

Touching on the research function of universities in developing countries, Castells (2001: 215) observed that “while the training function of the Third World is slowly making progress... the science function is increasingly lagging in relation to the acceleration of scientific research in the advanced countries, particularly in research and development in the critical areas of new technologies”. The research function of the universities in developing

countries especially those in the SSA has therefore not seen much improvement over the years a phenomenon Castells (2001) attributes to structural and institutional conditions in the universities in the developing countries. The structural reasons according to Castells (2001: 215) stem from the 'Cumulative character of the process of uneven scientific development' where by virtue of the existence of centres of excellence the universities in the United States and Europe are able to attract the best of scientists from the developing countries who remain in these countries to conduct their research in the cutting edge of their speciality. This presupposes that the research environment and conditions in the universities of the developing countries are not conducive and attractive enough to these scholars and as a result they vote with their feet to these advanced countries. The main institutional reason Castells (2001) puts forward for the research underperformance of many universities in developing countries is the difficulties the universities face in managing contradictory functions within the same system which involves managing the political and ideological functions with the scientific activities of the university.

Based on Castells (2001) work, two broad areas have been identified as contributing to the abysmal nature of the research function of the universities in developing countries. These are the structural and institutional conditions. This chapter therefore looks at the relevant literature on the state of the research situations by looking at the factors which account for the underperformance of the research function of the universities in developing countries.

3.2 Factors affecting research in universities

It is widely acknowledged that there exists a knowledge gap between the developing countries and the developed countries. It is even more precarious when this phenomenon is observed from the perspective of countries in the SSA. African researchers produce only 1.8% of the world's total scholarly publications-half as many as Latin America and substantially less than India (MacGregor, 2008). Research intensive activities in many universities in the world have led to the creation of centre and periphery in the research enterprise and Africa continuously occupies the periphery of knowledge creation (Altbach, 1987 cited in Teferra & Altbach, 2004). The centre-periphery relationship in research is also corroborated by Mouton and Waast's (2009) comparative study on national research systems in the developing countries across the globe involving four regions: Africa, Arab region, Latin America and Asia. They

observed that there is a growing gap in research between developing countries and the rest. Mouton and Waast's (2009) study revealed that in Africa, with the exception of South Africa and the North African regions, the gap between Africa and the other continents is very huge. For example, for the year 2006 the study showed that South Korea had 22,380 publications; India got 19,290 publications while Brazil had 13,000 publications. South Africa which got the highest number of publications in Africa had 3,850 followed by Egypt; 2740. The rest of the African countries in the study had the following number of publications for the year 2006; Tunisia (1,080); Morocco (860); Algeria (730); Nigeria (560); Kenya (550); Tanzania (300); Cameroon (280); Uganda (260); Ethiopia (240); Ghana (200) Senegal (140); Malawi (120); Burkina Faso (115) and Ivory Coast (105). Botswana, Zambia, Madagascar, Gambia, Sudan, Mali, Benin and Namibia were all classified as small science countries with each having less than 100 publications for the year 2006. A cursory look at the publication rate between the emerging countries such as South Korea, India and Brazil and their African counterparts shows a huge gap in research and publications. Ghana and South Korea had comparable living standards at independence in 1957. Today Ghana's research output as indicated in the above figures is only 0.89% of what South Korea produces. Research has not received the needed attention in Ghana and other developing countries thereby creating this huge gap. This section takes a look at some of the main factors which affect research in universities with particular reference to the developing countries.

3.2.1 Funding

Research in universities is increasingly becoming sophisticated as a result of the electronic age and advances in technology where everything is computer-based. Many universities especially in the developed countries engage in cutting-edge research and there is a drift towards innovation driven by science and technology which is required for the modern day development. From research in nanotechnology to stem cell research and social research, funding is considered as a lifeline to the successful undertaking and completion of any research. Indeed, research has become an expensive endeavour (Benneh, 2002; Gibbons, 1998) not only for developing countries but the industrialised countries as well. The difference, however, is that universities in the developing countries are in a disadvantaged position when it comes to research funding. This section looks at the funding of university

research in developing countries from two perspectives; government funding and donor funding.

Research funding at governmental level

Research funding has been a basic problem for many African universities (Sawyerr, 2004). Until recently, research in universities had been funded mainly by the state in Africa (Benneh, 2002) just like the in developed countries where the overwhelming majority of basic research funding in universities comes from the public purse in addition to donations from foundations and support from industry. In the case of African universities, the over-reliance on the state for research funding stems from the fact that the local industry and the private sector are not sufficiently developed to be sustainable sources of funding research (ibid). Countries that have put research high on their priority list devote budgetary support to their universities for the purpose of conducting research. In the industrialised countries huge investments are being made in university research. Makoni (2009) reports that Sweden, Japan and Korea, for example, spent over 3% of their Gross Domestic Product (GDP) on Research and Development (R&D) in 2007/2008 academic year while China and Russia spent 1.49% and 1.12% respectively of their GDP on R&D during the same academic year. Sadly, data on individual African countries' percentage of GDP on R&D are difficult to get as such data are mostly non-existent.

Elucidating on the challenges that Ghanaian universities face in conducting research, Manuh et al., (2007) argue that the economic decline and the introduction of the Structural Adjustment Programme (SAP) in the 1980s dealt a heavy blow to university funding for basic research as a result of the drying up of funds for universities. The authors argue that SAP undermined both the autonomy of academics and the capability of many universities to support basic research. They intimate that consultancies have taken the place of research in many of the universities. The picture that the authors painted about the status and conditions of academic research in the 1980s with respect to research funding has not changed that much in Ghana as evidenced by the authors' postulation that the inadequate funding levels have led to academic staff relying on external sources to fund their research projects. In another breath, it is more revealing to note from the authors that university research conferences and committees allocate most of their meagre research funding to conference travels rather than

actual research projects. It can be deduced from the foregoing that over the years, research funding has not received the needed attention from the government.

Kearney (2009), aptly posits that while investment in research is increasing in emerging economies such as Brazil, China, Singapore and South Africa, the situation of research universities in low-income countries remains bleak and needs rapid and effective solutions. In spite of the acknowledgement of the importance of research in the Lagos Plan of Action (1980), Africa comes out very poorly on all the Research and Development indicators (Benneh, 2002). Africa's expenditure on Research and Development has consistently remained low over the decades. For example, in 1990, Africa's research-development expenditure represented only 0.2% of the world expenditure on R&D activities (UNESCO, 1993 cited in Benneh, 2002). The current data shows that Africa's Gross domestic Expenditure on Researchc and Development (GERD) as a percentage of Gross Domestic Product (GDP) for the 2007 stood at 0.4% (UNESCO, 2009). Benneh (2002) believes that this situation may stem from policy makers' regard for university research as an esoteric enterprise whose real value in terms of addressing critical societal concerns is not easily recognised and appreciated and this view is shared by Locke (2009) who also argues that the low investment in university research reflects policy makers' and practitioners' doubts about its efficacy.

Benneh (2002) intimates that academics in some African universities receive research allowance to assist with research activities. He indicates that the research allowance given to academic staff for the activities of research in Ghanaian public universities was increased in March, 2000 from US$92.40 to US$338.81 per annum while in the University of Ougadougou the amount given to academics for research depends on the rank of the individual. For 2001 academic year, a full professor received research allowance of 450,000 FCFA (about US$500), an associate professor had 400,000 FCFA and senior lecturers received 350,000FCFA. According to Benneh, these amounts in the case of the University of Ouagadougou are paid in two instalments with the second instalment paid on the submission of research report by the academic. In the 21st Century, where universities are engaging in cutting-edge research using state of the art equipment, the paltry sum of research allowance faculty members receive in the public universities in Ghana and the University of Ouagadougou leaves much to be desired and Benneh rightly concludes that this mode of funding research does not provide incentives for active research. The case of Uganda and

Malawi is not different either. At the Makerere University, the total amount earmarked for research for the 1999/2000 academic year was US$80,000. For this reason research remained underdeveloped (Musisi, 2003 cited in Teferra and Altbach, 2004) just as in Malawi, where 0.7 percent of the whole University of Malawi budget was allocated to research and publication in 1999 (Chimombo, 2003 cited in Teferra and Altbach, 2004). University of Ghana on the other hand received a paltry sum of US$ 1.4 million to fund the operations of its ten research institutes in 2000 (Effah, 2003 cited in Teferra & Altbach, 2004). It can be observed from the foregoing that many universities in Africa have been struggling with research funding. The inadequate research funding for many universities in the developing countries, especially SSA have dire consequences for research activities of academics. It has the potential to short-circuit the research activities of academics.

Not only is the research funding inadequate in many African universities but the mode of allocating the research funds also compounds the already fragile research situation in these universities. A study of expenditures and revenues of tertiary institutions in Ghana between 1996 and 2000 showed that research funding is not well-defined and structured, resulting in *ad hoc* allocations of resources for the purpose of research (Adu and Opoku 2000, cited in Manuh et al, 2007). The study which spanned a period of five years showed that the percentage of total expenditure attributed to research averaged 2.7 per cent and that these expenditures related mostly to organized research units and not to research performed and funded within academic departments (ibid). Commenting on research funding in low income countries, Olsson and Mkandawire (2009) reveal that many universities in these countries do not have defined budget line for research, nor do they have access to grant-funding research councils or similar funding bodies. In their study, Manuh et al., (2007) noted that the NCTE has not been able to define or establish norms for research funding in tertiary institutions in Ghana. They lamented that attempts to estimate the total research funding given to the universities have not been easy, as different offices exist within the universities to handle the various funds and called for an integrated financial management system to make such figures readily available for planning within and outside the university system.

The picture Manuh et al., (2007) painted about the NCTE in Ghana seems to be changing. The NCTE in their 2007 annual report indicates that the Council now administers a Faculty Development and Research Fund (FARF) which is funded by the Ghana Education Trust Fund (GETFund). The FARF is aimed at training faculty to acquire higher degrees, undertake

research and participate in conferences and seminars. According to the NCTE, the utilisation criteria of the GETFund drawn by the Council reflects specific mandates of public universities in Ghana in the ratios of 35% for faculty development, 50% for research and 15% for conferences. The FARF for 2007 was GH¢2,000,000 (US$1,408,450)[15] which was down from GH¢2,660,000 (US$1,873,239) in 2006. So far, according to the NCTE the FARF remains the main sustainable source of funding research activities in Ghanaian public universities.

Donor funding of university research

The precarious funding situation for HEIs generally and research in particular has been and continues to be a conundrum not only for national governments in SSA but for academics as well. The recourse to external funders for research activities or projects is gaining momentum and currency in SSA. Maassen (2010: 10) explained external funders to mean a range of public agencies and private foundations who contribute directly to the functioning of higher education institutions by funding projects implemented by university academic staff. They include national and supra-national research councils, international agencies, such as the World Bank, national development cooperation agencies, not-for-profit foundations, and private enterprises that fund research/consultancy activities from academic university staff.

Against the backdrop of the dwindling public budgetary support for university research external funding for research and especially contract research has become irresistible (Sawyerr, 2004; Manuh et al., 2007) but the danger is that these contract research activities and the reliance on external funders do not lead to sustainable research capacities in the universities of the developing world (Sanyal and Varghese, 2006) but rather weakens the academic core because knowledge is not accumulated and fed into teaching and academic publishing (Maassen, 2010). The orientation of the donor agencies in funding university research in most cases is different from that of the universities or the academics. This is attributed to a very weak level of institutionalisation of externally funded projects arising out of the different vision held by the university leadership, the Ministry of Education and the donor agencies on the main role of the university in development (Maassen, 2010). According

[15] Note: *GH¢= Ghana Cedi. US$1= GH¢1.42* http://www.bog.gov.gh/index1.php?linkid=139

to Maassen (2010: 24-25), the national Ministry of Education as well as other national political agencies especially other Ministries, and representatives of the private sector rely in general upon an instrumental vision, but in their case the role of the university is seen in the first place as instrumental in the implementation of national as well as specific agency agendas and programmes which are generally not very consistent and elaborated, but the university is expected to play a role in general economic development. On the part of the university leadership, Maassen argues that there is far less emphasis on an instrumental vision; instead university leadership emphasises a more traditional academic vision, which is strongly related to a 'Republic of Science/Humboldtian' view. The donor agencies in general rely upon an instrumental vision in which the university is seen as one of the tools for reducing poverty and improving the living conditions of communities around the country, especially rural communities (ibid). (Maassen, 2010: 25) concludes that in practice these differences result in the donors funding projects that contribute to the realisation of their main programme and policy aims, such as poverty reduction and community outreach. While academics want to engage in research to generate new knowledge which becomes what Clark (1983) calls 'the building block' of academic activities in the university, the focus of the donors of universities research in most cases is on poverty reduction and eradication of diseases in the developing countries. Laudable as the donor funding may seem, Maassen (2010) intimates that the universities are usually sidelined and the funding available for accomplishing the agenda of the donor agencies is not distributed on the basis of academic quality per se, but on the basis of bilateral contacts, donor preferences, and competition between donors, and not between academics. He further intimates that in selecting projects to be funded donors are not interested in academic quality as measured in the form of academic publications, but rather in the extent to which a project might contribute to the implementation of a donor agenda. The situation poses the danger of stifling research capacity of academics both senior academics and young ones who need mentorship. Instead of building the capacity of the academics, donor funding of research rather takes away the capacity of academics (ibid). Donor funded research activities are result- oriented and academics involved in such projects are expected to work within a specific time frame and this does not allow junior staff to be trained in the rubrics of conducting research.

Estimates of the percentage of external support for research in Africa range between 70% and as much as 90% (Teferra and Altbach, 2004). The authors argue that many of the research activities that are undertaken on the African continent are largely funded by and to a certain

extent managed and directed by external agencies such as bilateral and multilateral bodies, nongovernmental organisations (NGOs), foundations and others. This indicates that the support from national governments for research in Africa is minimal. Castells (2001: 217) argues that "... if most countries are unable to mobilise the necessary resources at the end, it follows that the new frontier of international aid passes through the territory of higher education". This means that when universities are starved of research funding, both the universities and academics open their doors to foreign donors who show interest in providing funding for projects that are argued to be research, but in most cases are consultancy oriented. As a result of the dwindling budgetary support for research in many developing countries, Arocena and Sutz (2001) argue bluntly that nowadays every university researcher is in need of funding from international donors to survive as a researcher. To the extent that research projects are funded by external sources, Reichert (2006:38) argues that an individual researcher's sense of research opportunities is much more strongly determined by the external third party funding opportunities and constraints than by the institutional conditions. This assertion is corroborated by Maassen (2010: 12) who also argue that;

...with limited basic funding, academic staff can be expected to turn to other sources of funding without the central university leadership being able to influence the details of these alternative funding relationships. In the case of African universities, these alternative funding relationships are the relationships of individual academics and their units with donors.

The external funding of research in the Ghanaian context is nothing new. Benneh (2002) argues that external funding constitutes the bulk of research funding in Ghana especially through collaborative research between institutions. He intimates that in 1996, 76% of research funds for the University of Ghana were from external sources and acknowledged that even though this gives the institutions some relief by providing them with the needed equipment and other research support, they nonetheless influence which research problem to investigate. In a more succinct manner, Benneh (2002:256) opined that;

The danger in over-dependence on external sources of funding is that problems whose solutions may be critical to the improvement in the quality of life of the poor in Africa may not attract the attention and funding they deserve because they are of little interest to researchers in the north.

The example Benneh (2002) gave above of the external funding of research in the University of Ghana in the late 1990s has not changed that much as donor funding continues to be a major source of research funding. According to Manuh et al., (2007:60) "University of Ghana is part of a consortium of four African universities and the London School of Hygiene and Tropical Medicine funded with a US$40 million grant from the Bill and Melinda Gates Foundation for the treatment and control of malaria". In this project not only the University of Ghana is part but there are other African universities as well. This goes to show that many of the African universities depend on the benevolence of such international foundations and organisations to fund their research. It is also instructive to add that such international sponsors pick and choose areas that are of paramount interest to them like the project cited above which involves prevention and treatment of malaria. Such development has the potential to skew the research activities of academics towards the direction of the international donor agencies which might not necessarily lead to publication (Maassen, 2010) and sharpening of the research skills of academics (Sawyerr, 2004). Basic research in this regard cannot be nurtured in the African universities as a result of the so-called 'projectisation'.

The recourse to external funding of research by academics in developing countries also brings to the fore the pressure on the part of researchers to balance their scientific interests and enthusiasm for their research on one hand and the demands to satisfy the funders. Still related to the issue of dependence on external sources of research funding is 'donor fatigue' which can set in and stall the progress of any on-going research. In the midst of global recession where many countries, both developed and developing, are reeling under intense fiscal pressure, the inflow of regular donor support for research and research collaboration cannot always be guaranteed. The danger is that in developing countries, "... the dependency on donor agencies for funding research activities poses risks for the independence of academic research, forcing academics to tailor their research depending on donor needs. This dependency is not sustainable, as research is carried out on a continuous basis but whenever the funds are available" (Papoutsaki, 2008: 247 cited in Teichler and Yağci, 2009). It is also noteworthy to add that the orientation of donors is towards funding projects, not research per se. Since the 1980s, projects have become more and more consultancy projects instead of research projects.

3.2.2 Human Capacity/Critical Mass

As stated above, university research revolves around academics. Funding and research infrastructure may be available but the absence of academic researchers will bring the research activity to nought. Benneh (2002) believes that the provision of well-trained researchers is, perhaps, the single most important factor in enhancing the research capacity of African universities while it is also the case that the quality of a university is largely determined by its human resource base (Manuh et al., 2007). A study conducted by Reichert (2006) revealed that the recruitment of the most promising professors who can determine the research future of the institution, was seen to be the most decisive strategic choice of an institution**.**

Even though it is recognised that the quality of faculty members plays a critical role in the research function of the university and the general life of the university as whole, it is pertinent to add that many universities in developing countries are plagued by shortage of faculty members. This shortage mostly arises as a result of faculty members joining the so-called brain drain wagon in search of better conditions of service and remuneration. A study conducted by Tettey (2006) in five African universities revealed that one major challenge facing African universities is staff attrition. His work revealed that, in Ghana, as many as ten faculty members in the Economics Department at the University of Ghana, who were mostly of the rank of senior lecturer, have, for example, resigned over the previous three years, mostly to take up positions with local and international organisations outside of academia. Tettey's work is corroborated by Manuh et al., (2007) who also reveal that the public universities in Ghana face academic staff vacancy rate of 40 percent. Situations like this affect the research activities of the institutions as departments are deprived of the experiences of these senior faculty members as well as the opportunity to mentor junior staff.

One other challenge that compounds the human capacity of the universities in developing countries is ageing faculty and the difficulty in recruiting young ones as a result of poor conditions of work. This is one major challenge facing Ghanaian universities (Benneh, 2002). This situation makes it difficult for the universities to build the critical mass of researchers to engage in academic research. A look at the age structure of academics in the public universities in Ghana reveals that 40 percent of the teaching and research staff are above 50 years of age and would soon hit the compulsory retirement age of 60 (Manu et al., 2007). The

authors attribute the ageing faculty to the slow pace of postgraduate training and the slow absorption of graduates into academia. The universities are therefore forced by this circumstance to retain retired staff on contract (ibid). The ageing faculty syndrome is not only peculiar to developing countries. Enders and Musselin (2008) also looked at the age distribution of academics in Australia and eight countries in Europe and concluded that in all the countries except Finland, between 40% and 60% of the overall professoriate were older than 55 years. They described the ageing faculty as the 'greying of the academic profession' (ibid: 130).

One way to address the staff vacancies created by the ageing faculty and create the critical mass for research in the university is to produce more PhDs and absorve them into academia. Manuh et al., (2007: 64) think that even though the cost of producing a PhD may be high due to the prevalence of poverty and low per capita incomes in Ghana, they must be weighed against the potential benefits of having PhD graduates in research institutions and other venues where they become producers of new knowledge.

The slow pace of producing PhDs in Africa is contrasted with the Nordic countries by Maassen (2010) which reveals a more startling picture. According to the author any of the four included Nordic universities (Oslo, Stockholm, Copenhagen, and Helsinki) in the study has a larger number of PhD students and produces more PhD graduates than the seven selected African universities combined. African universities need to make conscious effort at producing more PhDs and endeavour to absorb them into academe to have the critical mass for their research activities.

The need to have critical mass for the university generally and research in particular in this knowledge society is more pressing now than ever. Sawyerr (2004:219) believes that;

In universities and research universities, the capacity of individual researchers including their skills, competencies, attitudes, and values, is developed primarily through appropriate training programmes and courses and involvement in research activities. It is nurtured by the assembling of a critical mass of researchers, the cultivation of a positive research culture, and the presence of incentive systems that make a research career attractive.

Manuh et al., (2007) report that in 2000/2001, 54.1 percent of the teaching and research staff at UG possessed doctorates; 39.9 had master's degree; while 12 percent had other qualifications. Again, an international panel constituted by the UG in 2007 to take a holistic review of the university's academic programmes, infrastructure and resources, and the administrative and governance structures also identified faculty strength as one problem area. The panel's report also revealed that in the Faculty of Arts out of the total faculty of 126, only 4 were full professors (3.2%), with 14 at the associate professor level (14.3%). The Business School had only one professor (2.3%) and one associate professor out of a total of 43 faculty members in the School in 2006 (UG, 2007). Some of the recommendations the panel made were;

- A faculty member without a Ph.D. or other terminal degree as appropriate, should be designated 'Lecturer-in-training' or some similar title, and required to enrol in a Ph.D. programme within two years of appointment.

- Internal Ph.D. candidates, who currently hold rank of lecturer or higher, should be given paid leave without teaching responsibilities for the limited time to enable them obtain their doctorates within the stipulated period.

- A series of measures need to be taken to strengthen teaching and research. These include

  (a) Orientation programmes for new appointees, while maintaining continuing education for all through appropriate staff development programmes.

  (b) Special training for graduate assistants to assist in the grading of assignment and so provide real assistance to the faculty, especially the junior faculty.

  (c) The introduction of a teaching innovation fund, from which awards given as incentives will provide effective complementation.

  (d) The involvement of established faculty within an academic unit in multi-year, multi-disciplinary research projects, together with young lecturers and graduate students in research work, as part of training in the craft of the discipline (ibid: 45-46).

The panel's emphasis on Ph.D. stems from their conviction that the dominance of non-Ph.D. faculty in a university does not advance the course of basic research training in the university.

Mentoring is one sure way of building the critical mass needed for university research. To this end, Meyer and Evans (2005: 248) argue forcefully that universities must make explicit the responsibility of their professors to mentor new academics.

3.2.3 Research Policies/Coordination

Another important factor is research policy which influences how research is organised within the university context. At the university level, research policy is crucial as it addresses the issues of the identification of the capacities to be strengthened, the incentives to be offered, how research is to be managed, how quality is to be monitored and how results are to be disseminated (World Bank, 1997). However, according to Olsson and Mkandawire (2009) few low-income countries have produced research policy frameworks, partly because the need has not become obvious to decision-makers and partly because little is known about how to formulate and orient such policies. To the extent that research policies exist, they often address issues for research and research priorities (ibid).

Commenting on the policy environment of research in the Ghanaian context, Manuh et al., (2007) enunciated that it is hard to find explicit statements relating to research in government or university policy statements. The authors, however, could not advance any reason(s) for the lack of research policies both at the national and institutional levels. It is important to stress that research policies create the enabling environment for research to thrive and their absence both at the national level and the institutional levels leads to the fragmentation of research activities in the various universities in developing countries. The absence of such research policies creates the problem of coordination and resource allocation (Cisse, 2001 cited in Benneh, 2002) and the focus and direction of university research is brought into question.

According to Benneh (2002) one of the few universities in Africa that has produced a research policy is the University of Dar es Salaam (UDSM) where the policy aims at creating uniformity, transparency and internal efficiency in prioritising, planning, implementing and monitoring the research process at UDSM. Such a research policy as alluded to by Manuh et al., (2007) is non-existent in many African universities some of which have existed for well over six decades. Such policy vacuum and lack of coordination leads to the conduct of

research in fragmented manner where individual academics conduct their own research which may not be in sync with the broad university research agenda.

However, it is equally important to stress that the absence of such research policies in the universities has not prevented African universities from setting up management structures and drawing up procedures and regulations on the conduct of research in their institutions (ibid). For example, the UG has established the School of Research and Graduate Studies with the research administration department providing services and administration to the University community in the area of research. [16]

The HE landscape is witnessing a lot of significant changes to meet the changing demands of the global world. Reacting to what he termed the 'Hesburgh Paradox', Clark (1983:182) posits that 'there is so much change in HE itself, and change generated by itself for the rest of society, that we need a systematic approach to change'. Gumport (2000:67) on the other hand, adds that "a perennial challenge for universities and colleges is to keep pace with knowledge change by considering their structural and resources commitment to various knowledge areas". The research environment of the universities is also witnessing changes. Applied research to address the societal problems is gaining currency in many countries while consultancies have crept into the functions of the universities these days and there is an increasing competition for research funding as well as highly qualified researchers. In this regard, matters such as guidance for academics about opportunities for funded research and how to access them; development of expertise in issues as contract development; intellectual property and ethical issues; and the marketing of research capacity to the appropriate public are essential as far as research policies are concerned (Sawyerr, 2004). These help to preserve the core values of university-based research (ibid).

Benneh (2002) contends that the absence of national research policies where ethical issues may be addressed, have not received the attention they deserve in research management in African universities and usually ad hoc committees are set up to deal with ethical problems when the need arises but there are no published guidelines on research and ethics. While not discounting Benneh's assertion about the need to have research ethics firmly embedded in research policies, it is also instructive to add that universities' research policies must go beyond research ethics to also include issues such as funding, how to strike a balance between

[16] http://srgs.ug.edu.gh/

basic and applied research in the universities, guidelines for collaborative research, publications and research capacity building as these issues are also germane to research in universities.

3.2.4 Research infrastructure

Research is not conducted in a vacuum. The environment within which researchers conduct their research counts very much in the research enterprise. Often, research is conducted either in laboratories or within the social milieu depending on the type of research being conducted. Within the university setting, the availability or absence of good research infrastructure affects the conduct of research. In the opinion of Marginson (2006:5) 'Well-funded research infrastructure allows universities to deploy their best performing faculty so as to concentrate areas of strength, and to secure intellectual leadership at both national and global levels'.

Reflecting on the research infrastructure in African universities, Teferra and Altbach (2004) lament the extremely poor state of research in Africa today citing scarcity of laboratory equipment, chemicals, and other scientific paraphernalia as some of the major impediments to the development of research capacity across the African continent. The authors also recognise access to indicators of the knowledge frontiers such as journals, periodicals and databases as major prerequisites to undertaking viable, sustainable and meaningful research. Sadly, though, in much of Africa the authors argue, these resources are either lacking or are extremely scarce. Benneh (2002) shares a similar view and argues that over the years university laboratories have been run down, equipment is old and library acquisitions have not been kept up-to-date. Laboratories and libraries are key research facilities which play critical roles in university research activities. While it is the case for research in the natural sciences to be conducted in laboratories, libraries serve as sites of archived knowledge for both researchers in the sciences and the humanities to use in their research activities. Therefore, the absence of these research facilities in many parts of Africa serves as disincentives for university research.

It must however be added that some universities are taking advantage of ICT to make strides in their library holdings. Presently, University of Ghana has online library facility where

researchers, faculty and students access the library holdings for articles, books, eBooks, digital records and periodicals.[17]

Dissemination of research findings and results caps the research activities of academics. Findings and results of researches are sometimes made known through seminars and conferences. However, within academe, dissemination of research findings is done through the time-honoured practice of publication in peer reviewed journals or by publishing houses in addition to seminars and conferences. Scientific journals and books are considered as knowledge infrastructure which supports scientific investigation (World Bank, 2009). The wider readership that is associated with peer reviewed journals these days as a result of the ICT revolution makes online academic journals popular. Some universities across the world also have their own journals and publishing units which offer researchers the opportunity to publish their work. However, in many developing countries these journals and university publishing units are non-existent thereby making it extremely difficult for academics to get their work published. Vegeye and Vambe (2006:336) see publishing as 'a conveyer belt of information developed as knowledge.' This goes to show that publication of research findings plays a crucial role in the research enterprise by serving as a bridge between the knowledge generated and its distribution.

In the Ghanaian contex,t Manuh et al., (2007) note that most academic publishing is done through the Ghana University Press (GUP) which was established in 1962 to publish scholarly work. They contend that although the GUP publishes some university journals, others are produced independently by the universities. They cited the example of the University of Cape Coast which publishes a number of faculty-based journals like *Oguaa Social Science Journal*, *Asemka* for the Faculty of Arts, *African Studies Journal*, *Journal of Natural Science* for Faculty of Science and *Ghana Journal of Chemistry* for the Chemistry Department. In spite of the effort at getting scholarly work published through these journals the authors further reveal that there is no organised compilation of university publications in Ghana. University of Ghana in its quest to make scholarly work available also produces the following journals; *Legon Journal of Sociology*, *Research Review* (of the Institute of African Studies), *The Legon Journal of the Humanities*, *Ghana Social Science Journal*, *Management and Organisation- UGBS Journal* and *Legon Journal for International Affairs* (LEJIA).[18] At

[17] http://library.ug.edu.gh/screens/balme/oncampus.html

[18] http://www.ug.edu.gh/index1.php?linkid=265&sublinkid=92

the regional level, the *Journal of Higher Education in Africa* has been publishing scholarly work on Africa especially in the field of higher education. This affords academics the opportunity to have their work published at a level higher than their individual university journals. The programme established by the Association of African University (AAU) called Database of African Theses and Dissertation (DATAD) is also an initiative to put Africa's research output onto the mainstream of world knowledge and improve management and access to African scholarly work.[19]

3.2.5 Heavy Teaching load

In many parts of Africa today the issue of improving access to HE is being pursued vigorously by many universities. In some cases special admissions are given to the underprivileged such as brilliant but needy students and the historically under-represented groups. For example, the Kwame Nkrumah University of Science and Technology (KNUST) in Ghana offers special admissions to students who attend the less-endowed senior high school but are able to meet the minimum entry requirements to enrol in the university alongside those who are admitted through the competitive entry selection mode. The last decade has seen an exponential increase in student numbers in many African universities. For example, at the UG from under 5000 in 1991, student enrolment jumped to 9000 in 1999 and this leapfrogged to 28,400 in 2006; a six-fold increase in 15 years (UG, 2007: 39). As at March, 2009 the total student enrolment at the UG stood at 39,217 and the number of faculty at 951 (UG, 2009). While access to HE is improving in many African universities which in is positive, it should be added that this growth at the same time poses a great threat to research activities in the African universities.

A recent study by CHET (2010) indicates that the number of Institute for Scientific Information (ISI) papers produced by the University of Ghana decreased from 87 in 2000 to 70 in 2006 but increased again to 117 papers in 2007. The productivity in terms of ISI papers produced per permanent academic staff member declined from 0.12 in 2000 to 0.08 in 2006 but then improved to 0.13 ISI papers per permanent academic staff member. At the national level, the University of Ghana's contribution to Ghana's total number of ISI papers produced

[19] http://www.aau.org/datad/index.htm

declined over the years, 47.2% in 2000 to 27.4% in 2006 and 35.4% in 2007. While the study did not give any reasons for the decline in research output of academic staff and the university, the same study also reports that the academic staff Full-Time Equivalent (FTE) grew at an average annual rate of only 2.6% during 2000 to 2007 as against the average annual growth of 14.7% in enrolled students FTEs. This means the growth in student numbers over the years has outstripped the growth in academic staff. While many universities in Ghana and other African countries have seen an exponential increase in the number of students there has not been an appreciable increase in the number of academic staff. At the University of Ghana and many other public universities in Ghana it is not uncommon to see lecturers handling unmanageable large class sizes of over 500 students and sometimes unacceptable student/teacher ratios that in some cases reach 1000:1 (UG, 2007: 40). Lecturers who handle such large class sizes are overburdened with heavy teaching loads. Under such conditions it will take a strain of effort on the part of academics to conduct research. The heavy teaching load in many universities in Africa have a very debilitating effect on research as many academics virtually have little or no time at all to engage in research.

Again, the UG has established the Accra City Campus as semi-autonomous institution which is located in the central business district of the national capital. The school is run exclusively from students' fees and both regular and matured students are admitted. Its proximity to the working population enables people to attend lectures from their offices and working places. To ensure parity of esteem, the courses at the City Campus of UG are taught by lecturers who also teach full-time on-campus (UG, 2007). This means that these lecturers at the UG more or less are doing double work by teaching students on-campus and at the City Campus in addition to the consultancies some of them run. Such lecturers are paid extra money for teaching at the City Campus. Given the heavy teaching load and the fact extra teaching brings extra income while research does not, Sawyerr (2004) argues that there is the tendency that the motivation and time for research will undoubtedly wane. The research function in this regard is compromised.

3.2.6 Poor remuneration

The employment conditions and particularly the remuneration of academic staff in many developing countries play an important role in the life of academics as it serves as source of

motivation for academics to give out their best. However, in many African countries poor remuneration continues to be a conundrum not only for academics but governments as well. In many developing countries especially those in the SSA governments shoulder the responsibility of paying the academic staff of the public universities. Amidst the dwindling budgetary support for universities in many developing countries, one area which has become a thorny issue is the remuneration of academics which often is characterised by agitations for pay increase and threat of strikes which sometimes lead to actual strikes when demands are not met. Such situations arise because in many developing countries, the salary level of academic staff in HE and research institutions is far too low to earn a living (Teichler and Yağci, 2009: 108) and a result of the poor remuneration of majority of the academics, many of them have to hold more than one job to make ends meet (Eggins, 2008a: 128 cited in Teichler and Yağci, 2009). Academics who engage in more than one job often teach in more than one institution as part-time lecturers mostly in the private universities where they are able to get extra money to augment their meagre salaries. The consequence of academics in developing countries combining two or more work at the same time is that little time is therefore left to conduct research. Teichler and Yağci, (2009) argue that most frequently, the poor remuneration of academic staff leads them to neglect research because research duties are less formerly controlled in most universities than teaching.

Writing about the challenges facing African universities, Sawyerr (2004) observed that in the early years of the universities in Africa, faculty salaries and other conditions of service matched the best in the public service. However, over the years he argues, the average salaries have deteriorated below the levels of a living wage leading to what he termed the 'pauperisation of the salaried class' (ibid: 31). The general deterioration in the economies of many African countries dates back to the 1980s which led to the introduction of many economic policies such as the Structural Adjustment Programme (SAP) and Economic Recovery Programme (ERP) to revive the ailing economies of many of the African countries. These two policies were implemented in Ghana in the mid 1980s. The economic situation of many of the African countries has still not seen any appreciable improvement. Poverty is still rife in Africa. For example, according to the World Bank, Africans living on less than $ 1.25 a day fell from 58 percent in 1996 to 50 percent in the first quarter of 2009.[20] This means that

20 http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,menuPK:258652~pagePK:146732~piPK:146828~theSitePK:258644,00.html

half of the population in Africa are still living in poverty. Many African countries are therefore not able to pay their workers well including faculty members as a result of the poor nature of their economies. A propitious economy has the potential to improve the general conditions of work and remuneration of workers including faculty members. Sawyerr (2004) reveals that with the substantial erosions in income and living conditions, faculty have tended to concentrate on the struggle to keep body and soul together by any and all means available to supplement their income. One of such means is moonlighting by academics and as a result of this 'there is not much research and hardly any fieldwork, and dissemination of research results through publication has taken a back seat' (ibid: 32). This means in Africa the economic status of academics take them away from conducting research as a result of the need to work extra to augment their income.

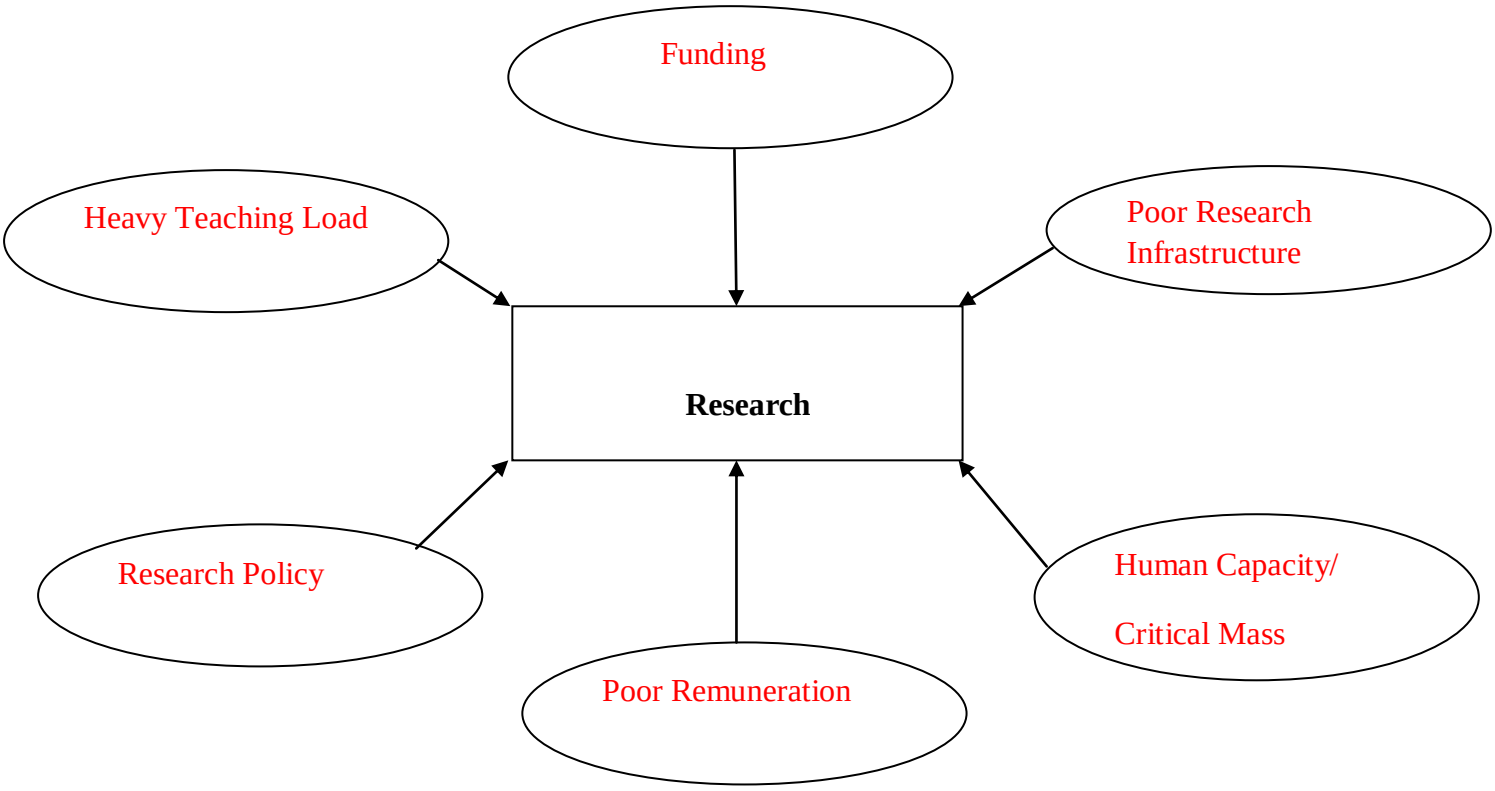
Teferra and Altbach (2004) share the same view and argue that as the state of African universities has deteriorated, academics have sought employment outside universities thereby draining the universities of their faculty members where they are lured away by other government agencies where salaries are often better and the working environment more comfortable. They argue that many public universities have lost their key faculty to the emerging private HEIs not only in terms of their physical movement from the university but also in terms of their time and commitment to fulfil their responsibility of research and other duties such as teaching and service. Teferra and Altbach (2004) observed that in many of the emerging private institutions, salaries and benefits are rather handsome when compared to salaries and benefits of public institutions and cite an example in Ethiopia where a private college is reported to be paying academic staff a monthly salary as much as three times what a public university is paying. When African public universities lose their faculty members to other private universities and government agencies, not only are vacuums created which need to be filled but also the rich experiences and expertise of such faculty members in terms of research and mentoring of junior staff are also deprived of the public universities and this consequently affect the research activities of the universities.

Altbach (2002) opines that in many developing countries, a full-time academic salary cannot support what is considered to be a middle- class standard of living and this pushes academics to hold more than one job. Referring to academics in developing countries Altbach (2002:15) posits that, 'Their main appointments provide a portion of their income, but they must earn additional income from teaching at other universities, consulting or even holding jobs in

business or service occupations unrelated to their intellectual work'. He also recognised that salaries of academics vary significantly across and within institutions with the private universities often paying higher salaries than the public universities but the majority of academics in developing countries work in public universities. It therefore stands to reason that academics in public universities naturally will have the tendency to move to universities and places where they can also enjoy higher salaries. Altbach (2002) further argues that the prospects for improvement in the low academic salaries in developing countries are extremely poor. The implications of salary structure he argues are significant as the poor salary levels have led to brain drain with the best scholars and scientists in developing countries relocating to the advanced countries where they can also earn higher salaries. Few academics are able to devote their full attention to their work because of the need to supplement their incomes and this has negative consequences for research and academic productivity generally and Altbach concludes that it is hardly surprising that research productivity of academics in developing countries is so low as salary structures and other structural impediments such as working conditions and institutional environment negatively affect morale.

3.3 Analytical Framework

Fig 1: Factors affecting research in universities in the developing countries



In fig 1, research is positioned centrally in the life of African universities. The teaching-research nexus in the university is one example of the critical role research plays in the university in addition to the service function it renders to communities. However, inadequate funding, poor research infrastructure, heavy teaching load, poor remuneration, inadequate critical mass and lack of research policy and coordination continue to plague the research activities of academics in developing countries especially those in SSA. It must be added that in the figure above the factors affecting research in African universities are **not** positioned in any special order of importance. All the factors identified in the literature and represented in the figure above combine to influence the research activities in African universities. It can therefore be deduced from the literature review that an amalgam of factors affect the research activities of academics in Africa and other developing countries.

Conclusion

This chapter reviewed relevant literature about the state of university research in developing countries. While there may be several factors affecting university research in developing countries those discussed in this chapter have received wider consideration in the literature and appear to be very strong factors which have contributed to the sorry state of university research in developing countries particularly in SSA. While some factors affecting research can broadly be described as general in the sense that they affect research in many universities the world over, for example, funding, African universities have their own peculiar challenges such as heavy teaching load, poor remuneration of academics, lack of critical mass, poor research infrastructure and lack of research policy and coordination. These factors have plagued and continue to serve as barriers to the research activities of academics in SSA.

These factors therefore form the bases for the analysis presented in chapter five based on the data gathered for the study.

CHAPTER FOUR: RESEARCH METHODOLOGY AND DATA COLLECTION

4.0 Introduction

Research as a scientific endeavour entails the meticulous use of methodology to arrive at conclusions. Bryman (2008:4) aptly posits that social research "methods are not simply neutral tools: they are linked with the ways in which social scientists envision the connection between different viewpoints about the nature of social reality and how it should be examined". He further argues that research methods and practices should connect with the wider social scientific enterprise such that data collected relate to 'a burning social problem' (ibid). In the opinion of Wright (1997), conducting proper scientific research should follow some steps to ensure that the data gathered are adequate for the purposes of the research. This implies that the methodology used by social science researchers to a large extent affects the outcome of their research either positively or negatively. This chapter therefore presents the research methodology and data collection techniques and procedures adopted for the study.

4.1 Research Strategy

Quite often two dichotomous research strategies are presented in many research methodology books. These are qualitative and quantitative research strategies. These research strategies have their peculiar strengths and weaknesses and therefore constitute alternative, but not mutually exclusive (Patton, 2002). Bryman (2008:366) argues that 'Qualitative research is a research strategy that usually emphasises words rather than quantification in the collection and analysis of data.' Quantitative research strategy on the other hand requires the use of standardised measures so that the varying perspectives and experiences of people can be fit into a limited number of predetermined response categories to which numbers are assigned (Patton, 2002: 14).

The qualitative research strategy was adopted for this study. It emphasises an inductive approach in which a relationship is established between theory and research. In its epistemological position, qualitative research strategy focuses on the understanding of the social world through an examination of the interpretation of that world by its participants and again sees social properties as outcomes of interactions between individuals, rather than

phenomena outside and separate from those involved in its construction (Bryman, 2008: 366). Qualitative research strategy therefore allows researchers to view events and the social world through the eyes of the people that they study (ibid: 385).

The rationale for adopting qualitative research strategy for this study stems from the research topic and the questions the study sought to answer which mainly examines the experiences and perceptions of academics about their research activities. The appropriateness of the qualitative method in this regard, is its ability to analyse what actually happens in naturally occurring settings (Silverman, 2006: 351) which facilitates the study of issues in depth and detail (Patton, 2002: 14). Perceptions and experiences of academics about their research activities in the universities may vary from one academic to another albeit some similarities can be discerned. Delving into such issues as how academics perceive and interpret their research activities require a research strategy that gives them the opportunity to express such perceptions and experiences. In this regard, the qualitative research strategy was considered a better option to study the research problem and the questions as emphasis is laid on words (in this case expressed by the academics) rather than quantification (numbers).

4.1.1 Research Design

According to Bryman (2008: 54) the research design and the collection of data are guided by the specific research questions that derive from theoretical concerns. This study was conducted as a single case study. According to Patton (2002: 447) "the case study approach to qualitative analysis constitutes a specific way of collecting, organising, and analysing data; in that sense it represent an analysis process. The purpose is to gather comprehensive, systematic, and in-depth information about each case of interest". Stakes (1995) cited in Bryman (2008) contends that case study is concerned with the complexity and particular nature of the case in question. In a case study, the researcher is usually concerned to elucidate the unique features of the case which is known as *idiographic* approach (Bryman, 2008: 54; Babbie, 2004: 298). The focus of a case study therefore is on the individuals or the group in the case study. A case study approach was adopted for this study to enable the researcher have an in-depth elucidation on the research problem.

The University of Ghana was chosen as the site for this study. Established in 1948 as the nation's premiere university, it started as a liberal Arts University College. Through its' over 60 years of existence, the University of Ghana has grown to expand its frontiers as a research university offering courses in both the Liberal Arts and the Sciences at both undergraduate and post graduate levels. The University of Ghana represents an interesting case for this study, what Bryman (2008) calls an *exemplifying case.* The notion of exemplification according to Bryman, (2008: 56) implies that 'cases are often chosen not because they are extreme or unusual in some way but because either they epitomise a broader category of cases or they will provide a suitable context for certain research questions to be answered'.

The choice of the University of Ghana as the site for this study is hinged on the fact that the University is the oldest and largest in the country and has a wider research base in comparison with the other public universities in Ghana. As stated earlier in this study on the profile of the UG, the university has 6 faculties, 2 Colleges and 8 research and learning centres. It therefore offers good grounds to study the topic under consideration.

4.1.2 Validity and Reliability in qualitative research

A number of criteria are used to assess the quality of research. Validity and reliability are two of such criteria. Validity is concerned with integration of the conclusions that are generated from a piece of research while reliability is concerned with the question of whether the results of a study are repeatable (Bryman 2008). Internal validity relates mainly to the issue of causal relationship between two variables and external validity addresses the question of whether the results of a study can be generalised beyond the specific research context (ibid). External validity has been recognised as a major challenge for qualitative researchers particularly in case studies. External reliability, which also measures the degree to which a study can be replicated, has also been a difficult criterion to meet in qualitative research (Bryman, 2008) because human behaviours (including their perceptions and experiences) are not static and no study can be replicated exactly, in social research regardless of the methods and designs employed (LeCompte and Goetz, 1982). There is an on-going debate on the criteria to evaluate qualitative research (Pratt, 2008). To this end, some writers have advocated the different criteria for evaluating qualitative research as alternative to validity and reliability. Guba and Lincoln (1994) came out with two criteria for assessing qualitative research;

trustworthiness and authenticity. Trustworthiness is made up of four criteria; credibility, transferability, dependability, and confirmability. In this study the criterion of dependability which states that complete records of the research process including selection of research participants, interview transcripts, and data analysis decisions are kept in accessible manner was widely adhered to. On the score of authenticity, one major criterion used in this study is fairness. The fairness criterion argues that the study should fairly represent different viewpoints among the members of the social settings. In this regard, the researcher sought the viewpoints of academics from different disciplinary backgrounds, different ranks as well as the perspectives of the research administrator at UG.

4.1.3 Unit of Analysis

The unit of analysis is the major entity that is analysed in a study (Trochim, 2006); the *what* or *whom* being studied in a research (Babbie (2007: 94). It is the thing researchers examine in order to create summary description about it (ibid). Individuals, groups, organisations and sometimes communities are often selected as units of analysis in social research.

The study was conducted at the departmental (unit) level with particular focus on the academic staff as unit of analysis. Clark (1983:28) notes that academic activities in the university are divided and grouped into two basic ways: by discipline and by enterprise. While the enterprise is a comprehensive grouping linking disparate specialists together, the discipline is characterised by specialised knowledge domain (ibid). Clark (1983: 34) summarised the features of the discipline part of the academic organisation as follows;

- The core membership unit in academic systems is disciplinary-centred.
- Each disciplinary unit within the enterprise has self-evident and acclaimed primacy in front-line task.
- The characteristics of core membership groups affect everything else of importance in the organisation.

The study was conducted at the departmental level against the backdrop that the research questions sought to examine the experiences and perceptions of academics about their research activities. As academic activities in the university revolve around these academics,

they naturally remained the obvious choice of selection for the study. The researcher believes that the perceptions and experiences about research in the university could best be articulated by these academics since they are the people who conduct these researches in the university.

4.1.4 Research Method

In tandem with the qualitative research strategy, primary data was used for this study. According to Patton (2002: 104) dealing with how people experience a phenomenon requires gathering of data which undertakes 'in-depth interview with people who have *directly* experienced the phenomenon of interest; that is, they have 'lived experience' as opposed to second-hand experience'.

It is important to interpret the social world from the perspective of the people being studied (Bryman, 2008) and one of such tools in qualitative research is the use of primary data. The face-to-face interaction with the interviewees in the study gave the researcher the opportunity to gather primary data about how academics at UG viewed their research activities. It is pertinent to note that the paucity of data on academics' perceptions about university research in the Ghanaian context made it more appropriate to gather first-hand data on the topic instead of relying on secondary data. Besides, using primary data in qualitative research brings about broader perspectives as the people being studied might view things differently from what an outsider with little contact might have expected (Bryman, 2008). These reasons informed the choice of primary data for this study.

4.2 Data Collection Procedures and Method

Data collection plays a critical role in social research as the kind of data gathered and analysed shape the findings and conclusions drawn from the study. The data gathered for social research therefore can be described as the bridge linking the research questions and the findings of the study.

The data for the study was collected between the first week in July, 2009 and the first week in September, 2009 in Ghana at the University of Ghana. Being an alumnus of the university,

finding my way out on the campus and locating the various departments, research centres and institutes selected for the interviews was not that difficult. Several trips were made to the University of Ghana during the data collection. Face-to-face semi- structured interview was used to collect the data. Two interview guides (see Appendices A & B) were prepared for the data collection; one for the academics and the other for the research administrator. The rationale for choosing semi-structured interview was the flexibility it offered which enabled the researcher to probe responses which were not clear. The questions were mainly open-ended ones. This enabled the researcher to fully capture the points of view of the academics. The guiding principle was to obtain first-hand information from the academics as a result of the nature of the study which sought the views of academics on their research activities. The open-ended questions gave the interviewees the opportunity to express their views on the questions asked devoid of any predetermined point of view. For the purpose of transcription, the interviews were audio-recorded after permission was sought and granted.

4.3 Sampling of academic staff

Sampling plays a significant role in any social science research endeavour as it enables the researcher to relate the findings of the research to particular people, place, unit or organisation. Probability and non-probability samplings are the two broad sampling techniques researchers use in their research. While the former involves random selection, the later does not. Both sampling techniques have their variants. Purposive sampling, a variant of non-probability sampling was used to select the academics from at least one department each of all the six faculties of Arts, Law, Science, Social studies, Engineering Sciences and the University of Ghana Business School (UGBS) as well as two research institutes. This was to ensure that no faculty of the university was left out of the study. The ranks of the academics were also taken into consideration during the sampling and the interview. The sample consisted of full professors, senior lecturers and lecturers. The rationale for including the ranks of the academics in the sample was hinged on the belief that the perceptions and experiences of professors about their research activities may not be the same as that of lecturers and this offered the researcher a broader approach to the research questions. In all, fifteen (15) people comprising fourteen (14) academics and one research administrator were

selected for the interview. The break-down of the interviewees was as follows; 4 Professors, 7 Senior lecturers, 3 lecturers and 1 Research Administrator.

Purposive sampling is also called purposeful or judgemental sampling as the units observed are selected on the basis of the researcher's judgement about which ones will be the most useful or representative (Babbie, 2007). Bryman (2008) also argues that, the essence of purposive sampling is to sample people or cases strategically so as to ensure that those sampled are relevant to the research questions being posed.

The departments, research centres and schools from which academics were sampled included; Material Science and Engineering Department, Department of Geography and Resources Development, Political Science Department, Linguistics Department, Botany Department, Chemistry Department, Agricultural Engineering Department, the Law Faculty (non-departmentalised), the UGBS, Institute of Statistical Social and Economic Research (ISSER) and the Legon Centre for International Affairs (LECIA).

It is often argued that because purposive sampling is a non-probability sampling it makes it difficult for the researcher to generalise his or her findings to the population (Bryman, 2008). However, the advantage of using purposive sampling is the richness of information gathered for the study. The purpose of relying on this sampling technique for the study was to gather in-depth information which would elucidate the research questions of the study. As observed by Patton (2002: 230);

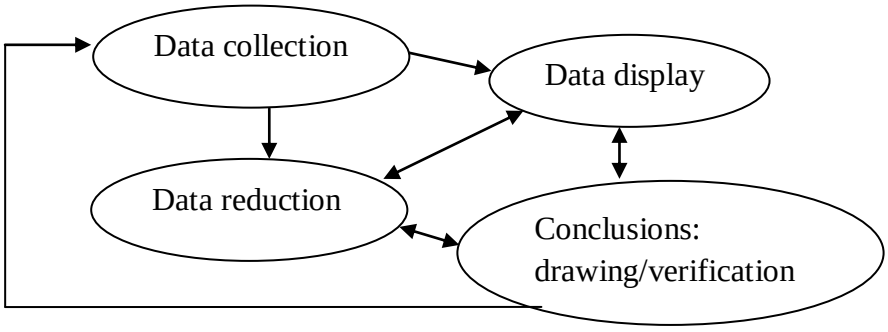
The logic and power of purposeful sampling lie in selecting information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the inquiry...

4.4 Data Analysis

The challenge of qualitative data analysis according to Patton (2002) lies in making sense of massive amounts of data. The most important thing in qualitative data analysis however, is identifying significant patterns, and constructing a framework for communicating the essence of what the data reveal (ibid). According to Babie (2007) qualitative data analysis involves the non-numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships.

The data analysis approach offered by Miles and Huberman (1994) was adopted for this study. The authors in their approach presented three interwoven streams of data reduction, data display, and conclusion/verification as the components of qualitative data analysis. Data collection provides the platform for these streams of components in data analysis. Data reduction which is the first component in Miles and Huberman (1994: 10) '... refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written up field notes or transcriptions'. The sheer volume of the data collected required a reduction process by identifying and selecting significant patterns in the views expressed by the interviewees in relation to the research questions the study sought to answer. This was necessary for the meaningful interpretation of the data. The second major flow of the analysis activity involved the data display. Generally, the data display is an organised, compressed assembly of information that permits conclusion drawing and action (ibid: 12). The final stream of the data analysis in Miles and Huberman's approach of data analysis is conclusion. Conclusions are drawn based on the analysis of the data presented. The following figure adopted from Miles and Huberman's (1994) work illustrates the data analysis for this study.

Figure 2: Miles and Huberman's Components of Data Analysis: Interactive Model



In this figure, the three streams of data analysis activity and the activity of data collection itself form an interactive, cyclical process. The researcher moves among these four 'nodes' during data collection and shuttles among reduction, display and conclusion drawing/verification.

4.5 Ethical Considerations

Ethical dilemmas are embedded in any social research endeavour. Research participants as individuals or groups have their personal rights which must be protected and respected. Notable among the ethical issues in research are voluntary participation, informed consent, confidentiality and anonymity.

These ethical considerations were addressed during the data collection in a number of ways. In the first place, the purpose of the data collection was made known to the interviewees. The researcher explained that the data were purely for research purpose and not any other purpose. The academics who were contacted for the interviews accepted out of their own volition to grant the researchers the chance to interview them after the purpose of the data collection was made known them. Majority of the interviewees were glad to be part of the study. In all the interviews conducted, the interviewees scheduled the interview appointments with the researcher at their own convenience.

Again, the interviews were conducted on the cardinal ethical principles of confidentiality and anonymity. Names and personal details of interviewees were therefore not asked in all the interviews and therefore the responses given by interviewees are not identified with their names or personal details.

Finally, permissions were sought from all the interviewees to audio-record the interviews and these were granted.

4.6 Limitations

The research methodology adopted for the study had its own inherent limitations. In the first, the single case study adopted for the study limited the scope of the study. Approaching the case in a multi case approach would have made the study more comprehensive. However, for want of time for both the thesis itself and data collection, a single case study was more feasible. Besides, the case study approach used in the study made generalisation of the findings impracticable as the people who were interviewed were not in the strictest sense representative of the population. That notwithstanding, the findings of qualitative research Bryman (2008) asserts, are to generalise to theory rather than to populations.

CHAPTER 5: DATA PRESENTATION AND ANALYSIS

5.0 Introduction

The UG is not only the oldest university in Ghana but it is also considered to be the flagship university in Ghan. The data for this study were collected at the UG between July and September, 2009.

Based on the literature review six major factors were identified which affect research activities in African universities. During the interviews with the academics at the UG, they were asked among other things to express their views on the general state of research in the university and to comment on the challenges they face in their research activities. Many of the views they expressed were consistent with the issues discussed in the literature review. This chapter therefore presents and analyses the experiences of the academics at the UG about how they interpret the conditions under which they conduct their research activities. The analysis is based on the data collected and in tandem with the research questions and the analytical framework developed from the literature review. The analysis begins with an important issue which deals with how research is organised at the UG.

5.1 Research organisation at the UG

The issue of centralised research planning in a university is very contentious and has attracted varied opinions. Taylor (2006:2) argues that research is an intensely personal activity which is strongly dependent on the ideas and imagination of individuals or groups of individuals. He continues that academic staff feels a fierce personal ownership of their research as it shapes and dictates their career development and their status with their peers. The individuality of academics is thus stressed here suggesting that research is an individual affair.

Harle (2007) on the other hand argues that a university's ability to set and follow its own research priorities is vital to developing a strong and distinct research culture. Harle's argument favours the centralised research planning in a university for the purpose of building the university's research culture.

The organisation of research at the UG encapsulates these two orientations. Individual academics chart their research on their own without any recourse to the department in particular or the university as a whole. When academics were asked a question on their general assessment about the state of research in their departments, one interviewee intimated that:

> *I would say that individuals within the department find their own way of doing research. So one individual might be doing quite a bit in his or her little corner but as a department we really do not have a corporate research programme going on which I think is sad.* (Interviewee, Senior Lecturer- Department of Botany)

The interviewee described the research organisation in the department in general as sad based on the observation and the fact that the department does not have any research agenda where the individual academics can buy into. The interviewee attested to the the fact that there is no organised or corporate research programme. In effect, the department has not been able to identify and set its research priorities because of the absence of research plans. As a result individual academics within the department strive to conduct their own research without necessarily linking their research to the department or the university. Situations like this create room for individual academics to conduct research in ad hoc and eclectic manner. This typifies the way the research is organised in the department.

The same question was posed to another academic and he had this to say;

> *So far we are trying to do our best for the past two years that I joined this department. We have not as a department done any serious kind of work. It is recently that we got research grant from the university's research committee to be able to do something but individually we have been trying to continue some of the things that we have been doing over the years and trying to see if we can get something out.* (Interviewee, Lecturer-Department of Material Science and Engineering).

This interviewee corroborates what the first interviewee said to the effect that the departments in terms of research activities have not seen any serious kind of work. In the absence of any such research programmes individuals as revealed by the interviewees conduct research at their personal levels.

In terms of how research is organised and managed at the university, an attempt in the first place has been made to institute a research committee. However, the committee's focus is on

resource allocation particularly the allocation of research funds to academics. The researcher wanted to find out whether there were any laid down processes for dealing with academics who want to conduct research in the university and need financial support from the university. The Research Administrator disclosed that;

> *For the University of Ghana research fund, we have a research committee that administers the research fund and so we would issue a call for proposals... twice a year and then we review the proposals and then the grant goes to those who do good work and deserve it. It is dependent on the amount of money that we have here. A lot of people are asking for funds and so if we issue a call for proposals the basic thing is that they give them deadline and they submit it to me and then I go through it, prepare a check list and make it ready for the reviewers and then send it out for review and after review we send it to the full committee for approval.* (Interviewee, Research Administrator).

In this regard the research organisation at the UG is directly linked to the funding mechanism instituted by the university where academics put in proposals which go through review and based on merit funds are provided for research. This means that academics who do not draw research funds from the research committee have very little or nothing to do with the committee. In sum, individual academics conduct their own research because their departments do not have any research agenda which bears evidence that such departments lack the structures to effectively organise and manage research. It must be acknowledged however, that, the establishment of the research committee to disburse funds to academics for the purpose of research is a good attempt only if it is backed by proper research plan which is anchored on a sound research policy.

5.2 Research Funding

HE in Ghana is largely funded by the government. However, over the last decade the HE sector has seen an exponential increase in student numbers which has inversely affected the government funding of the HE sector. This led to the introduction of the cost sharing policy in 1997 in which the government bears 70 percent of the cost of HE and the remaining 30

percent is burdened among three sources; the institutions' internally generated revenue, private donations, and students' tuition payments (PEF, 1997 cited in Manuh et al., 2007).

Research is increasingly becoming expensive. With this funding mechanism in place, how challenging is it for academics to get funding for research and where do they draw their research funds from? This was a question posed to all the interviewees involved in the study.

One academic opened the discussion with this remark:

> *Basically the environment for financial support for research is not the best....It is only recently let me say the last two years that we find the Graduate School and the University itself coming out with financial package to induce lecturers to embark on research which sometimes lead to publication*. (Interviewee, Senior Lecturer- LECIA).

A similar view is shared by the Research Administration who admits that:

> *In general we don't have a very conducive environment for people to do their research especially those in the Sciences and I think with funding the University is able to provide funding up to a certain threshold and so sometimes they are not able to go into detail as much as they would have wished.*

Research funding has been one area with which academics have over the years been grappling. At least an attempt has been made by the UG to institute some form of funding mechanism for research in the university but some academics have their own issues with this funding mechanism. A faculty member recounted that:

> *Well, the university has what they call the Research and Conference Fund where people are encouraged to draw funds... but again, even with that the funds are limited. Those who applied last year some had to be turned down not because their papers were not good or their proposals were not good but they couldn't give the money out to everybody. So it becomes highly, highly competitive. So the thing is being able to go outside the University to get funds for what you want to do.* (Interviewee, Senior Lecturer-Department of Botany).

Even though the University has established the Research and Conference Fund to help academics draw funds for their research and improve upon the research activities in the university which in itself is laudable, the challenge is that the Fund is in its nascent stage and therefore cannot support as many academics as possible hence it is highly selective. For academics who are unable to draw research funds from the Research and Conference Fund the

only option is to look elsewhere for funding and sometimes some academics use their personal resources to conduct research as recounted by this academic:

> *Another way by which some of us have survived now I am talking from personal level, some of us have used our own resources to do research. Sometimes out of your salary you save something to be able to get the work going*. (Interviewee, Senior Lecturer- Department of Oceanography).

A similar view is shared by another academic when asked to comment about any other source of research funds apart from the one instituted by the university. This was what he said;

> *I think it is personal resources. That is a major source because we don't have a council that you can apply to for funding.* (Interviewee, Senior Lecturer-UGBS).

It is widely acknowledged that salary levels of academics in Africa are generally low and Ghana is no exception. Here we have academics saving part of their already meagre salaries for the purpose of conducting research. The question which arises is for how many months and years will these academics save money from their salaries to be able to conduct research? This means that until these academics are able to save and raise enough money for research, their research activities would remain dormant while they save money for future research. This situation certainly does not augur well for research and partly explains why many academics are unable to conduct research and publish.

On the other hand, the amount of money provided by the University through the Research and Conference Fund and the departments' internally generated revenue for the purposes of conducting research is also described as scanty which does not help many academics to conduct any meaningful research. A senior lecturer disclosed that:

> *We are inadequately resourced. At the moment, University of Ghana has put in place a funding mechanism whereby lecturers can apply for grants. Normally I think is not exceeding GH¢ 30,000.00. So you apply, a committee sits and reviews the applications and proposals and then based on it, it is awarded*. (Interviewee, Senior Lecturer, Department of Oceanography).

Another academic also had this to say:

> *In fact, funding is inadequate. Let me point out that over the past three years it has seen some improvement but that is not what we expect because if you look at the Business School, we use less than one percent of our resources on research.... What that means is that that per annum, the whole of the Business School we*

> *don't spend even US$40,000.00 on research and to me funding is a problem*. (Interviewee, Senior Lecturer-UGBS).

The same academic continued in another breadth and lamented that:

> *I mean US$2000.00 a year for research is woefully inadequate. It can't even design questionnaire let alone go to the field and so the School must have its priority right. We are research institution-that's how people will get to us*. (Interviewee, Senior Lecturer-UGBS).

The problem of inadequacy of research funds as noted by these academics can be traced to two major areas. The first point is that the government of Ghana does not provide money for university research. This was revealed when academics asked about their sources of research funds. One Professor noted that:

> *Like many universities in Sub-Saharan Africa, University of Ghana is not a research-based university and funding has become difficult. The state does not provide funds for research and people have to write proposals for funding. So research is I will say very, very low. It is recently that the University has budgeted for research funds and they are encouraging people to apply*. (Interviewee, Professor- Department of Agriculture).

Another professor reiterated the same point in reference to the source of research funds. He disclosed that:

> *The main challenge is that first it is very difficult to get grants to work with. You know the government of Ghana doesn't give grants as such for the universities for research so I think that is the major one.* (Interviewee, Professor-ISSER).

Over the years, successive governments through their annual budgets have failed to set money aside or capture university research funding in their budgets. The government only provides money for the remuneration of academics and in some cases vote money for infrastructure. This does not only short-circuit research activities in the university but also brings into question the commitment of government towards university research against the backdrop that the universities remain the central national institutions to conduct research. This lack of government funding for university research in Ghana makes it extremely difficult to even get data on the percentage of GDP that is spent on university research as such data is non-existent. Until government begins to recognise the importance of research in national development and provide funding for it, research in the universities will see little or no improvement.

The second area of interest where funds can be made available for university research is from industry but the Ghanaian case is a different story. One academic commented that:

> *I think the problem is not just the university but it is a Ghanaian thing. I don't know perhaps it is an African thing because outside you might notice that industries realise what their research problems are and they vote money and make it available to the university and fund PhD students to work in these areas so that we can find answers for what we do but here in this country you hardly get industry supporting research in our universities and I don't know if it is our policy makers' shortcoming or whether it is our inability to really get the industry to understand. I don't know but there is the need for industry to come to the help of research in this country.* (Interviewee, Senior Lecturer- Department of Botany).

The university-industry partnership in Ghana in terms of research largely remains unexploited to the mutual benefit of the two. The synergies that should exist between industry and the university can take the form of the former providing money for the latter to conduct research in areas where there will be positive sum-game. Collaborations between industry and the departments in the university can help raise the needed funds for research in the departments. However, as Benneh (2002) argues, the local industry and the private sector are not sufficiently developed to be a sustainable source of funding research and this may explain why industry has not been able to support university research. Ghana has found oil and gas in commercial quantities and production will begin in the last quarter of 2010. This presents an opportunity for the oil and gas sector and all its allied sectors to liaise with the universities to conduct research of mutual benefit by providing funding for the university.

Without any budgetary allocation from the government of Ghana and from industry, where does the university draw its research funds from? This question was posed to the research administrator and this was the answer:

> *For university funded research we draw our source from the GETFund and we also have partner arrangements with other institutions-external institutions that would give us some support.* (Interviewee, Research Administrator).

The Ghana Education Trust Fund (GETFund) was established by an Act of Parliament (Act 581) on 25th August, 2000 with the mandate to generate additional income to support Ghana's educational system at all levels. Money accrue to the GETFund is derived from an additional 2.5% of the Value Added Tax (VAT) levied on goods and services. Since its introduction, the

GETFund has brought some infrastructural developments to Ghana's tertiary education sector.

One source from which universities and academics in Africa continue to receive support for research is international donor agencies. So we asked academics at UG how supportive the international donor agencies have been towards research. The responses were more revealing. One senior lecturer intimated:

> *I think the donor community are very selective. They have their interest and if your proposal falls within their interest you will get support. There are certain things that appeal them, for example, issues of gender equality, HIV, poverty reduction, private sector development. They are issues which appeal to them. We are in a Business School, people want to research in Accounting. People are not used to the international business phenomenon. They are still locked up in their functionalism approach to business education- Accounting, Marketing, Finance. So, once there is no research in the area then there is a problem but the donor community are not interested in Accounting, they are interested in Marketing. So to be able to design something that will attract the donor community is a problem.* (Interviewee, Senior Lecturer- UGBS).

One academic at the Law Faculty also shares the same views expressed above about donor support for research and said:

> *I think they will not necessarily come to you with money in the bag and say that you have money here for research but I guess when you are able to identify a research project that meets their interest or need, they are happy to help you manage some funding for it but generally it is not easy because sometimes they already have predetermined what kind of information they need so if you don't fit in, it means you are out.* (Interviewee, Senior Lecturer- Law Faculty).

The issue of compatibility of interests of the actors in the research project funded by the donor agencies is seen here as a major concern for the academics. When academics' research interests are not compatible with the donor agencies it means funding will be difficult to come by. The views expressed by these academics are indicative that the donor agencies' support for research is hinged on the donor's interest and the kind of agenda they want to pursue which may not necessarily reflect those of the university or the country as a whole. Very few departments and academics are able to enjoy regular and uninterrupted external research funding for long time as such projects involving donor funding do not last longer which raises questions about their sustainability as evidenced in the apprehension shared by one academic on donor support for research. He recounted that:

> *I think on the whole they haven't fared bad... except that we don't know what is in stock for us in subsequent years.* (Interviewee, Lecturer- Department of Political Science).

There is always an expectation of sustainability and not a guarantee for continuation of funding and project support (Maassen, 2010). The case of the Linguistics Department of UG has defied this notion of unsustainable donor funding of research projects. One professor disclosed that:

> *For the past twelve years or so we have been fortunate to be part of a research project funded by the Norwegian Government. So we have a partner university in Norway-the Norwegian University of Science and Technology (NTNU) in Trondheim. Together with the Department of Linguistics there, we have had a research project that has been running for the past twelve years where money comes from the Norwegian Programme for Development, Research and Higher Education (NUFU). ... There are projects as involved in doing typological studies of some selected Ghanaian languages. We look at the grammar, the structure, phonology and other aspects of six selected Ghanaian languages.* (Interviewee, Professor- Department of Linguistics).

Papoutsaki (2008) argues that the dependency on donor funding of research in developing countries is not sustainable. However, the situation at the Linguistics department of the UG where for over a decade the department has continued to enjoy donor support is a rare example of sustainable donor support for research. Perhaps what has helped the research project to last for over a decade in the department is the collaborative nature of the project involving the Linguistics departments of the two universities. Another positive aspect of this collaborative research which needs mention is the focus of the project which looks at some typological studies involving six selected Ghanaian languages. Often the argument is that the donors pick and choose areas which interest them but in the above example the project involves six selected Ghanaian languages and funding has been provided by NUFU for the past twelve years which in itself is commendable.

Some academics also receive donor support for their projects as revealed by this interviewee:

> *Another source of funding that I get is through international support. At the moment I coordinate a project which is sponsored by the International Atomic Agency. It is an African-wide project looking at enhancing capabilities for assessment of marine pollutants. There are about eight countries involved including Ghana and the total amount is US$900,000.00. It is a project running from 2008 to 2011. So through that they provide training programmes in the*

> *various areas of our research... Then out of that they also provide some level of equipment support. For example, they have provided equipment to the tune of about €100,000 that will mean just one equipment and of course, other small equipment to the tune of €5,000. Then they also provide annually about €10,000 worth of consumables.* (Interviewee, Senior Lecturer-Department of Oceanography).

The training programme component and the supply of equipment in the above project are highly commendable as the focus is on building the capacity of the researchers in the project which at the end might contribute to the creation of the critical mass needed for university research. It must be added, however, that, even though these kinds of support are good for building the research capacity of academics and the university where international funding dominates, the need for researchers to report and liaise with donors can overshadow the need to report to their own institutions (Nordling, May, 2010).

5.3 Human Capacity/Critical Mass

Having the critical mass in any university is a prerequisite for the research function of the university as it remains one of the ways to shore up the research activities and research visibility of the university. In this regard building the research capacities of academics is one of the surest ways of improving upon the critical mass of the university. Academics were asked about how their departments could build their research capacities. One academic lamented about the research culture of some academics and noted that:

> *I would say that to some people the research culture in them is dead. They have taught for twenty years, no research and they've been there and suddenly it's like publish or perish. So they have to learn how to but you see research is not something you do, you put it down and ten years you come and pick it up. It is a skill you must acquire and once you don't have it, you don't have it... Until recently we had few PhDs. People who were teaching here were MPhils and you know that the skill that the MPhil has is not detailed enough to go into this sophisticated research which is the order of the day*. (Interviewee, Senior Lecturer-UGBS).

The assertion by the interviewee buttresses the earlier notion that the number of lecturers holding masters at the UG has increased and as the interviewee rightly stated the research

culture in some of the academics is weak because their research activities have remained dormant for a long time.

In another breath the same academic intimated that:

> *They need to upgrade the research skills of the faculty. I, for example, attended some of the courses that were organised. The starting point of research is proposal writing. If you cannot write a good proposal, you cannot get funding. So they should train people on how to write proposals.* (Interviewee, Senior Lecturer- UGBS).

This concern is being addressed according to the Research Administrator who disclosed that:

> *We realised at a point that people were not getting the funds they needed because they could not write winning proposals. One of the first workshops we had was to train people in good proposal writing techniques and we have done that once... We have had a workshop on graduate training because we want to reach a point where our postgraduate students are well versed in research methods and know what to do when it comes to research. So we had a small workshop with them and because this is a School of Research and Graduate Studies most of the workshops we have handled are both for graduate studies and academics. For academics we've also had a workshop with the people who make decisions; the Professors and those in managerial position in the university that affect policy and we've had discussions on how to move the research agenda forward and how to improve our graduate programmes* (Interviewee, Research Administrator).

The university also has embarked on training more PhDs and as a result support them financially to complete their PhD programmes. Funds sourced from the donor agencies are used for this purpose. This was revealed by the Research Administrator:

> *...For the ones we source from outside because it is not really a lot it can't get to a lot of people so we usually use it to support people in their PhD since PhD is basically research and we've given ourselves a certain deadline that all our faculty members should have PhD. We use those monies to support them in their PhDs to do their research and we expect that out of that we will get publications* (Interviewee, Research Administrator).

One area which is important in research activities of academics especially the junior staff is mentorship. When a question was posed on the challenges academics face in their research activities, one young lecturer disclosed that:

> *For some of us who are starting our careers and in new department it's a bit of challenge because you don't have mentors around... if we have people there you know what they've done over the years, how they have coped so that you fit into it and they give directions if you have certain ideas. So that has been a challenge.* (Interviewee, Lecturer- Department of Material Science and Engineering.

The lack of mentorship is a result of many of the professors retiring and the difficulty in recruiting new ones. This was confirmed by one professor who noted that:

> *If you take our list in this department we have so many professors but most of us are retiring now. Our concern now is how to replace ourselves.* (Interviewee, Professor-Department of Geography and Natural Resources).

The lack of mentoring weakens the research culture and skills of academics especially the junior staff as they do not have senior academics to guide them in their research activities as rightly observed by one of the interviewees. In such cases organising workshops like the School of Research and Graduate Studies is doing becomes paramount for sharpening the research skills of such young academics. One professor believes that the workshops are helping academics. This was how he put it:

> *I think that things are changing because now we are also building the research culture. People are being trained to build capacity on how to write proposals and that is one of the functions of the School of Research and Graduate Studies.Every semester they look for funding so that they provide capacity for people to develop their capacity to produce proposals to look for funds locally and externally.* (Interviewee, professor-Department of Agriculture Science).

5.4 Research Policy and Coordination

Technological advancement and the increasing shift towards innovation makes university research policies a *sine qua non* to shape the focus of research and give directions to the kind of research that is needed by the university and at the same time able to propel economic development in the society. One important research question of this study was to find out how research is organised at the UG. One cardinal tool in this regard is the research policy of the University which among other things provides the policy framework for the research agenda

of the University. The UG has established a School of Research and Graduate Studies which has an office for research administration. The researcher asked the research administrator whether the university had a research policy. She had this to say:

> *We don't have a research policy yet. It is in the draft stage but we have regulations for accessing monies from the research funds... but it doesn't go into detail on what our research strategy is but since it is in the draft stage it will be difficult to give it out because it may change but what we are looking at is putting in place certain structures to push research... What we need is the guidelines because as I said people do research on their own and so we need to put in place policy on working with human subjects, what is allowable and what is not allowable, the overhead cost, costing of research. Those things are in our policy but we haven't finalised those things.* (Interviewee, Research Administrator)

The absence of research policy for the UG is particularly striking because the University was established in 1948 and has existed for well over six decades but still it does not have a research policy yet. This means that as an institution and over the past decades research at the university has been done without recourse to any policy framework or guidelines. It is incumbent on the university leadership to provide the broad research policy which provides the focus and the direction of the research agenda for the department and academics. The good side however, is that the need for research policy has been recognised and an attempt has been made to draft one for the University but the point still remains that there is no policy framework at the moment for research at the UG.

Research policy is intricately related to research coordination. On the question of how research is then coordinated in the university, this was the response given by the same research administrator:

> *That has been one of our challenges because people are used to doing their things at the individual level. This office was set in place five years ago and the challenge is how to get people to tell you that we are doing this research. So our strategy now is to fund research. At first we were not funding any research but if we start funding then obviously people would apply to us and we'll know what research is going on and people will find out what we do. As at now we don't even have database of on-going research activities. The only information we have is research we have funded and it is just a small percentage that is going on.* (Interviewee, Research Administrator)

The absence of a research policy and the loose coordination of research as evidenced in the above responses has led to the fragmentation of research activities. Research funded by the university which as revealed by the interviewee is a small percentage of the research going on in the university is the only research the university coordinates. This means that academics who do not draw research funds from the institution organise their own research without recourse to the department or the research administration office.

Research policies create a frame of reference for research activities in the university. In situations where there is policy vacuum on the research function of the university especially at the departmental levels, explicit structures for planning and managing research therefore do not become institutionalised. This situation epitomises weak leadership. The consequence is that it leads to the fragmentation of research activities of academics (Manuh et al., 2007) and the common practice is that individual academics conduct research on their own.

In sum, relating to the first research question which is about how research is organised at the UG, it is clear from the accounts of the interviewees that their departments and the university as a whole lack research policies and for that matter research coordination is poorly done leading to very highly individualised research activities by the academics.

5.5 Research Infrastructure

The availability and quality of the research infrastructure in any university undoubtedly affects the research function of the university. Many of the public universities in Ghana have not seen any marked quantitative or qualitative expansion in their research infrastructure over several decades. Some of the research infrastructure such as laboratories, equipment and libraries were inherited from the colonial administration. The weak maintenance culture has led to the deterioration of many research facilities on the campuses of the Ghanaian public universities. This situation kills the morale of academics to conduct research especially the in science-based disciplines. The stagnation and in some cases the decline in research output of academics are attributed to the lack of research infrastructure in the universities. The views expressed by academics at the UG during the interviews reflect the frustrations some academics go through in their research activities as a result of the lack of well equipped laboratories and other research facilities. On the question of the major challenges academics face in the research activities many of them poured out their frustrations in relation to research infrastructure. The Research Administrator noted that:

> *Our facilities have remained the same for a long time. Some academics especially those in the Sciences most of them will complain that they don't have laboratory space to do their research.* (Interviewee, Research Administrator-UG).

The Research Administrator's views were actually confirmed by one Chemistry lecturer who could not hide his frustrations regarding the state of research facilities which hamper the research of him and his colleagues. This was what he said:

> *If equipment was around I don't think anyone would complain. Things will not be rosy but at least you can get your hands into something and get on with it. When it comes to equipment sometimes you have people who have to go and wait for somebody at say Atomic Energy or Standard Boards or somewhere they have equipment. If they say we are doing analysis then we wait for one week, two weeks they are just sitting there waiting for it to be free so that you can use and even when you do go, you don't have free access to the thing. There is probably a technician in charge and he does it the way he has been instructed to do and the best you can do is to watch... so you get something done but it is not what one would expect or wish to do but you don't have the equipment and so what are you complaining about? ... After all these years so a department that is supposed to be working in natural products you have nothing to show or nothing to characterise and you are dependent on others, I find it very unacceptable.* (Interviewee, Senior Lecturer- Department of Chemistry)

The UG by many standards is considered as Ghana's flagship university. However, researchers as observed by the interviewee have to go outside the university to other agencies to conduct their research thereby using their facilities because such facilities are not in the university. As can be learned from the above views expressed by the Chemistry lecturer sometimes researchers who go outside the university to use the facilities of the agencies and institutions are not made active participants in their own research but only observe because they are using someone's facilities. The rhetoric question; '... but you don't have the equipment and so what are you complaining about?' clearly shows the frustrations of the academic regarding the lack of equipment in their department.

The same academic continued and offered a solution to the situation by saying:

> *The University itself and I think the country as a whole has to get down to the grips that if you want things to happen, you need to contribute in terms of basic infrastructure in this case in terms of equipment. If it is there and is functioning and is being maintained then if people don't work you can say that my friend you are not working.*

Building basic research infrastructure in the university is very crucial for the research activities of academics. The capital intensive nature of such research facilities requires government intervention and investment. The continuous lack of investments in research infrastructure has contributed to the poor research infrastructure base in the university which also contribute to the sorry state of research in the university.

One trend was observed during the interviews which was that research infrastructure particularly lack of equipment is the bane of academics in the sciences as similar views kept recurring: in many cases the quest to engage in cutting edge research is hampered by a lack of facilities. Another academic in the Department of Botany when asked about the challenges academics face in their research activities also identified lack of infrastructure as a major factor and expressed similar views that:

> *You go outside and you realise that everything people do now goes right to the level of the molecular. In other areas people will talk about molecular biology. When you analyse some trace elements...you need fine equipment to trace the element and most of the equipment we need to do the very sophisticated research that is going on outside Ghana now, we don't have. One can speak of basic things such as microscope that are lacking in this place. It makes things very difficult. I am sure like I said individuals may have ideas about things to be done but because of the lack of facilities our hands are tied. So if one person is able to have a link with a university outside then that person is lucky. So what they do perhaps is to pass on a sample to a colleague in Vienna or somewhere to analyse the samples for them and together they come out with a paper. Few people might be lucky in that regard and may be moving forward. It is a difficult situation we find ourselves in.* (Interviewee, Senior Lecturer- Department of Botany).

As noted by Teferra and Altbach (2004) universities in Africa have not seen improvement in research activities as a result of scarcity of laboratory equipment and other scientific paraphernalia. At the UG this situation has led some academics to resort to improvisation of laboratory equipment which does not help them to conduct the kind of research they want to. This was revealed by one professor who said:

> *The facilities are not there. You write proposals and they don't provide the facilities. Our laboratories are not well equipped so a lot of the things you need are not there so you need to improvise. So you don't get the cutting-edge research you want.* (Interviewee, Professor-Department of Agriculture)

The picture painted by the interviewee above is reminiscent of secondary school experiments where the lack of equipment makes teachers and students to improvise. Improvisation in itself

is not bad but in the 21st Century where researchers are engaged in cutting-edge research using the state-of-the-art equipment, some academics at the UG for lack of laboratory equipment rely on improvised equipment and as rightly observed by the interviewee the research outcomes are not what they want. This shows the extent to which lack of research equipment and facilities is affecting the research activities of academics at UG.

One important resource which helps in research activities is well-equipped and functional libraries. Still on the question of the challenges academics in their research activities, one interviewee lamented about libraries at the UG and had this to say:

> *Another thing too I think is well-resourced libraries. I think our libraries thrive on charity so it's what someone has that he gives. It is not what we really need and sometimes you need the thing and it's not there. Usually if you need a book you have go and buy it...from our side of the world even if you want to order it online you still have problems.* (Interviewee, lecturer- Department of Material Science and Engineering).

Even though the current state of the libraries at UG may not be the best, as stated under section 3.2.4 of this study, the UG has online library facility made available for both academics and students to access the library holdings online.

In sum, there is general sense of frustration on the part of the academics interviewed regarding the state of basic research infrastructure at UG. The lack of research equipment and facilities is hampering the research activities of the academics. It was revealed that some academics go outside the university to use the facilities of other agencies and institutions because such facilities are lacking in their department while others also rely on improvised equipment which do not give them the desired results. Without the necessary research infrastructure in place, the hands of academics will be tied in terms of their research activities.

5.6 Heavy Teaching Load

Large class sizes are very characteristic of Ghanaian public universities as a result of the increase in student numbers. In many cases the teachers are overwhelmed by the class sizes of their students such that a lecture which could be handled once is split into more sections owing to limited space for students. The consequences of these large class sizes on the research activities of academics cannot be overemphasised.

Talking about the challenges they face in their research activities many of the academics interviewed identified heavy teaching load as one major factor which keeps them from doing research. One academic noted that:

> *When you want to contend with several hundreds and even in some instances thousand, if you look at the sheer numbers Level 100 they are over 1000 even that alone is harmful for you; teaching and marking and all that.... The University should also be looking at the ways by which it would reduce the numbers. Reduce the numbers so as to reduce the workload on the individual lecturers and then when the workload is reduced then we will also have other incentives to either go into publication and so forth because as it stands if you want to do a good work; good teaching and good marking, you are almost always marking leaving very little time or no time to engage in research*. (Interviewee, Lecturer- Department of Political Science).

A similar view was expressed by another academic:

> *Well, I can talk about the workload. Now, if you teach a class of let's say 500 by the time you finish teaching and marking the next semester is there. No time to do research.* (Interviewee, Senior Lecturer- UGBS).

The academic activities of these academic staff have been limited to teaching and marking scripts when in the true sense of their academic work they are supposed to teach, conduct research and engage in community outreach. The extremely large and unmanageable class sizes they contend with therefore confine them to the teaching function. After teaching these large classes which in itself are herculean tasks, at the end of the semester these same academics are confronted with the arduous tasks of marking voluminous number of scripts and as they rightly observed, the time left at their disposal to conduct research is limited and this same frustration was succinctly expressed by another academic:

> *One big challenge is heavy course load which therefore restrict you to the classroom. It doesn't give you the freedom to research*. (Interviewee, Senior Lecturer-Law Faculty)

The heavy teaching load seems to be a bother to many of the academics interviewed as this same point was repeatedly expressed by almost all the academics involved in the study with various adjectives being used to describe the class size and the teaching load. Another academic when asked to comment on some of the major challenges he faces with respect to the conduct of research had this to say:

> *One thing is the class size which is so big that sometime it takes your time-setting questions and marking scripts* (Interviewee, Lecturer-UGBS).

The expression 'so big' used by the academic is indicative of the very large class size he has to contend with which limits his time and that of his colleagues to the teaching function which is capped off with marking hundreds of scripts..

In addition to the large class sizes they are confronted with, some academics also by the university arrangement do double teaching which also affect their research activities as revealed by this academic:

> *I have to say that another reason for the sorry state of research is the university's requirement that especially those of us in the Social Sciences, we do double teaching. In addition to teaching your regular class you are obliged to also go and teach at the City Campus. So it is like that teaching is considered by the University as not part of your teaching load because they pay you as part-time lecturer and so you go and teach, you are paid and that's it. It means that takes part of your time- you teach here regular, go and teach City Campus. Really, at the end of the week most of us are tired and I mean you ask yourself what time do you have for running around collecting data.* (Interviewee, Senior Lecturer-Department of Political Science).

The double teaching done by these academics does not give them time to conduct research since they are already burdened with large class sizes as regular and full-time lecturers. Taking on additional responsibilities as part-time lecturers in a another campus only goes to worsen an already precarious situation they find themselves in and as rightly argued by Sawyerr (2004) since such academics are given extra pay for doing part-time teaching the commitment and time for research in this regard will be compromised against the backdrop that such academics need other source of income to augment their salaries.

One effect of the heavy teaching load is that over the years because many academics have had to contend with class sizes, the research culture in some academics has waned as evidenced from this professor who also expressed his opinion on the challenges academics face. He said:

> *Again, research culture is not there, mentoring is not effective because of the teaching load. So the lecturer spends a lot of time teaching and marking scripts of large class size and sometimes you get so exhausted that you cannot engage in research activities.* (Interviewee, Professor- Department of Agriculture).

From the foregoing it can be deduced that the academic activity of the academics interviewed at the UG has become a mundane cycle of teaching, setting questions and marking scripts

thereby leaving them with less time to do any meaningful research in addition to fatigue which takes the better part of them. Situations like this undoubtedly affect the research activities of the academics and contribute to the underperformance of the research function of the academic staff at the UG.

5.7 Poor Remuneration

The general deterioration of the economic status of academics over the years has in its own way affected the research activities of academics. While it is the case that the economic situation in Ghana generally and that of academics may be relatively better than the 1980s when many academics were sojourning to Nigeria to seek greener pastures, the economic situation of academics has not changed significantly leading to what Sawyerr (2004: 13) has described as the 'pauperisation of the salaried class'. Many of the academics therefore are pushed by their survival instincts to do other jobs to support themselves and keep their heads above waters. In an answer to the challenges academics face one senior lecturer at the Law faculty recounted:

> *I think the question of the lecturer not being paid enough so the lecturer has to do outsourcing or what we call 'galamsey'*[21]*- going out to find other sources of making ends meet either by teaching in some institutions or in our case going to court or working with an NGO and doing some consultancy work. ... It doesn't give you the freedom to research.* (Interviewee, Senior Lecturer- Law Faculty).

The moonlighting as described by the academic above is necessitated by the poor remuneration of the academic staff of the university. This has led to the situation where academics hold more than one job (Eggins, 2008a). The effect of this is the neglect of the research activities of the academics. In a situation where academics hop from their teaching to other jobs all in a bid to earn some extra money to supplement their incomes leaves them with little time to conduct research. This assertion was echoed by another academic that:

> *A lot of the academics have taken to what we call finding avenues to engage in economy recovery for themselves, that is what we have termed people doing 'galamsey'. In fact, people have had to run around town looking for*

[21] Galamsey in the Ghanaian parlance refers to illegal mining by people who use crude implements to mine minerals such as gold and diamond. As used by the academic in this interview here it refers to moonlighting where academics engage in other activities beside their university work to augment their salaries.

> *consultancies and therefore people are into all kinds of things. Some colleagues have had to now take full time job with some NGOs in town and others have set up their own NGOs and they are combining the two. …This 'galamsey' business is what is enabling a number of lecturers to build their houses. That has been the sole point because they go do their 'galamsey' come muddle through their teaching and you don't have much time.* (Interviewee, Senior Lecturer-Department of Political Science).

As it can be observed from the above interviewee, the economic status of the academics makes them engage in more than one job while others quit the university work and take up full time jobs with NGOs. For those who take up full time job with NGOs, the effect is that in the first place, the university is deprived of their services and experiences which could be tapped for research activities while for the academics who combine their university work with other jobs are left with less time to engage in research activities. As a result academics are gradually drifting away from their research activities all in the name of augmenting their meagre salaries. This in no small measure affects the research function of the university. Again, as indicated by the interviewee above a number of academics depend on the extra job they do outside the university to be able to put up their houses which is a basic necessity of life. In this situation where academics stand to benefit from engaging in extra jobs, there is the tendency for them to concentrate on such jobs at the expense of their research activities which do not give them that immediate improvement in their income levels. Manuh et al., (2007) in their study report that 21% of faculty members in Ghana considered remuneration as an important factor for them to remain in the universities. This buttresses the point that remuneration is an important issue to academics in Ghana.

Still on the poor remuneration of academics and its effect on research, one academic noted that:

> *Generally, several lecturers will have to do things other than the core reason why they are here which is teaching and researching in order to make ends meet. So your time is shared between your academic work and doing something we call 'galamsey' or some cosmetic work just to make ends meet. So that takes your time and that is a major challenge.* (Interviewee, Lecturer-UGBS).

In a more succinct manner one professor said:

> *People are not really interested in doing research. They are more interested in doing consultancies because that brings them money.* (Interviewee, Professor-ISSER).

From the forgoing it can be observed that the interest of a number of academics in conducting research is waning. Holding on to two or more jobs leaves them with little time to conduct research. Besides, the need to augment their income levels has also been necessitated by the poor remuneration they receive. Working with NGOs and running consultancies is increasingly drifting academics away from their research function and this contributes to denying the University of curiosity-driven research.

5.8 Conclusions on main findings

This chapter presented and analysed the experiences and opinions of academics at the UG about their research activities. This part presents the main conclusions on the findings of the study. The analysis began by looking at how research is organised at the UG. This study found that the university has instituted a research committee whose focus is on issuing calls for papers and allocating funds for successful applicants. Research organisation in this regard is tied to the funding mechanism. Both at the departmental and institutional level it was found that there is lack of research plan which details the research priorities. Individual academics therefore on their own organise their research at their personal level without recourse to the department or the university. In essence, what this study found is that at the UG there is a lack of centralised research planning at both the institutional and departmental levels which leads to highly individualised research activities at the base mainly constituted by academics who struggle on their own to find sources of fund and determine their own research agenda and direction without any linkage with the university.

All the fourteen (14) interviewed academic staff and the Research Administrator identified lack of funding as a major impediment to the research activities of academics. The findings revealed that the government does not provide enough funding for university research. The University has however instituted the Research and Conference Fund and draws its fund from the GETFund for the purpose of supporting and funding research. All the interviewees were aware of the existence of such a Fund but bemoaned the highly competitive and selective nature of the Fund as a result of its limited budget which is unable to support many of the academics in their research. With regard to international donor funding of research, the study revealed the difficulty academics go through in obtaining funding from the international donor agencies as a result of the predetermined interest and the different orientations such

donors have which mostly differ markedly from the university's or the individual academics' interest. The study also showed that some individual academics and departments have been lucky to have their research funded by some international donor agencies.

On building the human capacity or critical mass for research in the university the findings of the study found that mentoring is weak in most of the departments at the UG as a result of most of the professors going on retirement and the few remaining ones being overburdened with heavy teaching load. The findings also showed that the University has realised the need to improve upon the research skills and competencies of its academics and to build a positive research culture among the academics. To this end, the study revealed that the UG through the School of Research and Graduate Studies organises workshops for both graduate students and academics all in an attempt to have a critical mass of researchers and to improve upon the research activities of the academic staff. The study also discovered that the UG has embarked on training more PhDs students and therefore support them financially to complete their programmes.

One key point in the organisation of research in a university is a research policy which serves as a frame of reference for research activities. The study found that the UG having existed for over half a century does not have any research policy yet. The study found that as a result of this research coordination is a big challenge due to the eclectic and fragmented nature in which research is conducted.

The study also discovered that the state of research infrastructure in terms of facilities and equipment for especially the science related disciplines are poor. It was found that most of the academics rely on facilities and equipment of institutions outside the university where they wait unended to have access to such facilities. The study also found that some academics use improvised equipment due to the lack of equipment-based laboratories. In most cases the researchers especially in the Sciences do not get the desired results as a result of the poor facilities and equipment at their disposal.

The findings of the study identified heavy teaching load as a major hindrance to the conduct of research at the UG. The study revealed the lack of balance between time for teaching and research on the part of the academics. The heavy teaching load was found to be a major obstacle in being able to conduct research. The findings showed that most academics were restricted to the teaching function as a result of the heavy teaching load arising out of the

large class sizes they handle. The teaching load therefore limits the time of academics to conduct research.

Finally, the study also revealed that to improve upon their meagre income most of the academics engage in moonlighting by mostly teaching in other institutions or working with NGOs. The study found that this practice takes away academics' time to conduct research.

CHAPTER SIX: DISCUSSION, CONCLUSIONS AND SUGGESTIONS

6.0 Introduction

The objective of the study was to examine and offer insight into the perceptions and experiences of academics at the UG about their research activities. Specifically, the study examined how research is organised at the UG and the major factors which affect the research activities of the academics at the UG. In that regard, the study was guided by the following research questions;

1. *How is research organised at the University of Ghana?*

2. *What are the major experiences of the academic staff at the University of Ghana with respect to the conduct of research?*

3. *How can research be improved at the University of Ghana from the perspective of the academic staff?*

The underperformance of the research function of the UG has been linked with a number of factors as revealed by the data presented in the preceding chapter. The data encapsulated the views and opinions of academics regarding how they interpret their research activities. The succeeding part of this chapter therefore discusses the main findings of the study.

6.1 Research Organisation at the UG

One major objective of this study was to unearth how research is organised at the UG. From the data presented in the preceding chapter on research organisation at the UG there is very scanty evidence to show that the UG has any structured research plan which details its research priorities and how research is done in the university. The empirical data as analysed in section 5.1 demonstrates that there is lack of institutionalised and explicit structures for planning and managing research in the departments. This situation is partly attributed to the absence of research policy at the UG. As argued by Connel (2004) to properly organise and effectively manage research in a university requires among other things strategic research

planning on an institution-wide base which must include the institution's research priorities in a research plan.

Consistent with Taylor's (2006) argument that university research is an intensely personal activity; the data presented in this study affirms that research at the UG is a highly individualised activity. Academics conduct their research in most cases independently of the university. This makes it difficult for the university to monitor the quality of research and how results are disseminated especially when the research is not funded by the UG. The study also discovered that the university through the research committee offers research grants to academics to enable them conduct research. The UG coordinates research that is funded directly by the research committee. Such research as gathered by the study constitutes a small fraction of the research conducted at the UG. Research conducted by individual academics which form the greater part of the university research and which do not fall within the remit of the research committee of the university is not coordinated. This confirms Manuh et al.,'s (2007) assertion that research in Ghanaian universities is fragmented.

6.2 Research Funding

Not surprisingly, inadequate research funding was one factor all the interviewees in the study identified as major barrier to the research activities of academics. Inadequate funding for a long time has been the bane of public universities in Ghana generally and research in particular. Manuh et al., (2007) traced this current poor research funding to the economic downturn of the 1980s and the subsequent introduction of the SAP which led to the drying up of funds for universities. It is over two decades since the economic downturn hit Ghana and still academics continue to identify inadequate funding for university research as a challenge. This shows that the research funding in universities has not seen much improvements. This study found that there is no government budgetary allocation for university research. It is the desire of governments to see their nations developed. This is also true of developing countries including Ghana which is making effort to become a middle income country by the year 2020 which is only a decade away. Countries that have put development at the centre of their policies invest a sizeable amount of their GDP in university research (see Makoni, 2009). It is rather ironic that over the years successive governments in Ghana have recognised the need to

develop the country but have failed to recognise the need to invest in research. They are not making financial commitment to university research.

The findings of this study that the government of Ghana does not provide budgetary allocation for university research confirms Olsson and Nkandawire's (2009) assertion that many universities in developing countries do not have defined budget line for research nor do they have access to grant-funding research councils. This study, however, found that the UG has instituted the research and conference fund and draws its funds from the GETFund which it allocates to its academics for the purposes of conducting research. The GETFund through its Faculty Development and Research Fund (FARF) allocates these funds to the public universities to engage in research. This confirms the NCTE's (2007) assertion that GETFund remains the main sustainable source of funding research activities in Ghanaian public universities. It stands to reason therefore, that, if the GETfund had not been established, today the university would have been in the lurch as far as research funds are concerned since there is no budgetary allocation from the government. Even though the NCTE through the FARF is providing funds for research, the interviewees bemoaned the paltry sum of money given which in most cases is not able to undertake any meaningful research. This shows how precarious the research funding situation is at the UG. Another striking finding this study found is that some academics fund their research from their personal resources through savings they make out of their meagre salaries to be able to conduct research as a result of the difficulty in accessing funding. Viewed against the backdrop that already academics' salary levels in Ghana are low, one wonders how much could be saved to support their research.

Donor funding has become an important alternative source of research funding for academics and universities the world over. On donor funding of research, many of the interviewees generally expressed difficulty in accessing funding from donors as a result of the predetermined interest and the different orientations of the donors. The views expressed by the interviewees suggest that it is often difficult for them to design research projects which meet the interests of the donors as the issuses which appeal to the donors are in most cases different from the individual academics or even the university. The study also found that few individual academics and departments enjoy funding from donors. One such department at the UG is the Linguistics department. The department was found to have defied the notion that dependency on donor funding of research project is unsustainable (see Papoutsaki, 2008). The study found that for twelve years running the department of Linguistics at the UG has

continued to enjoy funding from NUFU. On the whole academics interpretation about donor funding of research projects was mixed. While some expressed difficulty in accessing donor funding others were fortunate to have their research projects funded by donor agencies.

6.3 Human Capacity/Critical Mass

The single most important element in an institution's capacity for research is the quality and experience of its academic staff (Harle, 2007). University research cannot thrive without the critical mass needed to push research forward. The need to replace the ageing faculty in the university is a crucial issue that requires serious attention. Building the critical mass of researchers must start from producing more PhD graduates for the university. It is in this direction that the recommendations made by the Visitation Panel to the UG (see section 3.2.2) are in the right direction. The number of PhD graduates being churned out is abysmally low and this does not help the research activities of the university. For example, in 2007, the UG produced 11 PhD graduates while it enroled 102 PhD students in the same year (CHET, 2010). In terms of building the critical mass needed for research at the UG, this study discovered two issues worth discussing; the UG has embarked on training more PhD graduates for the university and to this end supports the PhD students financially. The second issue is that the UG also organises workshops for both academics and graduate students to sharpen their research skills and competences.

It is important that the UG has realised the need to train more PhDs. When these PhD graduates are absorbed into the faculties of the university, it will help address the issues of staff vacancy and ageing faculty while providing the UG with the critical mass for research. As Manuh et al., (2007) argue PhD graduates seem more able to do research and publish than master's degree holders. The skills and competences of PhD graduates are considered much more detailed than what a master's degree holder possesses. As revealed in the empirical data of this study, the UG has also given itself a time limit where all its academics will become PhD holders and has therefore embarked on training and supporting its PhD students. These are faculty members who have enroled as PhD candidates and receive financial support from the university. It can therefore be argued that the attempt at training more PhDs for the UG is the direct implementation of the recommendations made by the Visitation Panel as revealed in section 3.2.2 of this study.

The current practice at the UG where some faculty members are at the same time PhD candidates has its own positive and negative sides. While this arrangement helps to fill in the staff vacancies in the university, the challenge is that such faculty members have to share their time between teaching and doing their doctoral studies. Combining the two activities is no mean an easy job. When time is not managed properly one of the two is likely to suffer neglect depending on the interest of the particular faculty members involved. It must be stated that the rationale behind the programme which is aimed at having the critical mass of researchers for the UG is in itself a laudable idea, as to whether it will yield the desired results remains to be seen.

The study again found that the UG through the School of Research and Graduate Studies organises workshops for both its academics and graduate students in an attempt at upgrading their research skills. The university research landscape is an evolving field which requires periodic sharpening of skills and competences to meet the changing research environment of universities. With contract and collaboration research gaining currency among academics, one needs to be in tune with the rubrics which underpin such research activities. The capacity of individual researchers is developed primarily through appropriate training programmes and course (Sawyerr, 2004). It is therefore highly commendable that the UG provides academics with the opportunity to sharpen their research skills.

6.4 Research Policy and Coordination

One key issue related to research organisation in a university is research policy and coordination as this provides the focus and direction of the institution's research agenda. The findings of the study revealed that the UG does not have research policy yet which confirms the assertion by Manuh et al., (2007) that in Ghana it is difficult to find explicit statements relating to research in university policy statements. This finding is more striking in the sense the UG apart from its relatively long years of existence also has well-established research centres and institutes such as the MNIMR and ISSER. Operating in such a policy vacuum does not only create lack of direction of the research agenda of the institution but also makes research planning and management very difficult. Under such circumstance the research activities and performance of academics can hardly be monitored by the university administration. It is therefore not surprising that this study found that research at the UG is

largely an individual affair leading to very fragmented research activities of academics making research coordination extremely difficult because the policy framework for organising and managing research is lacking. This lack of research policy at the UG can be attributed to weak institutional leadership which seems to support Olsson and Nkandawire's (2009) assertion that in many low-income countries the need for research policy has not become obvious to decision-makers.

To the extent that university research policy addresses the issues of identification of the capacities to be strengthened, incentives to offered, how research is to be managed, how quality is to be monitored and how results are to be disseminated (World Bank, 1997) the lack of research policy at the UG has led to the poor handling of some of the issues itemised by the World Bank (1997). A case in point is the fragmented nature of research activities at the UG and the difficulty in monitoring the quality of research. It must be stated however, that, the UG has been able to identify some capacities that it is building through its workshops organised for both academics and graduates students on research proposal writing and research methods which are aimed at building critical mass of researchers for the UG and improving upon the research activities of academics.

6.5 Research Infrastructure

Both Benneh (2002) and Teferra and Altbach (2004) have elaborated on the poor research infrastructure in African universities citing scarcity of laboratories, equipment and inadequate library holdings as examples. This study also found that academics at the UG especially those in the science related disciplines grapple with poor research infrastructures which affect their research activities. Over the years the research infrastructures at the UG have remained the same and many of them have been overused. So precarious is the situation that some academics go outside the university to use facilities and equipment of other institutions.

The findings of the study therefore run counter to Marginson's (2005) claim that well funded research infrastructure allows universities to deploy their best performing faculty so as to concentrate on areas of strength, and secure intellectual leadership at both national and global levels. It was observed that the state of research infrastructure at the UG rather inhibit the

potentials of academics to give out their best in research activities as some rely on improvised equipment which do not give them the desired results.

It goes without saying that the availability of basic research infrastructure such as laboratories, equipment, modern and up-to-date libraries contribute immensely to the research activities of academics. The GETFund has been providing the public universities in Ghana with infrastructure but its attention has been focused on residential facilities and lecture theatres. These are good in themselves but the time has come for the GETFund to also look at research infrastructure in the universities because they are in deplorable state and the frustrations academics go through in their research activities as evidenced in the empirical data presented in this study clearly demonstrate that the research infrastructure at the UG require serious and urgent attention.

6.6 Heavy Teaching Load

For heavy teaching load this study found that some academics at the UG handle very large class sizes which virtually do not give them the time to go into research. One interviewee gave the class size of first year students as over thousand while another interviewee mentioned class size of five hundred students. It was discovered that the heavy teaching load limits some academics to only the classroom teaching as a result of time constraints. These academics apart from the fact that they have limited time also complain of fatigue at the end of the day and find it very difficult to even gather data for the purpose of research. It was also found out that some academics do double teaching by the arrangement of the university authorities. In this regard research is not given any consideration. Some academics therefore argued for the reduction in student numbers to enable them have time and space for research.

One of the ways through which the large class sizes can be reduced is for the government to pay attention to vocational and technical education which has not received any proper attention over the years making the universities the preferred destination of senior high school graduates. When attention is given to the vocational and technical education it will be able to absorb some of the increasing numbers of students to the university. A diversified tertiary system will provide options for broader range of students and will allow them to make choices based on needs, quality, and cost (World Bank, 1997).

One other contributory factor to the heavy teaching load is the shortage of academic staff. As stated earlier by Manuh et al., (2007) the vacancy rate in Ghana's public university stands at about 40 percent. What this means is that many of the academics are overburdened as a result of the vacancy which makes them handle these large classes. An improvement in the faculty strength can help ease the workload on academics which will also offer them time to conduct research.

6.7 Poor Remuneration

It is generally acknowledged that the salary levels of academics in developing countries are low and this issue has continued to attract much debate about what is realistic pay for academics. Consistent with earlier studies by Altbach (2002) and Benneh (2002), this study identified poor remuneration as a major factor which affects the research activities of academics at the UG. Many of the academics interviewed acknowledged the low salary level they face which makes it difficult for them to stick to only their job at the university. It was found that most of the academics combine their teaching with other jobs.

The empirical data indicates that the sole aim of these academics engaging in other jobs is for percuniary reasons. The need to find extra income to augment their low salaries pushes them to engage in more jobs. As one interviewee revealed it is the additional jobs the academics do which enable them to put up their houses. Many of the academics interviewed also revealed that they have little time for research as a result of the other jobs they engage in which included working with NGOs, doing consultancy work, teaching in other institutions and going to court (lawyer) in the case of one interviewee in the Law faculty. This confirms the assertions by Sawyerr (2004) and Teichler and Yağci (2009) that poor remuneration of academics in developing countries leads to the neglect of research activities since they are less formerly controlled in most universities than teaching.

6.8 Recommendations

The UG is plagued with a number of challenges as evidenced in the findings of this study. To create an enabling environment for research to thrive at the UG, these recommendations are deemed necessary.

- The lack of research policy both at the institutional and unit levels of the UG is an aberration which needs urgent attention. Research activities at UG should not be carried out in such a policy vacuum. All efforts must be made to fashion out a comprehensive research policy for the university. Such a research policy should serve as a frame of reference for the research activities of academics at UG.

- The government as matter of urgency should support the university's research activities by providing funding through the annual budget. The UG already has the Research and Conference Fund which is managed by a committee. The Fund must be resourced financially through the national budget to enable academics at the UG to access funds for their research. With regard to research funding sourced by the UG from the international donor agencies, it is recommended that the university authorities should negotiate with the funders on priority areas and the direction of funding research activities in the university.

- Efforts should be made to lessen the heavy teaching load of academics at the UG. The issue of large class sizes should be looked at critically and if possible such large class sizes should be reduced to give academics ample time to go into research

- Building research infrastructure such as modern laboratories and libraries and equipping them as well is a capital intensive endeavour. In this regard, the GETFund which has been helping in universities' infrastructure generally should turn its attention to the construction of laboratories and libraries for the UG to help the research activities in the university. The government should also give priority attention to investing in research infrastructure in the university. The UG on its part should also embark on renovating and maintaining old and dilapidated laboratories and libraries so that they can be put into effective use.

- One area which also needs the critical attention of the government is the salary levels of academics. Staff attrition and moonlighting by academics are the direct

consequences of poor remuneration. An improvement in the salary levels of academics should be given priority attention. In addition, to attract, recruit and retain the best of lecturers and researchers, academics should be incentivised through allowances and improvement in the conditions of service to boost their morale to go into research.

- Finally, to build the critical mass for the research activities at the UG, the current workshops organised by the School of Research and Graduate Studies should be sustained and if possible organised more frequently.

6.9 Suggestions for Further Research

This study cannot claim to have covered all the issues relating to the research function of the Ghanaian public universities. This leaves room for further studies. The following suggestions are therefore made for the consideration of future researchers.

- This study was conducted as a single case. Other academics in different Ghanaian universities may have similar or different perceptions and experiences about their research activities. Future researchers therefore can approach the study in a multiple case involving two or more universities.

- Again, this study focused on the perceptions and experiences of academic staff about their research activities, further studies may also look at the challenges graduate students face in conducting research.

- The role of university research in national development is one area future researchers can also explore.

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Appendix A: Interview Guide for the academic staff at the University of Ghana.

In the first place, I would like to thank you for allowing me to interview you.

1. For how many years have you lectured in this department?

2. What is your general assessment/opinion about the state of academic research in this department?

3. In your opinion, what are the major challenges that academics face in this department with respect to the conduct of research and how do these challenges affect your academic research?

4. What is the major source of research funds for academics in this department?

5. What has been the major achievement of your research career if any and what accounted for its success?

6. What kind of research do you conduct in this department engage in?

7. How supportive have the international donor agencies been towards academic research in this department?

8. In what ways do you think this department can build the research capacities of its academics?

9. In your opinion, what are the prospects for academic research in this department?

10. How do you disseminate your research results/findings?

11. Is there any other comment you wish to make? Please go ahead.

Appendix B: Interview guide for the research administrator at the School of Research and Graduate Studies.

1. As a research administrator what are your main duties?

2. What are the major challenges that academics face with respect to research?

3. Where do you draw your funds from for the purpose of research?

4. What processes do academics go through to access funds for research?

5. How does your unit build the research capacities of academics in this university?

6. How does the School of Research and Graduate Studies coordinate research activities in this university?

7. How do academics disseminate their research findings/results?

8. Apart from funding, what other support system is put in place for research in this university?

9. What kind of research do academics engage in?

10. Does your unit have a research policy for the university?

11. Is there any other comment you wish to make?