



THE UNIVERSITY OF ZAMBIA

**RESEARCH POLICY AND
INTELLECTUAL PROPERTY
RIGHTS**

**DIRECTORATE OF RESEARCH AND
GRADUATE STUDIES**

June 2009

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PREFACE

The University of Zambia (UNZA) is one of the three public universities established by the Government of the Republic of Zambia (GRZ) to provide higher education in the country through teaching, research and public service. To carry out these functions, UNZA has nine schools consisting of Agricultural Sciences, Education, Engineering, Humanities and Social Sciences, Law, Medicine, Mines, Natural Sciences, and Veterinary Medicine. With the firm established undergraduate programmes by late 70s, UNZA introduced post-graduate programmes in the 80s and by 1994 established the Directorate of Research and Graduate Studies (DRGS) with a mandate to promote and coordinate post-graduate studies and research at the University. DRGS's core function in research is therefore to create an enabling environment for University staff and students, and public at large to be involved in research activities.

Whereas, the University has made tremendous progress in teaching and service, research has lagged behind particularly in the area of scholarly publications, their commercialisation and protection. To promote scholarly research, publication, commercialization and protection, and interaction between UNZA and the Zambian public, private and civil sectors, the Directorate of Research and Graduate Studies embarked on developing a Research Policy and Intellectual Property Policy.

It is our belief as a Directorate, that members of the University Community, the Zambian public, private and civil sector will find the Research Policy and the Intellectual Property Policy stimulating and encouraging to undertake research, publish and commercialise it not only at UNZA but in the entire country.

We look forward and encourage the academia, the public, private and civil sectors to partner and undertake research of multi-disciplinary nature guided by these Research and Intellectual Property policies.



Professor Imasiku Anayawa Nyambe
Director, Directorate of Research and Graduate Studies
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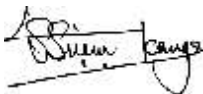
FOREWORD

One of the core functions of every University is research. Universities have been known to be engines of discovery and generation of new knowledge through research. Research ultimately contributes to national development through innovations and technological advancements. The Vision 2030 vision for Zambia recognizes that “the country needs to intensify the development and application of science and technology in its social economic development”. This is further ably encapsulated in the Fifth National Development Plan that envisages “a Zambia where science and technology and innovations are the driving forces in national development by 2030”. Furthermore, the importance of research is amply espoused in the University of Zambia's 2008-2012 Strategic Plan. The Strategic Plan recognizes research as “a crucial aspect of academic life”.

There is need to create an environment that promotes research activities in the University of Zambia. The University of Zambia has hitherto no coherent research policy to regulate and guide the conduct of research at the institution. This policy is, amongst others, founded on recognition of excellence in research, quality management and research ethics, institutional collaboration and research infrastructure. The policy addresses fundamental issues such as funding for research and effective coordination of research activities at the Institution by establishing a necessary institutional research agenda anchored on the unique needs of the society it serves. The policy also recognizes the importance of commercialization of research outputs. In this regard, the policy espouses elaborate Intellectual Property guidelines aimed at promoting innovations, inventions and creative works.

This Research Policy is a culmination of an intensive and extensive consultative process and I, therefore, believe that many will identify themselves with this important document. Indeed, since the document will operate as a guide to the development of research at the institution, the dedication and commitment of all members of staff towards the realization of the collective aspirations contained in the document is paramount.

Let this research policy mark a new epoch in the conduct of research outputs and enhance the image of our cherished institution both locally and internationally; let it guide each and every researcher at the institution; let it buttress the institution's efforts to reclaim its rightful position on the world science and technology index.



Professor Stephen Simukanga
Vice-Chancellor

ACRONYMS

AAU	Association of African Universities
AIDS	Acquired Immuno-Deficiency Syndrome
CDT	Cotton Development Trust
CSO	Central Statistical Office
CVRI	Central Veterinary Research Institute
DRGS	Directorate of Research and Graduate Studies
GART	Golden Valley Agriculture Research Trust
GRZ	Government of the Republic of Zambia
HIV	Human immunodeficiency virus
ICT	Information, Communication and Technology
IPR	Intellectual Property Rights
IRB	Institutional Review Board
INESOR	Institute of Economic and Social Research
M & E	Monitoring and Evaluation
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
NISIR	National Institute for Scientific and Industrial Research
PI	Principal Investigator
RAIMC	Research Audit, Implementation and Monitoring Committee
REC	Research Ethics Committee
R & D	Research and Development
SADC	Southern African Development Community
SARUA	Southern Africa Regional Universities Association
TDAU	Technology Development and Advisory Unit
TDRC	Tropical Diseases Research Centre
TQM	Total Quality Management
UNZA	University of Zambia
ZARI	Zambia Agriculture Research Institute

EXECUTIVE SUMMARY

The University has been carrying out research since its inception. The research has been internally and externally supported. UNZA's Strategic Plan (2008 - 2012) recognizes the importance of research in the advancement of knowledge, provision of a repertoire of evidence-based information and facilitation of international academic collaboration.

Research Policy Environment

Through sub-regional and regional co-operation, the Zambian government collaborates with other national or international and/or regional organizations and higher institutions of learning to strengthen its scientific and technological capability. Regional collaboration requires that universities and other research institutes co-operate and forge links with the industry/private sector.

National Context

Zambia has attempted to create a conducive environment for research and recognizes that Research and Development (R & D) should be geared towards generation, acquisition, application and dissemination of knowledge and findings for national development. Funding for research by both Government and the private sector has, however, been limited and this has greatly contributed to the poor performance and application of Science and Technology in national development. Weak linkages between the research institutions on one hand and Government and industry on the other, is another contributing factor.

Networks and Partnerships

Universities are one actor amongst many organizations contributing to the flow of knowledge and information through research. The driving force of the current trend to establish linkages, networks and partnerships with relevant research institutions, beyond the walls of the university, is to take advantage of resultant synergies and avoid system redundancy (duplication) in research. The UNZA research policy, therefore, encourages University staff to explore and innovate ways of establishing such alliances, networks and partnerships with relevant public, private and other research institutions for mutual gain.

Universities and Development

Universities are crucial forces and factors that promote development. They are now more widely perceived to be key players in economic development through their research. As knowledge-producing organizations, they are back on the

development agenda with new, more differentiated roles and expectations to play than before.

Situation Analysis

Levels of Research Activities

The University of Zambia has, since its inception, been involved in research at various levels, that is, undergraduate, postgraduate, postdoctoral, academic, research affiliation and collaborative research.

Coordination

Each of the nine Schools of the University has a School Research Committee whose main mandate is to preside over research matters of the schools. The Directorate of Research and Graduate Studies (DRGS), in conjunction with Schools and other Units, oversees and co-ordinates postgraduate research activities.

Research Funding

Funding for research has not been adequate to meet the research needs of the University. The University has relied on fewer sources for funding research and these include both internal and external sources. Internal sources of funds for research include: University budget from the Ministry of Education and other ministries, non-GRZ grants, NGOs and private sector.

Research Infrastructure

The research infrastructure and facilities are resources that provide essential services to the researchers for both academic and/or industrial purposes. The research infrastructure has not developed in line with the growing research needs of the University of Zambia, in particular and those of national development in general.

Dissemination of Findings

The University of Zambia academic members of staff have participated in research dissemination both locally and internationally.

Challenges facing UNZA

The University of Zambia has over the years been faced with several challenges that have had a negative impact on the academic programmes including research.

The factors that have given rise to the challenges include:

- (a) Lack of a well defined research agenda that is integrated with national development plans;
- (b) The changing government policy on higher education;
- (c) The declining public funding to the University;
- (d) The increasing demand for higher education and global trends towards mass higher education in line with the demands for life long- learning at this level;
- (e) Deterioration in the conditions of service for all levels of staff;
- (f) Growing competition for professional staff and skilled labour within the country and the region;
- (g) The dilapidation in the infrastructure of the University; and
- (h) Lack of physical development.

Rationale for Policy

UNZA has not had a coherent research policy document to guide and regulate the conduct of research for academic members of staff, postgraduate and undergraduate students. Most of the research outputs have not fed into national development, enhanced teaching and curricula development in the university.

The Research policy, therefore, is motivated by, *inter alia*, the following specific factors:

- (a) Growth of research programmes;
- (b) Need to enhance internally and externally sourced funding;
- (c) Need for improved research administrative infrastructure;
- (d) Need for research regulatory framework and oversight particularly with respect to ethical requirements;
- (e) Need to improve accountability and transparency for fiscal and administrative management of research activities;
- (f) Need to accelerate the development of research that ultimately results in improved decision-making for the betterment of the living standards of many Zambians, and
- (g) Need for strong infrastructure and mechanisms to support more effective collaboration and partnerships with other universities and institutions within Zambia and abroad.

It became imperative for a coherent policy document to be developed in order to inform and guide the conduct of both locally and internationally sponsored research activities in the University. The University of Zambia has also developed its own Intellectual Property (IP) Policy. The IP Policy aims at bringing harmony to the conflicting interests of all stakeholders in the generation and commercialization of intellectual properties. The two policy documents are inherently interrelated.

Mission

The mission of the Research Policy is to promote a sustainable, focused and dynamic environment that fosters efficient and effective research and contributing to social and economic development and at the same time assuring academic freedom.

General Objective

The general objective of the Research Policy is to provide policy guidelines that will promote and foster the academic and managerial environment conducive for undertaking research in order to enhance the scientific, technological, social, economic and political development for the improvement of the living standards of the Zambian people and beyond.

Specific Objectives

In order to attain the general objective, the policy document presents a number of specific objectives and strategies focusing on the following main areas:

- (a) Human Resource Development (HRD) Capacity Building;
- (b) Research Funding;
- (c) Management of Research;
- (d) Management of Research Funds;
- (e) Research Infrastructure;
- (f) Quality Management and Research Ethics
- (g) Data Management and Dissemination
- (h) Recognition of Excellence in Research;
- (i) Institutional Collaboration;
- (j) Postgraduate Students Research, and
- (k) Undergraduate Research

RESEARCH STRUCTURE

In order to achieve the stated mission and objectives, the following institutional structures and arrangements will be provided:

Research Board

Functions of Research Board

The Research Board is the highest decision-making organ of the research programmes of the University. The Board will implement the University of Zambia Strategic Plan on Research. The Board is mandated by the University Senate to:

- (a) Provide strategic research direction to the University through the development of effective research policies;
- (b) Coordinate all research activities in the University;
- (c) Monitor the allocation and administration of research funds by the DRGS so as to ensure compliance with the criteria adopted by the Board;
- (d) Spearhead resource mobilization initiatives to ensure that the Research Policy mandate is met;
- (e) Provide mechanisms of monitoring research;
- (f) Foster the development of departmental and school research programmes linked to postgraduate studies;
- (g) Ensure the preparation and production of research agenda and reports and research handbooks, and
- (h) Ensure compliance by researchers to research ethics.

Composition of Research Board

The Research Board comprises the following members:

- (a) Chairperson (Vice-Chancellor / Deputy Vice Chancellor);
- (b) All Deans and Directors and the Librarian and their Assistants;
- (c) All Assistant Deans (Research);
- (d) Representative from any of the Research Ethics Committees; and
- (e) Two Representatives from any of the following: The National Institute for Industrial and Scientific Research (NISIR), National Council for Science and Technology (NCST), Public Universities, Central Statistical Office (CSO).

Directorate of Research and Graduate Studies (DRGS)

The general administration of the research programmes of the University falls under the DRGS headed by a Director.

Functions of DRGS

The Directorate is charged with the following responsibilities:

- (a) Co-ordinating, monitoring and organising the research and postgraduate programmes of the University;
- (b) Carry out the administration of research grants and research contracts by controlling and disbursing the research funds to the Schools and Units.
- (c) Serve as a research link between the University of Zambia and other research institutions including industry;
- (d) Administer the Research Affiliation Scheme of the University of Zambia so as to ensure that, among other things, external researchers follow correct Visa application Protocols and not come in as tourists;

- (e) Facilitate linkages between the University of Zambia and other universities within and outside the SADC region;
- (f) Facilitate linkages between the University of Zambia and political leaderships, Members of Parliament (MPs) and Government Ministries;
- (g) Maintain research records pertaining to the University's research activities; and
- (h) Allocate and administer research funds in accordance with the criteria adopted by the Research Board.

Structure of DRGS

Key DRGS Research Management Staff shall be as follows:

- (a) Director;
- (b) Assistant Director-Research;
- (c) Assistant Registrar-Research, and
- (d) Any other staff that will be considered relevant such as the Intellectual Property Officer.

The University of Zambia Research Ethics Committees (UNZA-RECs)

There shall be Research Ethics Committees for the University charged with the responsibility of reviewing research proposals for research ethical compliance.

Number of Research Ethics Committees

All research carried out by the University of Zambia staff will be governed by the local ethical requirements. In the case of a collaborative research project involving one or more foreign institutions, ethical approval shall be sought both from UNZA where the research will be carried out and from the Institutional Review Boards (IRB) of the collaborating institutions.

Functions of Research Ethics Committees

The main role of Research Ethics Committees is to review and approve research proposals and protocols dealing with human and animal participants.

Membership of Research Ethics Committees

The membership of the three Research Ethics Committees is drawn from relevant associated Schools and Institutions.

Research Audit, Implementation and Monitoring Committee (RAIMC)

The RAIMC will be a standing committee of the Research Board charged with the responsibility of ensuring adherence to total quality management in research.

School Research Committees

Each School of the University has a School Research Committee (SRC) whose main mandate is to preside over research matters of the schools.

Sources of Research Funding

There are two sources of funding research at UNZA, internal and external.

Management of Research Funds

All research funds will be administered according to existing UNZA financial regulations.

The Intellectual Property Management Unit, IP Advisory Committee and IP Enterprise

The University of Zambia shall create an Intellectual Property Management Unit which shall manage the Intellectual Property Rights of the University of Zambia in liaison with the Intellectual Property Advisory Committee, the University of Zambia Legal Counsel and the Intellectual Property Enterprise to be set up by the University.

Research Infrastructure

The University of Zambia will strive to build and maintain a sustainable research infrastructure. The infrastructure will be defined to include buildings, office space and facilities, training centres, libraries, databases, laboratory equipment and reagents, instruments, computer hardware/ software.

Dissemination of Research Findings

The University of Zambia will promote research dissemination in many ways including:

- (a) Establish mechanisms for data processing, information storage access, retrieval systems and ensure that the creative research outputs are peer reviewed, communicated and adopted;
- (b) Attendance at local and international conferences; and
- (c) Publications.

The University, through the DRGS, will also regularly hold local and international conferences where research findings will be disseminated. Dissemination of research findings shall be subject to IP protection issues before publications as stipulated in the University of Zambia IP Policy. This is aimed at enhancing the value of research findings.

Application of Research Findings

The policy will promote the application of research findings to commercial ventures and consequently support the linear science and technology value adding chain of activities.

Application of research findings will also be subject to the provisions of the University of Zambia IP Policy.

INTELLECTUAL PROPERTY RIGHTS (IPRs)

Any matters related to intellectual property rights arising from this research policy shall be governed by the University of Zambia Intellectual Property Rights policy. The implementation of appropriate Intellectual Property Policy will enable the University of Zambia generate significant and substantial income through:

- (i) Royalties and fees from licensed Intellectual Property rights from innovations, inventions and created works;
- (ii) Consultancy;
- (iii) Research contracts;
- (iv) University owned companies and joint ventures;
- (v) Commercialisation of R & D findings, and
- (vi) Utilisation of existing protected and unprotected Intellectual Property creations.

In order to benefit financially and otherwise from the planned endeavours, the University of Zambia recognises the need to take particular care of the interests of all the stakeholders who contribute in one way or the other in the process of innovating, creating and commercialisation of innovations, inventions created works and research findings at the University.

1.0 INTRODUCTION

1.1 Background

The University of Zambia (UNZA) is the premier tertiary educational institution in Zambia. It is the oldest of the public universities established by the Government of the Republic of Zambia (GRZ) to provide higher education in the country. Since its inception in 1966, UNZA has been expanding every year as a response to the ever-growing demand for higher education in the country. The University of Zambia is supported by the government through the Ministry of Education to fulfil a national mandate of providing high quality education and service as reflected in its motto of "Service and Excellence". The goal of the University is to effectively contribute to national development by providing skilled human resource that can foster national development. To achieve this, the University Act (1999) provides for and spells out teaching, research and service as the main functions of a public university.

The University has been carrying out research since its inception. The research has been internally and externally supported. Internally supported research is funded by resources generated within the University and these include GRZ grants, revenue from business ventures and donations. Externally supported research is funded by resources from commissioned research through MoU/agreements with local, regional and international bodies, MoU/Agreements with other universities, institutes, centres and units.

Until the late 1980s, UNZA had four fully-fledged research institutes coordinated by the Research Secretary. Due to mainly funding difficulties, three of the research institutes were abolished leaving the Institute of Economic and Social Research (INESOR), which was established in 1937. INESOR is currently the only institute mandated to conduct interdisciplinary social science research on fulltime basis. The Institute as well as Schools and other units of the university have undertaken various research projects that address issues relevant to national development. These research projects have resulted into publications of international repute and some of the research outputs into applications in the various sectors of the Zambian economy.

UNZA's Strategic Plan (2008 - 2012) recognizes the importance of research in the advancement of knowledge, provision of a repertoire of evidence-based information and facilitation of international academic collaboration.

In addition for the University to derive tangible benefits from the intellectual output of its research and to ensure sustainable research activities at the University, it is important that research income is generated from the respective research findings through technology transfer and commercialization of works, innovations and inventions. This can be achieved through the intellectual

property systems that allow for the protection, enforcement and commercialization of research findings. In this regard, this policy must be implemented in tandem with the Intellectual Property Policy document to be adopted by the University.

1.2 Research Policy Environment

1.2.1 Regional Context

The development of research in any country has both national and international perspectives, which derive from universality and dynamism of scientific and technological knowledge, irrespective of national boundaries. In this regard, the Zambian government supports and seeks co-operation with regional and international organizations and institutions in the promotion of research. Through sub-regional and regional co-operation, the Zambian government collaborates with other national or international and/or regional organizations and higher institutions of learning to strengthen her scientific and technological capability. Regional collaboration requires that universities and other research institutes co-operate and forge links with the industry/private sector. Regional collaboration also requires that universities and other research institutes allow access and jointly develop and share research facilities including costly and sophisticated scientific equipment and materials in order to maximise the use of scarce resources. The SADC Protocol on Education puts emphasis on higher education and research and the need for the region to establish linkages in its endeavour to promote regional development as provided under Articles 3, 5 and 8 of the protocol as follows:

- Member States undertake to provide the necessary resources to enable their universities to develop quality post-graduate programmes through the provision of the necessary teaching and research requisites such as qualified staff, physical infrastructures, libraries, equipment and in particular scientific and information technology equipment.
- Member States recognise that research, especially in science and technology, is expensive and that not every country can enable its institutions to develop excellent research capacity in all fields, hence the need to allow access and to jointly develop and share research facilities.
- Member States shall strengthen research capacities in their countries by allocating adequate resources to universities and research institutes to enable them to pursue socio-economic and technological research.

The Government of the Republic of Zambia recognizes UNZA as a key institution that serves as an epicentre/nucleus for academic and research linkages between Zambia and other regional institutions. UNZA also plays a strategic role in the

fulfilling the mission of African Universities of providing solution based research. As such it subscribes to the Southern African Development Community (SADC) Protocol on Education and Training and the Declaration of the Association of African Universities (AAU). UNZA is a member of Southern African Regional Universities Associations (SARUA) which deals with and promotes a number of academic areas including research.

1.2.2 National Context

Zambia has attempted to create a conducive environment for research and recognizes that Research and Development (R & D) should be geared towards generation, acquisition, application and dissemination of knowledge and findings for national development. Consequently, a number of sector ministries have formulated research policies that are guided by national development priorities. The Fifth National Development Plan (FNDP) has recognized the role sector ministries play in meeting the development priorities. An analysis of the sector policies indicates that the over-arching objective of all the research policies is “to ensure that sector ministries and their research institutes conduct demand-driven, client-oriented strategic research”. In order to enhance research and development, the Zambian government, through the Ministry of Science and Technology, has come up with a Science and Technology Policy (STP). The Science and Technology Policy is intended to guide and enhance the utilization of abundant natural resources for improved quality of life for Zambians. This is achieved through liberalization and autonomisation of research institutions, promotion of partnerships and to encourage demand-driven research. Furthermore, the policy provides for linkages between research institutions and Social and Economic sectors of the economy.

In Zambia, Public Research is largely funded by government and carried out by public institutions including:

- (a) National Institute for Scientific and Industrial Research (NISIR);
- (b) Public Universities;
- (c) Tropical Diseases Research Centre (TDRC), and
- (d) Government Ministries: Agriculture and Cooperatives, Tourism Environment and Natural Resources, Mines and Minerals Development; and Health; Trusts such as: Zambia Agriculture Research Institute (ZARI), Central Veterinary Research Institute (CVRI), Golden Valley (GART) and Cotton Development(CDT).

Despite this set up, funding for research by both Government and the private sector has, however, been limited and this has greatly contributed to the poor performance and application of Science and Technology in national development. Weak linkages between the research institutions on the one hand and Government

and industry on the other, is another contributing factor. It is recognized that factors outside the Ministry of Education in general and the University of Zambia in particular, such as the state of the economy, communication level of integration and the HIV and AIDS epidemic have a profound impact on the development of teaching and research. HIV and AIDS has rapidly become the number one constraint to economic development in general and the educational sector in particular. The problem requires attention by the education sector in various ways including setting up of research priorities, dissemination of HIV and AIDS related information to staff and the introduction of HIV and AIDS in the curricula of learning institutions. The University of Zambia recognizes the devastating effects of the HIV and AIDS epidemic and has since developed an HIV and AIDS policy to guide the numerous efforts and interventions aimed at mitigating the impact on staff, students and the surrounding communities.

The government recognizes the role of the University of Zambia in national development and would like to promote a conducive research culture among staff and students. However, as already alluded to, a number of problems have retarded the effective conduct and application of research. UNZA faces challenges of infrastructure, funding, teaching loads and staff profiles that are more suited to teaching than to research. The lack of research capacity among the staff members, in particular, has been a major obstacle to progress.

1.2.3 Networks and Partnerships

It is important to note that in the knowledge economy universities no longer have the monopoly of knowledge production through research to themselves. Though they undoubtedly have a crucial role to play, universities are simply one actor amongst many organizations contributing to the flow of knowledge and information through research. The driving force of the current trend to establish linkages, networks and partnerships with relevant research institutions, beyond the walls of the university, is to take advantage of resultant synergies and avoid system redundancy (duplication) in research. This research policy, therefore, encourages university staff to explore and innovate ways of establishing such alliances, networks and partnerships with relevant public, private and other research institutions for mutual gain. The University of Zambia must, in this regard, co-operate and collaborate with individuals, institutions and agencies belonging to the above mentioned categories, which share the ideals expressed in this research policy. Such research collaboration should be intensive and extensive, depending on available resources and modalities for collaborative research effort. Such collaborative research processes should adhere to the principle of reciprocity and genuine exchange between the University and other research partners, with each partner treating the other as an equal partner. The

most successful research partnerships under this policy will be based on the premise that “each has something to contribute to the welfare of the other, with resources and knowledge flowing in both directions.”

1.2.4 Universities and Development

Universities are crucial forces and factors that promote development. They are also active partners and contributors to the knowledge economy. In both of these roles, research acts as a central engine to development and the knowledge economy of many countries such as Zambia. There are several reasons on why research conducted within universities has become the centre piece for development. First, knowledge generated by research facilitates a country like Zambia to become competitive in the international arena. Second, universities, through the research they conduct in communities have begun to reverse the perception that they are elite institutions, remote from the everyday concerns of society. The University of Zambia increasingly sees engagement (rather than disengagement) with societal needs as part of its core mission. Third, with the process of globalization and the growth of the knowledge economy worldwide, universities are now more widely perceived to be key players in economic development through their research. As knowledge-producing organization, they are back on the development agenda with new, more differentiated roles and expectations to play than before.

1.3 Situation Analysis

1.3.1 Levels of Research Activities

Research is one of the cornerstones of the University mission, which aspires to meet the needs of Zambia through excellence in teaching, research and service in order to foster sustainable development.

The University of Zambia has, since its inception, been involved in research at various levels as outlined below:

- Undergraduate
- Postgraduate
- Postdoctoral
- Academic staff
- Research Affiliation
- Collaborative Research.

Each of the nine Schools of the University has a School Research Committee whose main mandate is to preside over research matters of the Schools. The Directorate of Research and Graduate Studies (DRGS), in conjunction with

Schools and other Units, oversees and coordinates postgraduate research activities. Postgraduate research is an integral part of the university research activities governed by postgraduate studies regulations. DRGS also administers a Research Affiliations Scheme that enables researchers from outside the University and/or from outside the country to be affiliated to the University of Zambia for the purpose of conducting research. The research conducted under this scheme is governed by the appropriate research affiliations regulations.

INESOR carries out both basic (theoretical) and applied research that is either self-initiated or commissioned by Government, international organisations, non-governmental organisations (NGOs), business organisations and individuals within Zambia, Southern African Region, the African continent and beyond. In addition, INESOR carries out consultancy services in relevant research programmes including, facilitating the organisation of workshops, seminars and conferences. Very valuable research activities and outputs have taken place at UNZA.

Previously, UNZA had other research institutes but was forced to scale down due to funding problems. It is anticipated that with improved funding and evident widening of the research agenda arising out of emerging cross cutting issues such as climate change, need for renewable energy sources, problem of new infectious diseases, other research institutions will be established.

1.3.2 Research by Academic Staff

Academic members of staff from all the schools and INESOR have made significant contributions to research in Zambia. In particular, INESOR, which is mandated to carry out social science research on behalf of the UNZA, has conducted research in a wide range of areas of national interest. Thus, INESOR has spearheaded research in the areas of agriculture, health, governance, economic and business, socio-cultural and urban development. INESOR has conducted pioneering applied research in the area of traditional medicine and HIV/AIDS.

Over the years, Scientists at the School of Agriculture have developed and released some crop varieties that continue to be of great importance to national food security and the food processing industry in the country. Notable among these was the release of the wheat variety Canary in the 1980's. In 2007, the School further released two heat tolerant wheat varieties UNZA WVI and UNZA WVII, which grow well in the valley areas and will allow small scale farmers to participate in wheat production.

Local pioneering research by Scientists in the Animal Science Department during the 1980s resulted in developing local formulations of diets/feed for poultry, pig, and cattle using soyabeans and other locally available alternatives. These rations have been widely adopted by the feed industry.

The School of Engineering has conducted work in low cost pumps, alternative building materials such as low cement-earth bricks, etc.

The School of Education continues to carry out pioneering work on child learning and literacy, curriculum development and Education management.

However, coordination and proper documentation of the combined research activities and outputs of the academic members of staff of the University has been a major challenge. In order to increase research, the academic staff's research output shall continue to be one of the significant factors in determining staff progression. Furthermore, the Intellectual Property Policy shall enable researchers to obtain financial benefits from any inventions/creation arising from their research. It is envisaged that the above incentives shall make research both satisfying and rewarding and will, therefore, encourage academic staff to undertake research.

1.3.3 Postgraduate Research

Since early 1980s UNZA has been running postgraduate programmes. Most postgraduate programmes of the University of Zambia require students to conduct research as part of the fulfilment of their postgraduate programmes. Postgraduate research activities have contributed immensely to the amount of research conducted in the university. As of 2008, there have been over 2500 (two thousand and five hundred) candidates who have completed postgraduate studies at UNZA. Most of these students have deposited their dissertations in the University Library. Abstracts of these dissertations/theses are available electronically through databases managed by the DRGS. However, postgraduate research has not received adequate attention and use by researchers and other scholars. Furthermore, there has not been an appropriate and sustained forum for dissemination of postgraduate studies.

1.3.4 Research Funding

Funding for research has not been adequate to meet the research needs of the University. The University has relied on fewer sources for funding research and these include both internal and external sources. Internal sources of funds for research include; University Budget from Ministry of Education and other ministries; non-GRZ grants, NGOs, and private sector.

In 2006, GRZ provided 500 million Kwacha to UNZA for research activities. External funding sources have included regional and international funding agencies mostly through collaborative research with foreign universities. UNZA staff are free to source external funds provided that such funds are administered by the University and the budget includes overheads.

1.3.5 Research Infrastructure

The research infrastructures and facilities are resources that provide essential services to the researchers for both academic and/or industrial purposes. Research infrastructure includes buildings, office space and facilities, training centres, libraries, databases, laboratory equipments, instruments, computer networks, etc. The research infrastructure has not developed in line with the growing research needs of the University of Zambia, in particular and those of national development in general.

1.3.6 Information Dissemination

The University of Zambia academic members of staff have participated in research dissemination both locally and internationally through:

- (a) Attendance at local and international conferences;
- (b) Discussions with general public and policy makers; and
- (c) Publications (UNZA supports publications in local journals, in addition to international journals).

1.4 Challenges Facing UNZA

The University of Zambia has a Directorate of Research and Graduate Studies charged with coordinating all the research and postgraduate activities of the university. However, in practice, the coordination of research has not been very effective.

Consequently teaching Schools and other Units have conducted research in an uncoordinated manner resulting into a lack of clear institutional and collective research focus in the university. Furthermore, whilst there has been a lot of research going on, the lack of coordination means that it has not been possible to have a central database of all the research projects taking place throughout the entire University.

The University of Zambia has over the years been faced with several challenges that have had a negative impact on the academic programmes including research. The factors that have given rise to the challenges include:

- Lack of a well defined research agenda that is integrated with national development plans;
- The changing government policy on higher education;
- The declining public funding to the university;
- The increasing demand for higher education and global trends towards mass higher education, in line with the demands for life long- learning at this level.;

- Deterioration in the conditions of service for all levels of staff;
- Growing competition for professional staff and skilled labour within the country and the region;
- The dilapidation in the infrastructures of the university;
- Lack of physical development.

There has also been a change in the funding policy for students from the bursary system to student loans. Furthermore, the liberalization of the educational sector has led to the establishment of more private universities and colleges.

The implications of these policy measures are that allocation of more resources to the University by the government will be very unlikely. These policy measures coupled with the increasing competition between public universities and the private sector will result into a clear need for UNZA to reposition itself. UNZA needs to squarely face the growing need to raise its own funds and reduce over dependency on meagre government funding. Research offers one of the strong avenues through which UNZA can sustain its flow of funding. UNZA has a comparative advantage in this area owing to the availability of research infrastructure and competencies.

1.5 Rationale for Policy

In the past, research activities have not been well managed particularly with respect to coordination at the central level. Institutional mechanism for storage, retrieval and dissemination of the research outcomes are inadequate and need attention. UNZA has not had a coherent research policy document to guide and regulate the conduct of research for academic members of staff, postgraduate and undergraduate students. Most of the research outputs have not fed into national development, enhanced teaching and curricula development in the University.

The University of Zambia Research Policy has been necessitated by the requirement to coordinate the expanding research activities efficiently and effectively. The Research policy, therefore, is motivated by, *inter alia*, the following specific factors:

- Growth of research programmes;
- Need to enhance internally and externally sourced funding;
- Need for improved research administrative infrastructure;
- Need for research regulatory framework and oversight particularly with respect to ethical requirements;
- Need to improve accountability and transparency for fiscal and administrative management of research activities;
- Need to accelerate the development of research that ultimately results in improved decision-making for the betterment of the living standards of many Zambians, and

- Need for strong infrastructure and mechanisms to support more effective collaboration and partnerships with other universities and institutions within Zambia and abroad.

In view of the needs highlighted above and the deficiencies identified in Section 1.4, it became imperative for a coherent policy document to be developed in order to inform and guide the conduct of both locally and internationally sponsored research activities in the university.

The University of Zambia has also developed the University of Zambia Intellectual Property (IP) Policy. The UNZA IP Policy aims at bringing harmony to the conflicting interests of all stakeholders in the generation and commercialization of intellectual properties. The two policy documents are inherently interrelated. There is, therefore, need to ensure that the two policy documents are in consonance with each other. It is, nonetheless, noteworthy that the two policy documents will exist as distinct and independent documents.

2.0 VISION AND MISSION STATEMENTS

2.1 Vision

A University of Zambia that is a Centre of Excellence with internationally acclaimed research for the benefit of academic, national and regional development.

2.2 Mission

To promote a sustainable, focused and dynamic environment that fosters efficient and effective research and contributing to social and economic development and at the same time assuring academic freedom.

3.0 POLICY OBJECTIVES

3.1 General Objective

To provide policy guidelines that will promote and foster the academic and managerial environment conducive for undertaking research in order to enhance the scientific, technological, social, economic and political development for the improvement of the living standards of the Zambian people and beyond.

3.2 Specific Objectives

In order to attain the general objective, the policy document presents a number of specific objectives and strategies focusing on the following main areas:

3.2.1 Human Resource Development(HRD) Capacity Building

Objective

To enhance the research capacities and competencies of the academic members.

Strategies

- (a) Enhance continuous training and retooling of researchers to enable them keep abreast of emerging technologies and skills.
- (b) Formalise and establish mentorship system between senior and younger faculty members;
- (c) Promote and undertake collaborative research;
- (d) Encourage and attach faculty members to public and private research institutions;
- (e) Facilitate research exchange programmes including local sabbaticals; and
- (f) Train academic members in research administration and financial management.

3.2.2 Research Funding

Objective

To source and provide adequate funding for research.

Strategies

- (a) Promote research proposal writing for submission to potential funding agencies;
- (b) Engage government and the private sector for research funding;
- (c) Engage regional and other international organisations for research funding, e.g., New Economic Partnership for African Development (NEPAD);
- (d) Allocate adequate funds towards research in the university budget;
- (e) Provide adequate funding for publication of research findings in local journals; and
- (f) Provide research materials (e.g., reagents).

3.2.3 Management of Research

Objective

To create and ensure an effective, efficient and supportive management system for research activities.

Strategies

- (a) Establish well linked and coordinated institutional structures for supporting research (refer to attached organogram Fig. 1);
- (b) Develop adequate research administrative and financial systems for research and mechanisms through the intellectual property systems for protection of research findings; and
- (c) Develop effective mechanisms for supervision, monitoring and evaluation of research activities.

3.2.4 Management of Research Funds

Objective

To provide a financial management system that will ensure fiscal accountability and transparency in line with UNZA financial regulations.

Strategies

- (a) All research funds administered according to existing UNZA financial regulations and the intellectual property policy;
- (b) Procurement of research materials and equipment shall be done following the laid down tender regulations without causing unnecessary delays; and
- (c) Research funds shall be subject to internal and external auditing.

3.2.5 Research Infrastructure

Objective

To provide suitable research equipment, facilities and infrastructure;

Strategies

- (a) Re-capitalise, modernise and rationalise the use of research equipment on a regular basis;

- (b) Maintain and expand office and laboratories spaces;
- (c) Provide adequate transportation;
- (d) Provide adequate field laboratories for research subjects that require such facilities; and
- (e) Provide adequate ICT services and library facilities for research;

3.2.6 Quality Management and Research Ethics

Objective

To provide Total Quality Management (TQM) system for all research activities; and build effective systems for compliance in issues related to the scientific and ethical management of research.

Strategies

- (a) Establish a research audit, implementation and monitoring systems;
- (b) Provide adequate funding to the existing research ethics committees;
- (c) Train staff in research ethics and compliance, and
- (d) Train staff in research quality control and assurance.

3.2.7 Data Management and Dissemination

Objectives

- (a) To improve systems for documentation, storage and retrieval of research data;
- (b) To enhance publication and dissemination of research findings; and
- (c) To ensure data and research findings are kept confidential where appropriate.

Strategies

- (a) Create an internet based database for all research;
- (b) Establish electronic library for all research activities and outputs;
- (c) Develop a comprehensive research database on all research activities at the University;
- (d) Promote regular publication of research findings through local and international journals, books, monographs, occasional papers;
- (e) Facilitate publication of research findings through websites;
- (f) Organise research seminars for disseminating research findings in all schools and directorates;

- (g) Facilitate presentation of research papers at international seminars, conferences and symposia; and
- (h) Ensure data and research findings are protected before dissemination.

3.2.8 Recognition of Excellence in Research

Objective

To recognize and reward outstanding performance in research.

Strategies

- (a) Develop objective criteria for rewarding outstanding research work; and
- (b) Identify appropriate rewards for outstanding researchers.

3.2.9 Institutional Collaboration

Objective

To establish a strong mechanism for supporting effective collaboration and partnerships with other universities, other research organisations, industry, government, private sector in Zambia, within the SADC region and beyond.

Strategies

- (a) Provide guidelines for establishing and management of collaborative research;
- (b) Promote research affiliation both within and outside UNZA;
- (c) Establish and facilitate research exchange programmes for staff and students;
- (d) Place research students and academic staff in industry and other sectors; and
- (e) Provide necessary research requisites (qualified staff as well as physical and Information and Communications Technology (ICT) infrastructures.

3.2.10 Postgraduate Students Research

Objective

To develop research capacities and skills among postgraduate students and integrate them into University of Zambia agenda.

Strategies

- (a) Provide adequate research training and supervision;
- (b) Provide adequate infrastructure;
- (c) Provide adequate funding for postgraduate research; and
- (d) Promote student and staff exchange programmes within and outside UNZA.

3.2.11 Undergraduate Research

Objective

To provide adequate undergraduate research training.

Strategies

- (a) Design academic courses that incorporate research methodologies;
- (b) Promote student and staff exchange programmes;
- (c) Provide funding for students research projects;
- (d) Promote student attachments to industry; and
- (e) Provide necessary research requirements.

3.2.12 Intellectual Property Rights

Any matters related to Intellectual Property Rights arising from this Research Policy shall be governed by the University of Zambia Intellectual Property Rights Policy.

4.0 INSTITUTIONAL RESEARCH FRAMEWORK

In order to achieve the stated vision and objectives, the following institutional structures and arrangements will be provided:

4.1 Research Board

4.1.1 Functions of Research Board

The Research Board is the highest decision-making organ of the research programmes of the university. The Board will implement the University of Zambia Strategic Plan on Research. The Board is mandated by the University Senate to:

- (a) Provide strategic research direction to the University through the development of effective research policies;
- (b) Coordinate all research activities in the university;
- (c) Allocate and administer research funds in accordance with the criteria adopted by the Board;
- (d) Spearhead resource mobilization initiatives to ensure that the Research Policy mandate are met;
- (e) Provide mechanisms of monitoring research;
- (f) Foster the development of departmental and school research programmes linked to postgraduate studies;
- (g) Ensure the preparation and production of research agenda and reports and research handbooks, and
- (h) Ensure compliance by researchers to research ethics.

In executing the above functions, the Research Board may delegate to any committee part of its powers and functions as it may consider appropriate.

4.1.2 Composition of Research Board

The Research Board comprises the following members:

- (a) Chairperson (Vice-Chancellor / Deputy Vice Chancellor);
- (b) All Deans and Directors and the Librarian and their Assistants;
- (c) All Assistant Deans (Research);
- (d) Representative from any of the Research Ethics Committees;
- (e) Two Representatives from any the following: The National Institute for Industrial and Scientific Research (NISIR), National Council for Science and Technology, Public Universities, Central Statistical Office (CSO);

- (f) At least two (2) Permanent Secretaries from any of the following:
Ministries:- Finance & National Planning, Mines; Agriculture & Cooperatives; Energy and Water Development; Health; Tourism Environment and Natural Resources, and Commerce Trade & Industry;
- (g) Director DRGS will work as Secretary of the Board, and
- (h) Representative(s) of any Professional bodies and parastatals as the Board may determine from time to time.

4.2 Directorate of Research and Graduate Studies (DRGS)

The general administration of the research programmes of the University falls under the DRGS headed by a Director.

4.2.1 Functions of DRGS

The directorate is charged with the responsibility for:

- (a) Coordinating, monitoring and organising the research and postgraduate programmes of the university;
- (b) Carry out the administration of research grants and research contracts by controlling and disbursing the research funds to the schools and units.
- (c) Serve as a research link between the University of Zambia and other research institutions including industry;
- (d) Administer the Research Affiliation Scheme of the University of Zambia so as to ensure that, among other things, external researchers follow correct Visa application Protocols and not come in as tourists;
- (e) Facilitate linkages between the University of Zambia and other universities within and outside the SADC region; facilitate linkages between the University of Zambia and political leaderships, Members of Parliament (MPs) and Government Ministries, and
- (g) Maintain research records pertaining to the University's research activities.

4.2.2 Research Structure of DRGS

Key DRGS Research Management Staff shall be as follows:

- (a) Director;
- (b) Assistant Director Research;
- (c) Assistant Registrar-Research; and
- (d) Any other staff that will be considered relevant such as the Intellectual Property Officer.

4.3 The University of Zambia Research Ethics Committees (UNZA-RECs)

There shall be Research Ethics Committees for the University charged with the responsibility of reviewing research proposal for research ethical compliance. The Research Ethics Committees' mandate will not be restricted to the University of Zambia researchers but will also cover collaborative research with other institutions. Refer to Appendix 2 for Ethical Requirements and Standards for Research.

4.3.1 Number of Research Ethics Committees

The number of committees shall be based on the levels of research activities and the cluster of disciplines. All research carried out by the University of Zambia staff, will also be governed by the local ethical requirements. In the case of a collaborative research project involving one or more foreign institutions, ethical approval shall be sought both from UNZA where the research will be carried out and from the Institutional Review Boards (IRB) of the collaborating institutions. As a start the University of Zambia has three Research Ethics Committees as follows:

- (a) Biomedical Research Ethics Committee;
- (b) Natural and Applied Sciences Research Ethics Committee; and
- (c) Humanities and Social Sciences Research Ethics Committee.

4.3.2 Functions of Research Ethics Committees

The main role of a Research Ethics Committees is to review and approve research proposals and protocols dealing with human and animal participants. The specific functions of the Research Ethics Committees are:

- (a) Review and approve all research proposals and protocols that deal with human and animal participants;
- (b) Enforce high ethical standards on research done on human and animal participants;
- (c) Protect the interests of researchers who are conducting research following the approved protocols/proposals;
- (d) Monitor approved research project to ensure ethical compliance;
- (e) Participate in the training and/or sensitization of staff and students in research ethics; and
- (f) Report to the Research Board, through the DRGS.

4.3.3 Membership of Research Ethics Committees:

The membership of the three Research Ethics Committees is given below:

Biomedical Research Ethics Committee comprise of representatives from;

- School of Medicine
- University Teaching Hospital
- School of Veterinary Medicine/ School of Agricultural Sciences
- INESOR/ NISIR
- Ministry of Health
- Ministry of Agriculture
- Legal Council, University of Zambia
- Religious Leader
- General Public/Civil Society
- Directorate of Research and Graduate Studies.

Natural and Applied Sciences Research Ethics Committee shall include representatives from:

- School of Natural Sciences
- School of Medicine
- School of Engineering
- School of Agriculture
- School of Mines
- INESOR
- Zambia Agriculture Research Institute
- Legal Counsel, University of Zambia
- Religious Leader
- General Public/Civil Society
- Directorate of Research and Graduate Studies.

Humanities and Social Sciences Research Ethics Committee comprise representatives from:

- School of Humanities and Sciences
- School of Education
- School of Medicine
- School of Law
- INESOR
- Religious Leader

General Public/Civil Society

Directorate of Research and Graduate Studies.

Each committee shall have a Chairperson and a Secretary each appointed by the Vice-Chancellor on the recommendation of the committee for a period of two years, renewable for another two years.

4.4 Research Audit, Implementation and Monitoring Committee (RAIMC)

The RAIMC will be a standing committee of the Research Board charged with the responsibility to perform specified functions as detailed below.

4.4.1 Functions of RAIMC

The RAIMC will be responsible for:

- (a) Ensuring consistence in the research activities of the university;
- (b) Adherence to research methodology;
- (c) Ensuring correct use of research resources;
- (d) Compliance to good research standards;
- (e) Enforcement of quality control;
- (f) Ensuring that research progress is constantly reported; and
- (g) Ensuring that student supervisors do their work of supervision as per UNZA Regulations.

4.4.2 Composition of RAIMC

The Research Board will determine the composition of the committee and shall appoint the members.

4.5 Institute of Economic and Social Research (INESOR)

The Institute is an interdisciplinary social science research wing of the University of Zambia mandated to carry out research on full time basis. Although it was established with a main focus towards anthropological and historical studies, it has over the years shifted its attention to focus more on applied research that is relevant to national development by expanding its research programmes.

4.5.1 Functions of INESOR

The main functions of INESOR will include:

- (a) Carry out both basic and applied research;
- (b) Carry out consultancy services, and
- (c) Facilitation of interdisciplinary workshops, seminars and conferences.

4.5.2 Structure of INESOR

- (a) Research Board of Senate
- (b) INESOR Board of Research Programme
- (c) INESOR Research Advisory Committee

INESOR is headed by a Director who superintends over the academic, administrative and technical affairs of the institute. The Director, assisted by an Assistant, will be responsible for coordinating the implementation of research programmes/projects and consultancy services.

4.6 School Research Committees

4.6.1 Functions of School Research Committees

Each School of the university has a School Research Committee (SRC) whose main mandate is to preside over research matters of the school. The specific functions of the School Research Committee include:

- (a) Coordinate the implementation of the University Research Policy in the School;
- (b) Facilitate the formulation of the research agenda and the research programmes of the School;
- (c) Evaluate research proposals from the members of staff in the School;
- (d) Support any efforts towards mobilization of financial resources for research in the School;
- (e) Provide an interface between the faculty and the Research Board, and
- (f) Promote information exchange within the Schools such as holding of seminars and conferences in the Schools.

4.6.2 Composition of School Research Committee

The School Research Committee shall include the following:

- (a) Dean
- (b) Assistant Dean (Research);
- (c) Assistant Dean (Postgraduate);
- (d) Assistant Dean (Undergraduate);
- (e) All Heads of Departments;
- (f) Assistant Registrar of the School (Secretary), and
- (g) One Member of staff nominated from each Department.

4.6.3 Assistant Dean-Research

In an effort to promote research and facilitate the coordination and report of research activities, the University of Zambia established the position of Assistant Deans for Research in all the Schools. The Assistant Deans for Research are responsible for:

- (a) Implementing the University Policy on Research in the school;
- (b) Developing and coordinating the School research agenda;
- (c) Serving as secretariat of the Unit/Research Committee;
- (d) Ensuring that quality control in research (e.g. subjecting new research to critical review, conforming to accepted research philosophy and ethics);
- (e) In liaison with the DRGS, mobilization of financial resources for research in the School;
- (f) Compiling reports on research activities in the School as requested by the Research Committee of the School and the Research Board;
- (g) Promoting and facilitating Research Affiliations activities in the School in collaboration with the Research Affiliations Officer in the DRGS;
- (h) Facilitation of research seminars in the School;
- (i) Carrying out any other responsibilities the Board of Research and the Dean/Director may delegate to him/her; and
- (j) Ensuring that research records are maintained in accessible soft or hard copy formats.

4.7 Research Funding

Research funding goes hand in hand with the delivery of research outputs, leading to an increase in publishing activity. There are two sources of funding research at UNZA, that is, internal and external funding. Refer to Fig. 2 for the funding arrangements.

4.7.1 Internal Research Funding

The University shall make available requisite adequate resources to enable the carrying out of its research agenda. Research Funds shall normally be available to researchers through a competitive process outlined by UNZA. Schools shall open separate research accounts to administer research funds.

4.7.2 External Research Funding

The external sources of funding research will include:

- (a) GRZ through the Ministry of Education;
- (b) GRZ through ministries other than the Ministry of Education;

- (c) Non-GRZ grants, NGO, Private Sector;
- (d) Regional and international funding, and
- (e) Royalty disbursement as stipulated in the University of Zambia IP Policy

4.7.3 Management of Research Funds

- (a) All research funds will be administered according to existing UNZA financial regulations;
- (b) Procurement of research material and equipment shall be done following the laid down tender regulations;
- (c) Research funds shall be utilized according to the budget and activity based;
- (d) Research funds shall be subject to internal and external auditing.

Research funds coming from outside the University of Zambia usually have specific conditions attached to them. These specific conditions need to be clearly spelt out in the contract or Memorandum of Understanding (MoU). Typically, the contents of the MoU include:

- (a) Research budget;
- (b) Overheads for administrative and other logistical costs;
- (c) Issues pertaining to Intellectual Property Rights;
- (d) Infrastructural development and training;
- (e) Publication of the research materials.

UNZA staff are free to source external funds provided that such funds are administered by the University and the budget includes overhead.

4.8 The Intellectual Property Management Unit, Advisory Committee and Enterprises

The University of Zambia shall create an Intellectual Property Management Unit which shall manage the Intellectual Property Rights of the University of Zambia in liaison with the Intellectual Property Advisory Committee, the University of Zambia Legal Counsel and the Intellectual Property Enterprise to be set up by the University. The structure and functions of the Management Unit, the Advisory committee and the IP enterprise shall be outlined in the University of Zambia IP Policy. For details on the Intellectual Property Enterprises refer to the University of Zambia Intellectual Property Rights Policy, Annex 1.

4.9 Research Infrastructure

The research infrastructures and facilities are resources that provide essential services to the researchers for both academic and/or industrial purposes. The University of Zambia will strive to build and maintain a sustainable research infrastructure. The infrastructure is defined to include buildings, office space and facilities, training centres, libraries, databases, laboratory equipment, instruments, computer networks, etc. The Research Policy will facilitate the following activities aimed at building and sustaining the research infrastructure:

- (a) Investment in research infrastructure bearing in mind that decisions to fund infrastructural development need to be made in a collaborative manner owing to significant cost involved;
- (b) Support consensus building on a wide range of research objectives, strategies and priorities as conceived by individual schools/units of the university;
- (c) Rapid response to the on-going technological changes.

4.10 Dissemination of Research Findings

Dissemination of research findings is a vital component of research activities. The University of Zambia will promote research dissemination in many ways including:

- (a) Establish mechanisms for data processing, information storage access, retrieval systems and ensure that the creative research outputs are peer reviewed, communicated and adopted;
- (b) Attendance at local and international conferences; and
- (c) Publications.

The University of Zambia shall endeavour to promote dissemination of results of research carried out under its auspices through the university supported publications and local and international journals. In this regard, the university shall continue to support its journals. In addition, the university shall support efforts to start new publications in the fields and disciplines that are not covered by the current stock of journals. The highest standards of academic publication will be promoted and upheld in order to attract international scholarly articles and readership.

The University, through the DRGS, will also regularly hold local and international conferences where research findings are disseminated. Dissemination of research findings shall be subject to IP protection issues before publications as stipulated in the University of Zambia IP Policy. This is aimed at enhancing the value of research findings.

4.11 Application of Research Findings

The policy will promote the application of research findings to commercial ventures and consequently to support value adding activities so as to close the linear value adding gap in science and technology through:

- (a) Intellectual Property Protection;
- (b) Technology development;
- (c) Product development;
- (d) Process development; and
- (e) Commercialization.

Application of research findings will also be subject to the provisions of the University of Zambia IP Policy.

4.12 Implementation of the Research Policy

Implementation of the University of Zambia Research Policy shall be anchored on the organisation's structure as presented in Figure 1 organogram . This organogram is aimed at fostering efficiency and effectiveness in the implementation of the Policy.

5.0 REFERENCES

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INESOR, *Annual Report*, 2005
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APPENDICES

APPENDIX 1: Definitions and Abbreviations

Research

The University recognizes that 'research' includes a number of activities that share the property of being innovative. Research includes:

- Basic research which is experimental or theoretical and aims at acquiring new knowledge or offering new interpretations;
- Strategic research which is potentially applied but is in an area where the eventual applications are not clearly specifiable at the time;
- Applied research which is work undertaken to acquire new knowledge and is directly aimed at practical and applicable objectives;
- Near-market research which is innovative work aimed at generating or partially generating a specific product, artefact or idea for the commercial market;
- Creative work, particularly in the arts and applied subjects;
- Advanced pedagogic research of the type acceptable in national assessment exercises, including innovative research into teaching methodology and development of curriculum.

Grant

A research grant is financial support for an individual(s) or a group or a research centre/institute conducting research in a particular subject area or field, without any formal detailed stipulations as to the direction of such research.

APPENDIX 2: Ethical Requirements and Standards for Research

The integrity of any research depends not only on its scientific rigour but also on its ethical adequacy. Ethical issues are many and varied, and may be quite complex. All research involving human subjects or participants should be conducted in accordance with the three ethical principles of *respect for persons*, *beneficence* and *justice*. Since Zambia is part of the international research community, all research must strictly abide by the International Ethical Guidelines for research involving human participants. Therefore, emphasis must be placed on informed consent, equitable distribution of burdens and benefits and safeguarding confidentiality.

Consideration of risks versus benefits needs to be weighed up by researchers. In medical research physically invasive procedures are easily defined, but what constitutes risk in social research is sometimes less clear-cut. Questionnaires, observations and interviews can all be potentially intrusive and provoke anxiety in participants, or worse involve psychological risk. Some participants are unable to give informed consent and are therefore less able to protect themselves.

The following will guide staff undertaking research involving human participants and vertebrate animals. These guides are not exhaustive and may not address all situations. Researchers should seek further advice from the Research Ethics Committee.

1. Human Participants

- No research should cause harm, and preferably it should benefit participants. Potential risks to participants which might arise in the course of the research should be identified. Procedures must be justified, benefits clearly stated and researchers should sensitively and appropriately handle any cultural/religious/gender or other difference in research population at all stages.
- Research procedures should be explained on an information sheet written in simple language that is easily comprehensible by the potential research participant.
- Participant should be free from coercion of any kind and should not be pressured to participate in study.
- Participants in a research study have the right to give their informed consent before participating. It is the researcher's responsibility to seek ongoing consent during the course of study. And where third parties e.g. spouses, teachers, and health care professionals are affected by the research, informed consent should be obtained.
- Honesty should be central to the relationship between the researcher, participant and institutional representatives. If deception is necessary, the reasons should be explained to participants after the study.
- Participants' confidentiality and anonymity should be maintained (except if subpoenaed by a court).
- Researchers have a duty to disseminate their research findings to all appropriate parties.

2. Vertebrate Animals

The use of animals is essential to teaching and research. Without the use of animals, adequate instruction of students in many programmes such as agriculture, biological sciences, and veterinary medicine would be impossible. Those using animals in research are morally and legally obligated to care for them properly and treat them in a humane manner.

- Animals should be used in research only as required to obtain new information, and achieve results, which will ultimately benefit society.
- The term 'animals' in the research context includes embryos and as such must conform to relevant statutes.

3. Health and Safety in Research

Staff are entitled to a safe and healthful place in which to do research free from hazards which may cause serious injury or death.

Researchers must be responsible and take the initiative to become informed concerning exposure to toxic and hazardous materials and to ascertain that all persons involved receive proper handling techniques and emergency procedures.

4. Misconduct in Research

Issues of misconduct in Research should be brought to the attention of the Research Ethics Committee for the purpose of investigating allegations of misconduct committed during the conduct of university research by any member.

FIGURE 1. ORGANOGRAM FOR UNZA RESEARCH POLICY IMPLEMENTATION

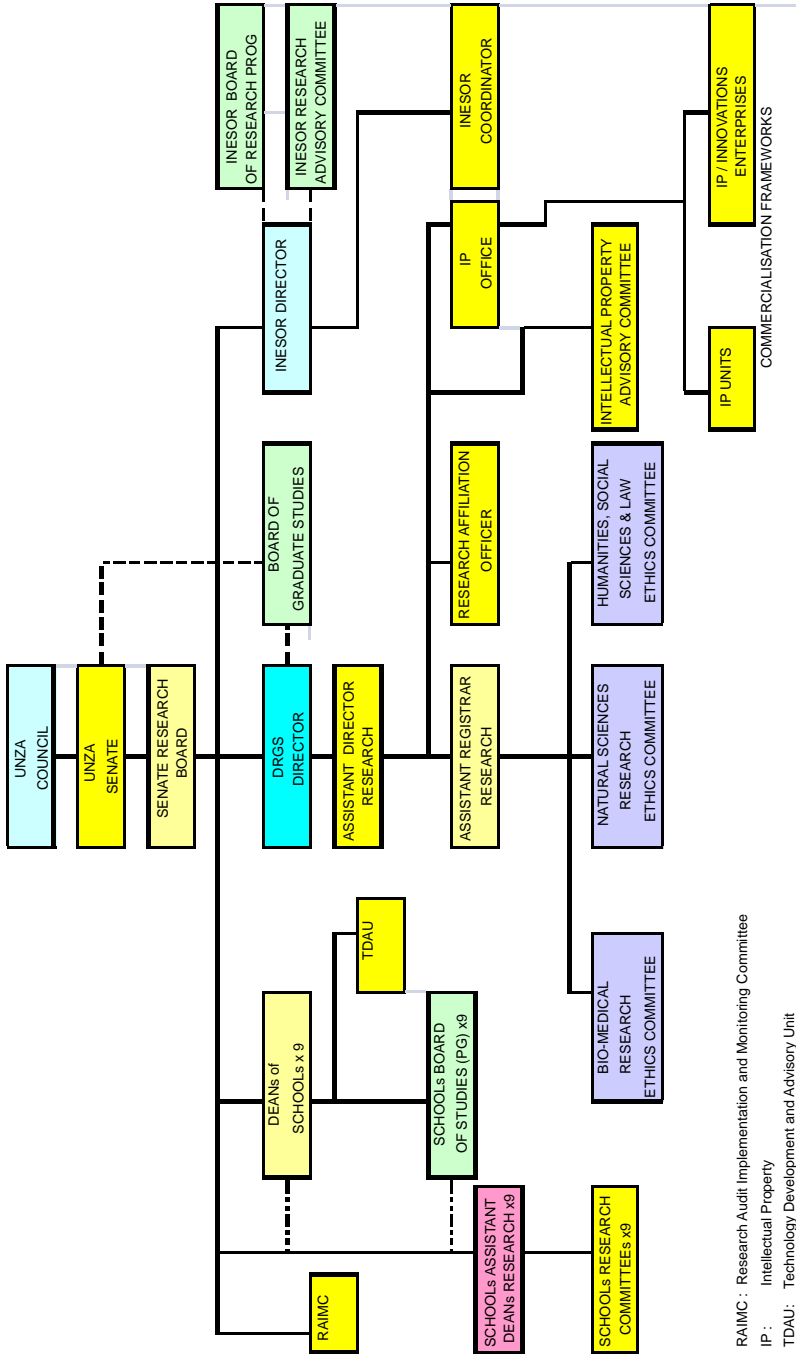
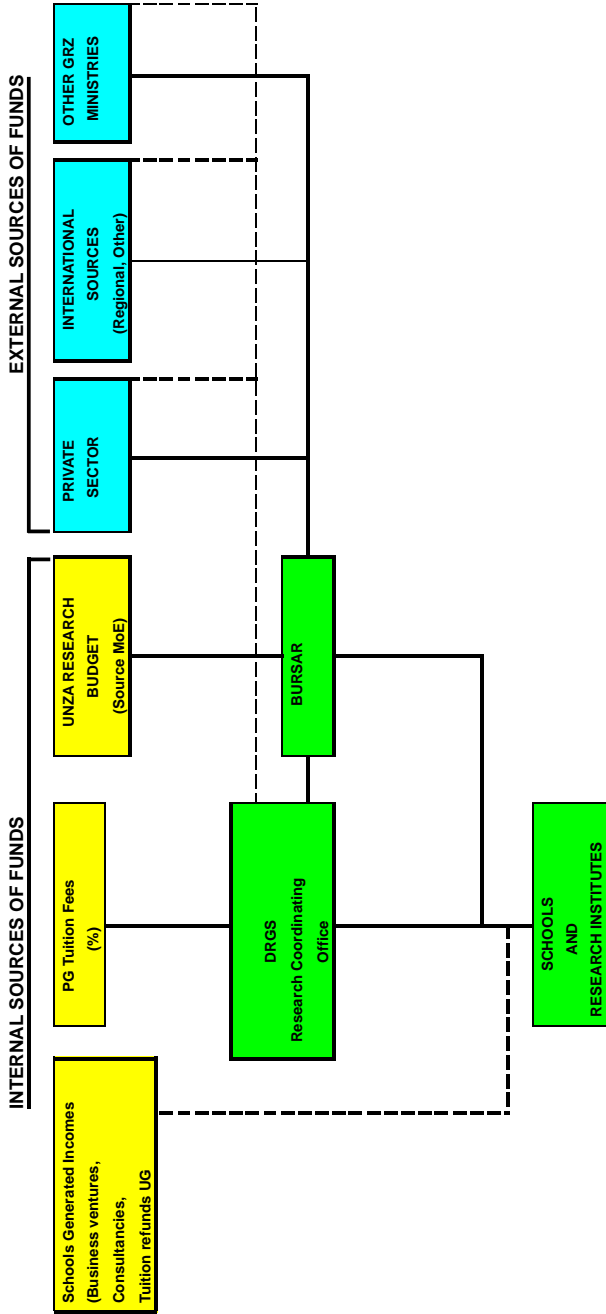


FIGURE 2. SOURCES AND FLOW OF FUNDING FOR RESEARCH AT UNZA



ANNEX 1:

**UNIVERSITY OF ZAMBIA INTELLECTUAL
PROPERTY POLICY (UNZAIPP)**

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1.0 INTRODUCTION

1.1 The University of Zambia Intellectual Property Policy is part of the overall University of Zambia Research Policy. It shall provide harmony to the competing interest of all the stakeholders in the generation, creation, commercialisation and enforcement of an Intellectual Property Rights (IPRs). The University of Zambia is endowed with well-trained and qualified personnel as well as specialised laboratories, equipment and field stations. Several IP protectable and commercialisable research products have already been generated within the University, however, there is no policy in place which would help to harness these resources and potential to generate funds and enable the University of Zambia realise its motto, vision, mission and objectives.

1.2 Rationale for the University of Zambia Intellectual Property Policy

1.2.1 The implementation of appropriate IPP will enable the University of Zambia generate significant and substantial income through:

- (i) Royalties and fees from licensed Intellectual Property Rights (IPRs) from innovations, inventions and created works;
- (ii) Consultancy;
- (iii) Research contracts;
- (iv) Commercialisation of R & D findings and
- (v) Utilisation of existing protected and unprotected IP creations.

1.2.2 In order to benefit financially and otherwise from the planned endeavours, the University of Zambia recognises the need to take particular care of the interests of all the stakeholders who contribute in one way or the other in the process of innovating, creating and commercialisation of innovations, inventions, created works and research findings at the University. These stakeholders include:

- (i) The inventor or creator of works;
- (ii) Support staff and students of the University;
- (iii) The University of Zambia itself;
- (iv) The inventor or creator of works Department;
- (v) Visiting researchers;

- (vi) Sponsors (who include industry and donors);
- (vii) The Intellectual Property Management Unit (IPMU);
- (viii) The Licensee/Licensors;
- (ix) Collaborating Institutions and
- (x) Members of the public (society).

1.2.3 The inventor or creator or works is a major stakeholder in the process of innovation and creation of works and commercialisation of IPRs due to the following:

- (i) Intellectual input;
- (ii) Conceptualisation of an idea and/or
- (iii) Investment in terms of time, effort, labour and capital.

1.2.4 The University of Zambia is a stakeholder in protected and/or commercialised IPRs particularly because the University:

- (i) Provides the infrastructure for the researcher, inventor or creator of works to operate in;
- (ii) Pays the innovator, creators of works and researcher their emoluments such as the salary;
- (iii) Provides direct and indirect financial support for innovation and research;
- (iv) Provides the good will in the name of the University and through this policy document, and
- (v) Provides an enabling environment for research, innovation and creativity.

1.2.5 The University of Zambia will establish a unit to be called Intellectual Property Management Unit (IPMU) with required expertise to scout, identify processes and initiate and promote innovation, commercialisation of IPRs and take necessary steps and actions to enforce against infringements of IPRs owned by the University. The IPMU will be under the Office of the Deputy Vice-Chancellor and the unit currently, responsible for research (in the Directorate of Research and Graduate Studies (DRGS)).

1.2.6 The University of Zambia shall also establish an independent dispute settlement Board to hear and adjudicate over internal disputes over ownership and other related disputes.

1.2.7 The University of Zambia also recognises the authority of the competent authorities, courts, arbitral tribunals and like bodies in the settlement of IP disputes.

- 1.2.8 Where the researcher or creator of works makes the initial contact with a sponsoring agency regarding a potential research collaboration, consultancy, contact and research, it is important that the researchers are aware of the key points to be addressed during negotiation. Proper understanding of the UNZAIPP will be helpful. For detailed and final negotiation of contracts the researcher or creator of works shall refer the transaction to the IPMU. It is important to note that the researcher or creator of works will play a role during any negotiations.
- 1.2.9 The University of Zambia shall reward individuals (staff) for inventing and creating and protecting their creations. The criteria will be spelt out in the appropriate University document governing promotion.
- 1.2.10 Where support staff/students are involved in the process of innovation, invention or creation of works, they shall also be considered for financial rewards and other recognition given to the Inventor or creator of works.
- 1.2.11 Royalty will be distributed to staff, students and support staff as set out in a prior agreement approved by the University. The IPMU will manage the distribution of the said Royalties.
- 1.2.12 The University of Zambia personnel through the IPMU shall seek preliminary application for IP protection for potential innovations and creations and research findings to guard against “premature disclosure” which may compromise protection and commercial exploitation of an invention or created works.
- 1.2.13 The University of Zambia shall consider an IP application, which has been examined and approved by the relevant National Intellectual Property Office, as equivalent to a publication in the relevant journal for purposes of promoting the IPRs protected by the University.
- 1.2.14 As a way of educating and raising awareness of students on IP and related issues, information on the same shall be included in the student guide and curriculum. Students shall be encouraged to seek more information on IP from the relevant personnel and from the IPMU. The IPMU will also organise talks for students' awareness workshops and seminars for University staff, students and members of the general public.
- 1.2.15 An industry may provide employment to the University staff, researchers, creators of works and students who are involved in the development of an invention, innovation or creation with a commercial potential, in which case industry may get the University of Zambia technology free of charge. The IPP will guard against such eventuality.

- 1.2.16 Occasionally the University of Zambia staff get contract research from third parties. The sponsor who has paid for a contract research may expect ownership of the IP generated or/and unrestricted utilisation of the knowledge acquired. The IPP will resolve any disputes that may arise in this area.
- 1.2.17 Created works, innovations and inventions developed at the University of Zambia may eventually be purchased by or licensed to industries for exploitation either locally or internationally. The IPP will, thus, regulate the process of licensing.
- 1.2.18 The Zambian Government provides funds for infrastructure, research and the operations of the University, it follows, therefore, that any works created, inventions, innovations and research findings, arising from the University of Zambia activities would be used for the development of the country and that no useful inventions would be kept unutilised, through unfair monopoly of ownership rights. The IPP will govern this issue.
- 1.2.19 IPMU shall receive invention and creation disclosures, undertaken search for novelty of the invention, pay the cost of processing IP applications, market the invention, innovation or created work and negotiate the licenses and royalties. The office shall also set up a technical information centre and collect technical documentation of indigenous IP information as well as information needed to commercialise inventions and created works.

1.3 Objectives of the University of Zambia Intellectual Property Policy (IPP)

1.3.1 General Objectives of the IPP of the University of Zambia

The general objectives of the IPP shall be to:

- (i) Promote the progress of science, arts and technology;
- (ii) Govern the management of IPP generated at the institution;
- (iii) Ensure that discoveries, inventions and creations generated by the staff and students of the University of Zambia or jointly with counterpart collaborating researchers from other institutions are utilised in ways most likely to benefit the University, the general public and motivate further research and development at the University and the country as a whole.

1.3.2 Specific Objectives of the IPP

Notwithstanding the generality of Clause 1.3.1 above, the University of Zambia IPP is aimed at achieving the following specific objectives:

- (i) To promote science and technology through academic programmes and services;
- (ii) To participate fully in the promotion of culture and develop individuals who are responsive to the needs and well being of others;
- (iii) To offer a range of opportunities for education and training and
- (iv) To ensure and administer resources to achieve the above objectives efficiently;
- (v) Promoting creativity and innovation;
- (vi) Creating an enabling environment that encourages creation, generation and expedites the dissemination and application for the new knowledge by the University of Zambia researchers for old and benefit of the University and the public through efficient and timely processing of technology application, transfer and utilisation;
- (vii) To protect the traditional rights of scholars to benefit from the products of their scholarly work;
- (viii) To ensure that the commercial results, financial, or otherwise, are distributed in a fair and equitable manner that recognises both the contributions of the inventor, innovator and creator of works and the University as well as other stakeholders.
- (ix) To promote, preserve, encourage and aid scientific investigation and research;
- (x) To establish standards for determining the rights and obligations of the University of Zambia, inventor or creator of works or innovation and other stakeholders with respect to inventions, discoveries and works created at the University;
- (xi) To encourage and reward the University staff who innovate, invent and create IPRs;
- (xii) To ensure compliance with applicable national laws and regulations;
- (xiii) To put in place standards for technology; and
- (xiv) To sensitise students on IP and tap creativity among the youth as

well as all others in view of the objective to provide inclusive long life education to members of the public.

1.4 Issues addressed in the IPP

1.4.1 The University of Zambia IPP addresses the following issues:

- (i) Scope of Intellectual Property Rights (IPRs);
- (ii) Ownership of an IPRs;
- (iii) Disclosure of an IP;
- (iv) Marketing, commercialisation, assigning and licensing of IPRs;
- (v) Distribution of income and royalties;
- (vi) Rights and obligations of the University staff, *vis-à-vis*, sponsors, creators of works and inventors;
- (vii) Contract research;
- (viii) Consultancy services provided by University staff and other outside activities;
- (ix) Collaborative research and R & D;
- (x) Adjudication of IP and related disputes and
- (xi) Protection and enforcement of IPRs

2.0 SCOPE OF THE INTELLECTUAL PROPERTY POLICY (IPP)

2.1 Scope of IPRS covered under the Policy

2.1.1 The Scope of the University of Zambia Intellectual Property Policy shall be broad, comprehensive and holistic in approach and shall include:

- (i) Patents;
- (ii) Industrial designs;
- (iii) Trade marks;
- (iv) Utility models;
- (v) Copyrights;
- (vi) Trade secrets;
- (vii) Know-how;
- (viii) New plant varieties;
- (ix) Electronic commerce (e-commerce)
- (x) Expressions of folklore and traditional knowledge;
- (xi) Integrated circuits;
- (xii) Protection against unfair competition and
- (xiii) Geographical indications;

2.1.1.1 Patent

- (i) A patent is an exclusive right granted for an invention, for a product or a process that provides a new way of doing something, or offers a new innovative and useful technical solution to a problem in industry. In Zambia, a patent provides protection for the invention to the owner for the patent for a period of 16 years under the Patent Act Cap 400 of the Laws of Zambia.
- (ii) Patent protection means that the invention cannot be commercially made, used, distributed or sold without the patent owners' consent. These patent rights are usually enforced in a court of law, which holds the power to stop patent infringement through enforceable Court Orders;
- (iii) A patent owner has the right to decide who may or may not use the patented invention for the period in which the invention is protected. The patent owner may give permission to, or license other parties to use the invention on mutually agreed terms. The owner may also assign the right in the invention to other persons, who may then become the new owner of the patent;

- (iv) Once a patent expires, the protection ends, and an invention enters the public domain, that is, the owner no longer holds exclusive rights to the invention and the invention becomes available for commercial exploitation by others free of charge. However, patent information, while patent protection subsists, may be used for teaching or further research without being considered as infringement.

2.1.1.2 Industrial Designs

- (i) An industrial design is the ornamental or aesthetic aspect of an article. The design may be the shape, the patterns, lines or colour of an article. Industrial designs are applied to a wide variety of products of industry, handcraft, technical, medical, house ware, electrical and architectural drawings. Industrial designs are what make an article attractive and appealing, hence they add to the commercial value of a product and increase its marketability.
- (ii) Registered designs are protected under the *Zambian Law Pursuant to the Registered Designs Act, Cap 402 of the Laws of Zambia*. Protection gives the owner copyright in the design and the exclusive right against unauthorised copying or imitation of the design by third parties. The duration of protection is generally five years, renewable twice for further periods of five years each.

2.1.1.3 Trademark

- (i) A Trademark is a distinctive sign, which identifies and distinguishes certain goods or services as those produced or provided by a specific person or entity. The system helps consumers identify and purchase a product or service because its nature and quality, indicated by its unique trademark, meets their needs.

In Zambia, the *Trademarks Act, Cap 401* protects trademarks for goods and unfortunately the *Trademarks Act* does not provide for service marks. A trademark provides protection to the owner of the mark by ensuring the exclusive right to use the mark or sign on its products in order to identify and distinguish goods or services, or to authorise another to use it in return for payment under provisions that related to registered users under the *Trademarks Act*.

The Trademarks Act provides for protection for a period of seven years to be renewed from time to time. Trademark protection is enforced by the courts, which have the power to stop trademark infringement through remedies such as injunctions and destruction of infringing products. Trademarks promote initiative and enterprise by rewarding the owners with recognition and financial profit. Trademark protection also hinders the efforts of unfair competitors, such as counterfeiters, imitation goods that use similar distinctive signs to market inferior or different products or services. For the University of Zambia, a trademark will be important as the University strengthens its income generating enterprises, through sales of goods and services produced by the University of Zambia.

2.1.1.4 Utility Models

- (i) In general terms a utility model or petty patents is an invention which does not meet all the requirement patentability in order to obtain patent protection in that it does not involve an inventive step or it not novel but has an industrial use. In Zambia, there is no Law that provides for the protection of utility models. The University of Zambia will, therefore, need to lobby for the enactment of a law that would make provision for utility models because utility model's primary objective is to encourage the rapid evolution of, indigenous innovativeness, particularly in small and medium scale enterprises as well as the informal sector.

2.1.1.5 Copyrights

- (i) Copyright is a legal term describing rights given to creators for their literary and artistic works or, computer programmes, compilations, audiovisual works, sound recordings, broadcast, capable programmes, typographical arrangements of published editions of literary works, including rights of performing artists in their performances, the right of producers of phonograms in their phonograms.

From the University's point of view, the works covered by copyright include literary novels, poems, plays, dramatic works, computer programmes, database, films, musical compositions and choreography, artistic works such as paintings, drawings, photographs, sculpture, architecture, maps, multimedia creations and technical drawings. In Zambia, Copyrights are protected under the Copyrights Act, Cap 406 of the Laws of Zambia. The creator of copyrights holds the exclusive right to use or authorise others to use the work for a period of fifty years generally and for original works 50 years plus the life of the author. The creator of a work can prohibit or authorise:

- (a) its reproduction in various forms, such as printed publication or sound recording;
 - (b) public performance, in the form of plays, dramatic or musical works;
 - (c) its recordings, for example in the form of compact discs, CD, DVD's cassettes, or videotapes;
 - (d) its broadcasting, by radio, cable, or satellite;
 - (e) its translation into other languages, or its adoption, into a novel, screen play or a movie and
 - (f) its availability for access such as through a website or the internet;
- (ii) Many creative works, protected by copyright require distribution, communication and financial investment for their dissemination (for example, publications and computer programmes). The University of Zambia, therefore, may need to sell or license the rights to individuals or entities that are best able to market the Copyright works at a fee;
 - (iii) Copyright protection also includes moral rights, which involve the right to claim authorship of a work, and the right to oppose changes to it that could harm the University's reputation. The University of Zambia may wish to oppose the use of copyright in circumstances that the University would deem such work to amount to derogatory treatment of works and to distortion or mutilation of the work or is otherwise prejudicial to the honour or reputation of the author or creator of works (e.g., to promote a racist agenda or immorality);

- (iv) In the event of illegal production or possession of goods protected by the University, the University shall obtain court orders to stop such activities, as well as seek damages for loss of financial rewards and recognition including court orders granting the University power to destroy any infringing works.

2.1.1.6 Trade Secrets

- (i) Trade secrets comprise confidential data or information used in research, business, commerce or industry. The University of Zambia shall own and use Trade secrets including confidential scientific, technical business, commercial and financial information not publicly known, for purposes of ensuring that enterprises owned by the University of Zambia have a competitive edge over other enterprises;
- (ii) Trade Secret information may be disclosed or shared subject to a Confidential Agreement. Confidential information may be created in sponsored research projects in which case, the sponsor may require the University to preserve such information as confidential information;
- (iii) The University of Zambia, however, shall ensure that trade secret protection does not negate knowledge sharing which is part of the academic mission of the University of Zambia.

2.1.1.7 Know-how

- (I) Know-how refers to the actual human technical skills derived from experience in working a certain technology. It may or may not be part of a trade secret. Licensing of most new technologies works best when accompanied by transfer of know-how either through training, manuals or secondment of personnel to the licensor until the licensor's personnel are able to optimally utilise the invention. Transfer of Know-how is an active form of transfer of technology and will involve job creation to trainers of personnel as knowledge and technology is exported by the University within Zambia and beyond.

2.1.1.8 New Plant Varieties

- (i) Zambia does not currently have legislation that provides for the protection of New Plant Varieties. The University recognises that it is involved in research in the development of New Plant Varieties that need protection in order to secure the University's interests. The University further recognised that the University will have to lobby government to enact the appropriate legislation protecting New Plant Varieties.
- (ii) Protection for New Plant Varieties gives the Plant breeder limited monopoly rights over the varieties they have created by way of registration system of the said New Plant varieties which New Plant Varieties maybe be exploited by the plant breeder for financial gain through licensing assignment and sale of new plant products to the public such as high quality, resistant, long shelf life products, e.g., seeds, fruits, etc.

2.1.1.9 Electronic Commerce

- (i) Electronic commerce consists primarily of the distributing, buying, selling, marketing and servicing of products over electronic systems such as the internet and the World Wide Web (WWW) and other computer networks. Electronic Commerce also involves electronic funds transfer, supply chain management, e-marketing, online marketing, online transaction processing, electronic data interchange, automated inventory management systems, and automated data collection systems which systems and networks eliminate bureaucratic and time consuming business practices making life and business more efficacious and reliable. The University, therefore, recognises that e-commerce can be utilised to enhance delivery of services to its customers and stakeholders on affordable terms thereby achieving it's objectives on target.
- (ii) The University, however, recognises that Zambia has just adopted an ICT Policy 2005 through the Ministry of Communications and Transport which recognises the need for encouraging and promoting e-commerce and further recognises governments role in this regard to enable access to information to all and ensure that everyone benefits from new technologies

pursuant to the United Nations millennium goals so as to alleviate poverty and enhance development and economic growth. The University also recognises that by the nature of e-commerce and the systems and networks that enable it also create an environment ripe for crime as crime follows opportunity and e-commerce and cyberspace provide numerous opportunities, the University will need to lobby the Government to provide for:

- (a) Legal certainty concerning legal validity, enforceability and admissibility of e-communication so as to enhance reliance of e-commerce;
- (b) Legal security and privacy;
- (c) Legal protection;
- (d) Legal deterrents against crimes.

2.1.1.10 Expression of Folklore

- (i) The emergence of a “global information society” in recent years, characterised by the rise of modern information technologies, has also given rise to increasing awareness of the values of traditional knowledge and folklore. At a time when the wealth of nations lies increasingly in the knowledge base they hold, emerging stakeholders in Intellectual Property field are claiming a new set of information resources, to which they refer as “traditional knowledge”. The concept of “traditional knowledge” is important for:
 - (a) Environmental conservation;
 - (b) Agriculture and food security;
 - (c) Traditional medicine as a source of primary health care;
 - (d) Indigenous knowledge, in the context of preserving cultural diversity and protecting minority cultures, especially those of indigenous people;
 - (e) The preservation of cultural heritage;
 - (f) Sustainable development;
 - (g) The Intellectual Property filed, where the importance of protecting the living cultural heritage of nations recognised with respect to “expressions of folklore”.

- (ii) Expressions of folklore as products consisting of characteristic elements of the traditional artistic heritage developed and maintained by a community or by individuals reflecting the traditional artistic expectations of such a community. The definition includes in particular verbal expressions (such as folk tales), musical expressions (such as folk songs), expressions by action (such as folk dance or other ritual), and tangible expressions (such as drawings, paintings, carvings, sculptures, pottery, terra-cotta, mosaic, woodwork, metal ware, jewellery, basket weaving, needlework, textiles, carpets, costumes, musical instruments, architectural form). The first three kinds of expressions need not to be reduced to material form”, that is to say, the words need not to be written down, the music need not exist in musical notation and the dance need not exist in choreographic notation. On the other hand, tangible expressions by definition are incorporated in a permanent material, such as stone, wood, textile, metal, etc.
- (iii) Policy objectives should promote innovation and creativity and should additionally serve as incentives for:
 - (a) Respect for, and preservation of traditional knowledge systems in their integral and undistorted forms;
 - (b) The fair and equitable distribution of benefits, including the prevention of unauthorised use for profit, the use of Intellectual Property systems for access and benefit sharing in genetic resources and the repatriation of cultural heritage;
 - (c) The increased use and dissemination of traditional knowledge;
 - (d) The protection of traditional knowledge in the context of the conservation of biological diversity.

Moreover, it is important to note that Zambia currently does not have a Law that protects traditional knowledge and there is need for the University to lobby for a Law in this regard.

2.1.1.11 Integrated Circuits

- (i) Another field in the protection of IP is that of layout-designs (topographies) of integrated circuits. The layout-designs of integrated circuits are creations of the human mind. They are usually the result of an enormous investment, both in terms of the time of highly qualified experts and financially. There is a continuing need for the creation of new layout-designs which reduce the dimensions of existing integrated circuits and simultaneously increase their functions. The smaller an integrated circuit, the less the material needed for its manufacture, and the smaller the space needed to accommodate it. Integrated circuits are utilised in large range of products, including articles of everyday use, such as watches, television sets, washing machines, automobiles, etc, as well as sophisticated data processing equipment.
- (ii) Whereas the creation of a new layout-design for an integrated circuit involves an important investment, the copying of such a layout-design may cost only a fraction of that investment. Copying maybe done by photographing each layer of an integrated circuit and preparing masks for its production on the basis of the photographs obtained. The possibility and potential industry for lobby for integrated circuits is the main reason for the introduction of legislation for the protection of layout-designs by the University of Zambia since there is no law in Zambia that protects integrated circuits.

2.1.1.12 Protection Against Unfair Competition

- (i) Protection against unfair competition has been recognised as forming part of industrial property protection for almost a century. By recognising that, any act of competition contrary to honest practices in industrial or commercial matter constitutes an act of unfair competition, the following in particular are generally prohibited:
 - (a) All acts of such nature as to create confusion by any means whatever with the establishment, the goods, or the industrial or commercial activities, of a competitor;

- (b) False allegations in the course of trade of such a nature as to discredit the establishment, the goods, to the industrial or commercial activities, of a competitor and
 - (c) Indications or allegations of the use, of which in the course of trade, is liable to mislead the public as to the nature, the manufacturing process, the characteristics, the suitability for their purpose, or the quantity of goods.
- (ii) The need for Protection is recognised number of countries both in regions of the developed and developing world, are adopting or have adopted market economy systems, which allow free competition between industrial and commercial enterprises within certain limits defined by law. Free competition between enterprises is considered the best means of satisfying supply and demand in the economy and of serving the interests of consumers and the economy as a whole. However, where there is competition, acts of unfair competition are liable to occur. This phenomenon has been discernible in all countries and at all times, regardless of prevailing political or social systems. Further experience has shown that there is little hope of fairness in competition being achieved solely by the free play of market forces. In theory consumers, in their role as referees of economic play, could deter dishonest entrepreneurs by disregarding their goods or services and favouring those of honest competitors. Reality, however, is different. As an economic situation becomes more complex, consumers become less able to act as referees. Often they are not even in a position to detect by themselves acts of unfair competition, let alone react accordingly. And so the University will be required to be vigilant in monitoring unfair competition against its Intellectual Products so as to protect the University's interests.

2.1.1.13 Geographical Indications

- (i) According to this terminology, the following distinctions is made between indications of source and appellations of origin: “indication of source” means any expression or sign used to indicate that a product or service originates in a country, a region

or a specific place, whereas “appellation of origin” means the geographical name of a country, region or specific place which serves to designate a product originating therefore virtue of the characteristic qualities of that product due exclusively or essentially to the geographical environment, including natural or human factors or both natural and human factors.

- (ii) It is important to highlight the difference between indications of source and appellations of origin. The use of an appellation of origin requires a quality link between the product and its area of production. The qualitative link consists of certain characteristics of the product which are exclusively or essentially attributable to its geographical origin such as, for example, climate, soil or traditional methods of production. On the other hand, the use of an indication of source on a given products is merely subject to the condition that this product originates from the place designated by the indication of source. Appellations of origin can be understood as a special kind of indication of source. According to the terminology traditionally applied, the term “indication of source” comprises all appellations of origin, but, in its general use, it has become rather a designation for those indications of source which are not considered to be appellations of origin.
- (iii) Geographical Indications embraces all existing means of protection of such names and symbols, regardless of whether they indicate that the qualities of a given product are due to its geographical origin (such as appellations of origin), or they merely indicate the place of origin of a product (such as indications of source). This definition also covers symbols, because geographical indications are not only constituted by names, such as the names of a town, a region or a country (“direct geographical indication”), but may also consist of symbols. Such symbols may be capable of indicating the origin of goods without literally naming its place or origin.
- (iv) The use of the IPRs by the University would protect most of the University Intellectual products especially outside Zambia.

3.0 OWNERSHIP OF IPRs

The University of Zambia shall own any Intellectual Property that is made, conceptualised, discovered or created by a member of staff, students, visiting researchers etc, in the course of their employment and responsibilities at the University or any person who makes significant use of the institution's resources in connection with the development of such Intellectual property.

3.1.1 Ownership by a Financial Sponsor

- (i) The University of Zambia shall own all Intellectual Property Rights made, discovered, or created in the course of research funded by a sponsor, unless otherwise provided by written agreement between the University of Zambia and the sponsor;
- (ii) Where a sponsor specified a technical problem to be solved by the research at the University and a researcher stumbles on a totally different and unrelated invention in addition to solving the sponsor's problem then the “accidental” invention shall belong to the University;
- (iii) Where the University of Zambia is involved in collaborative research with another institution or business entity, the Intellectual Property Right shall be co-owned and the distribution of royalties will be governed by a contractual agreement between the parties. Both institutions may contribute towards expenses related to acquiring IP Rights and Licensing.

3.1.2 Ownership by Individual Staff

- (i) Inventions or creations protectable by IP for which individuals can prove that they did not use University resources and time shall belong to the inventor or the creator of works;
- (ii) If an inventor or creator of works makes, creates, or discovers IP and claims that he/she did not make “significant use” of the University's resources, but the Intellectual Property closely resembles a specific research project that the inventor or creator of work has conducted at the University of Zambia, it shall be argued that the Intellectual property was developed with the use

- of the University of Zambia resources. Under such conditions, the inventor or creator or works shall be required to provide documentary evidence supporting the claim, that he did not use University resources;
- (iii) The University of Zambia will not take responsibility for IP information disclosed or used at the University by a former employee of another institution or by an employee of an institution in collaborative or like research with the University of Zambia without the consent of the other institution;
 - (iv) If within a period of one year, of ceasing to be an employee or stakeholder of the University that employee or stakeholder comes up with an invention or creation of work, such invention or creation of work shall be deemed to belong to the University unless there is clear proof that the invention or creation of work was fully carried out without utilisation of University resources and time at the material time the person was an employee or stakeholder of the University. The burden of proof shall be on the employee stakeholder;
 - (v) If the University of Zambia does not exploit an invention or creation of work within five years after the grant of Intellectual Property Right or where the University has no intention of exploiting the invention or creation of work, the University may re-assign ownership to the inventor or creator of work upon request;
 - (vi) Should the University of Zambia not express an interest to pursue patent protection or any Intellectual Property protection (due to low commercial potential, ethics and morality issues etc) the University will, in writing, assign to the inventors or creator of works the rights to the invention or creation.
 - (vii) The University of Zambia shall own any Intellectual Property Rights made, discovered, or created by anybody who is specially hired or commissioned by the University for that purpose, unless otherwise provided by written agreement between such individual and the University.

4.0 OWNERSHIP OF EQUIPMENT

4.1 Equipment purchased on externally funded research contract shall remain the property of the University of Zambia upon completion of the contract. The equipment will be under the custodian of the department involved in the research. Where more than one department is involved, the office of the Deputy Vice chancellor shall determine the distribution of the equipment.

5.0 RESOURCES

5.1 The University resources shall be the tangible and intangible resources provided by the University of Zambia to researchers, inventors and creators of works including:

- (i) Office, laboratory, studio space and equipment and facilities;
- (ii) Computer hardware, software and support services and facilities;
- (iii) Secretariat services and facilities;
- (iv) Research, teaching and lab assistants and;
- (v) Supplies and utilities;
- (vi) Funding for research and creating works; and
- (vii) University Time.

5.1.1 Use of the Library

The use of Library facilities and other facilities available to the general public, shall not be considered by the University of Zambia as “significant use” of the institution's facilities and equipment.

6.0 IMPORTANT AGREEMENTS

6.1 The University of Zambia will formulate appropriate agreements and other related contractual documents, for the management of Intellectual Property Rights, such as the:

- (i) Participation Agreements;
- (ii) Material Transfer Agreements and
- (iii) Confidentiality Agreements.

6.1.1 Participation Agreement

- (i) As a way of enforcing the University of Zambia IPP there shall be a participation agreement that confirms acceptance of the policy by employees, students and all other category of researchers. Each Head of Department must confirm that a valid Participation Agreement is on file before any University's resources are made available for any research;
- (ii) New employees recruited by the University shall be required to sign the participation agreement on taking up appointment while subsisting employees shall be required to sign the agreement at the initiation of the research programme;
- (iii) The Participation agreement shall govern issues related to ownership of the IPRs and distribution of Royalties and other financial obligations and rights, *inter alia*, at the initiation of the research programme.

6.1.2 Material Transfer Agreement

- (i) There shall be a Material Transfer Agreement, which will govern the transfer of Proprietary tangible property, often biological materials to or from the University of Zambia during collaborative projects with other institutions and industries. Each Head of Department shall ensure that appropriate Material Transfer Agreement is developed with the collaborating institution and signed by the authorised officer of the University. This Agreement shall also provide for matters related to ownership, rights and obligations of the parties and financial distribution of royalties and other financial benefits among other things.

6.1.3 Confidentiality Agreement

There shall also be a Confidentiality Agreement to govern the disclosure of information or data relating to research, ideas, creations and information within the University and out side the University.

7.0 PUBLICATIONS, THESES AND DISSERTATIONS

- 7.1 Students' theses and dissertations are considered “Exempted Scholarly Works”, therefore, the students will own copyright subject to a royalty-free license to the University to reproduce and publish for the purpose of training and research at the University of Zambia.
- 7.2 The University of Zambia shall protect the right of any faculty, student and other employees to publish the results of their work, by ensuring that where applicable, preliminary application of IPR is undertaken.
- 7.3 For a publication arising from contract research, the University shall be allowed to publish and disclose an invention or creation of works unless otherwise stated in an agreement.

8.0 WHERE THE INVENTOR OPTS TO COMMERCIALY EXPLOITAN INVENTION

- 8.1 Where the University of Zambia allows the inventor or creator of work to commercially exploit his invention or creation, the University will retain ownership of the invention, but shall give license to the inventor or creator or a third party who will then pay royalties to the University.

9.0 POLICY IMPLEMENTATION

9.1 Overall Implementation Office

The implementation of the policy shall be done through the Deputy Vice Chancellor's office and which office shall be guided by the Intellectual Property Advisory Committee.

9.1.1 The Intellectual Property Advisory Committee (IPAC)

- (i) The IPAC shall be responsible for:
 - (a) The development of the specific implementation procedures for this policy;
 - (b) The periodic review of this policy;

- (c) Advising the Deputy Vice Chancellor on issues related to the determination of disputes related to ownership of IPRs and resolution of conflict of interest issues that may arise under this policy;
- (d) Receiving and approving periodic reports from the IPMU and to make recommendations on the same to the Deputy Vice chancellor.
- (ii) The IPAC shall be appointed by the Deputy Vice Chancellor and shall comprise the following:
 - (a) The University Legal Counsel;
 - (b) All Deans/Directors;
 - (c) Manager UNZA Publisher.
- (iii) The Committee shall be chaired by the DRGS Director.

10.0 CREATION OF THE INTELLECTUAL PROPERTY MANAGEMENT UNIT

10.1 The University shall create an Intellectual Property Management Unit which shall manage the Intellectual Property Rights of the University of Zambia in liaison with the Intellectual Property Advisory Committee, the University of Zambia Legal Counsel and the Intellectual Property enterprises setup or to be set up by the University.

10.1.1 Functions of the Intellectual Property Management Unit

- (i) The IPMU shall report to the IPAC and its functions shall be to:
 - (a) Sensitise University staff regarding intellectual property management;
 - (b) Assess the potential of inventions and creations and works capable of Intellectual Property protection;
 - (c) Evaluate the commercial potential of the invention or creation;
 - (d) Obtain appropriate Intellectual Property protection;
 - (e) Locate suitable commercial development partners;
 - (f) Develop mechanisms within the University for negotiating, licensing and management of Intellectual Property Rights;

- (g) Negotiate and manage Assignment and License Agreements;
 - (h) Identify Industrial problems soluble through research;
 - (i) Assist Heads of Departments to ensure proper negotiation of the Participation Agreement, Material Transfer Agreement, Confidentiality Disclosure Agreement, among others;
 - (j) Build and enhance the capacity for personnel and documentation needed to perform technology searches, draft IPR applications, and
 - (k) Refine University and existing technology through standardisation of processes and products ready for marketing.
- (ii) All researchers at the University of Zambia shall be obliged to disclose all potentially protectable creations and inventions conceived in the course of their responsibilities to the University of Zambia through the IPMU.

11.0 HANDLING OF A DISCLOSURE

11.1 The Intellectual Property Management Unit shall have disclosure forms to assist inventors and creator of works. The key information required on the Disclosure form shall include:

- (i) The invention or creation title;
- (ii) Names of all inventors /creators and the degree of their contributions to the invention or creation. All the inventors /creator to the Disclosure form in order to append their signatures must confirm their consent;
- (iii) Description of the invention/creation;
- (iv) Indicate any sponsorship support obtained, if any form and extent;
- (v) Dates of conception and realisation of invention/creation;
- (vi) Any other relevant information, and
- (vii) Any agreement entered into, in relation to the invention or creation.

- 11.1.1 The University of Zambia researchers shall be sensitised on the importance of recording invention/creation as early as possible and as complete and accurate as possible. The description shall be written to allow another person reading it to comprehend and reproduce the invention/creation. The description shall be written preferably in a bound notebook with numbered pages, in ink.
- 11.1.2 Submitting a Disclosure is the first formal step in obtaining proper Intellectual Property Protection. Inventors and creators are strongly encouraged to submit invention or creation Disclosures early in their invention or creation development process to avoid any potential ownership disputes.

11.2 Importance of Disclosure of Invention

A Disclosure shall be understood as a formal description of an invention or creation that is confidentially made by the inventor or creator of work to the University of Zambia through the IPMU for the purpose of protection.

- 11.2.1 Disclosure of an invention or creation to a competent office is important for record keeping, processing, protection, commercialisation and enforcement of inventions and creations.
- 11.2.2 Disclosure of an invention or creation shall be made through the Intellectual Property Management Unit.
- 11.2.3 Any Disclosure to third party must be confidential and subject to an agreement and the consent of the University of Zambia.

11.3 Premature Disclosure

Premature disclosure is the release of information concerning an invention to the public before an IP application is filed. Premature disclosure includes abstracts, posters, sessions, shelved theses or even certain talks describing an invention or creation to an open audience or private audience. Such premature disclosure may disqualify an invention for protection. The Intellectual Property Management Unit should promptly sensitise, educate and advise researchers and stakeholders against premature disclosure.

11.4 Obligations of the University of Zambia during and after an Invention or Creation Disclosure

- 11.4.1 In all cases, any work or creation protectable by Intellectual Property disclosed by members for possible commercialisation, the University of Zambia shall be obliged to determine its commercial potential.
- 11.4.2 Intellectual Property Disclosures shall be considered confidential by the University of Zambia. All members of the Intellectual Property Management Unit shall sign an agreement to this effect and shall be liable to be sued for breach of confidentiality.
- 11.4.3 The University of Zambia shall encourage the development by industry of its inventions or creations and technology and seek to facilitate the transfer of such technology for the use and benefit of the University and the public.
- 11.4.4 The University of Zambia shall provide a process for resolution of disputes that arise between the University and other institutions, sponsors and inventors or creators regarding Intellectual Property rights. In all cases the Zambian law shall prevail.

11.5 Obligations of Inventors or Creators during and after Disclosure of Inventions /Creations

- 11.5.1 The University of Zambia personnel are obliged to disclose in details and timely manner, all inventions or creations, discoveries and other works.
- 11.5.2 The inventor or creator shall provide such assistance to the Intellectual Property Management Unit as may be necessary throughout the technology transfer process to protect and license the works, creations and inventions protectable Intellectual Property.
- 11.5.3 The inventor or creator shall arrange for the retention of all records and documents that are necessary to protect the interests of the University of Zambia in relation to the Intellectual Property Rights. A copy of these records shall be deposited with the Intellectual Property Management Unit.
- 11.5.4 The inventor or creator shall abide by all commitments made in any license, contract research and other agreement entered into and related to privately funded research.
- 11.5.5 The inventor or creator shall promptly disclose all potential conflicts of interest (e.g. research with multiple sponsors) to the University.

- 11.5.6 The inventor or creator shall be expected to apply reasonable judgement as to whether an invention or creation has commercial potential and without delay make formal disclosure of the same to the Intellectual Property Management Unit.
- 11.5.7 The inventor or creator shall be obliged to disclose his invention or creation as soon as possible and to delay Public Disclosure until the evaluation process is completed and Intellectual Property protection application is filed before the appropriate authority.

11.6 Confidential Disclosure Agreement (CDA)

During the evaluation period, an invention or creation may be safely disclosed outside of the University of Zambia under the protection of a confidential Disclosure Agreement (CDA) under strict conditions. Disclosures made under an appropriate CDA are not considered Public Disclosures but shall be private disclosure which must also be governed by an appropriate confidential Disclosure Agreement.

- 11.6.1 A University of Zambia researcher or creator of works may receive confidential information from another organisation in relation to research he performs at the University of Zambia. The collaborating institution may impose serious non-disclosure and non-use obligations on the confidential information and may claim an ownership interest in invention or creation that may arise in the course of research performed with such confidential Information. For this reason, only competent staff of the Intellectual Property Management Unit are authorised to approve and sign CDA's on behalf of the University. All CDA's shall be considered by a committee at senate and appropriate approvals shall be given before any CDA is executed.
- 11.6.2 When the University of Zambia staff, in the course of contract research, receives confidential information, the treatment of such confidential information will be governed by the terms of the agreement applicable to the contract research.

12.0 MARKET EVALUATION LICENSING AND ASSIGNMENT OF IPRS AND REVENUE DISTRIBUTION

12.1 Market Evaluation Licensing and Assignment of IPRs

The Intellectual Property Management Unit will develop a manual for evaluating the commercial potential of different inventions and creations in the University.

- 12.1.1 The University of Zambia may license the right to commercialize its Intellectual Property. The University through the IPMU shall get the best deal for the University of Zambia and the inventor or creator of work.
- 12.1.2 The Intellectual Property Management Unit shall advise the University of Zambia whether to issue exclusive or non-exclusive licenses depending on the envisaged benefits to the University and inventor or creator.
- 12.1.3 The Intellectual Property Management Unit shall develop a manual consisting of a checklist of items, which must be considered when discussing a licensing agreement or assignment of IPRs.

12.2 Revenue Distribution from Commercialised Intellectual Property Rights

- 12.2.1 Gross Income shall be understood as funds obtained from commercialisation of an Intellectual Property Right Net Income shall be understood as Gross Income less expenses incurred by the University of Zambia for Intellectual Property Rights processing, protection, maintenance, licensing or Assignment of IPRs.
- 12.2.2 Where an invention made by an employee of the University of Zambia is commercialised, the net income shall be distributed to the following:
 - (i) 45% to the Inventor or creator;
 - (ii) 10% IPFund of the University of Zambia;
 - (iii) 10% to the inventor's research or creator's project;
 - (iv) 5% to Inventor's or creators' departmental infrastructure;
 - (v) 5% to the Faculty infrastructure;
 - (vi) 10% to the Intellectual Property Management Unit, and
 - (vii) 15% to the University research project fund (Central Administration)

It is important to note that the University of Zambia shall be required to consider the possible revenue or royalty distribution ratio in the appropriate regulations to be issued by the University.

- 12.2.4 These percentages or ratios may be reviewed after every two years or after any agreed period.
- 12.2.5 In the absence of a written agreement to the contrary, multiple inventors or creators shall receive equal portions of the inventor's or creator's share of the net revenue. When multiple Inventors are located in different departments, faculties and campuses, the same shall also apply to the units.
- 12.2.6 It should be understood that the Inventor or creator shall continue to receive his share even after leaving employment of the University. In the event of death of the inventor or creator, inventor or creator benefit or interest shall pass to his beneficiaries through the operation of law.
- 12.2.7 Collaboration institutions shall be free to use their own policies and practices as regards distribution of their respective share or royalties.

12.3 Equity Shares

The University of Zambia may opt to negotiate for partnership or joint ventures, with any other entity that has obtained a License in the University's technology in exchange for royalties.

- 12.3.1 The University may also opt to negotiate for an equity interest in lieu of or in addition to monetary consideration as a part of an agreement between it and an external entity relating to applicable Intellectual Property Rights.
- 12.3.2 Where the University has taken the equity option, an inventor or creator shall be allowed to decide whether to opt for an equity interest or a royalty option.
- 12.3.3 Where the University of Zambia owns equity interests, the monetary proceeds generated from dividends or bonuses or by the sale of such equity interests, shall be distributed according to agreed policies for revenue distribution.