

**THE STATUS OF RESEARCH UNDERTAKING
IN MEKELLE UNIVERSITY**

**BY:
KIFLOM SAHLE**

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Educational Research and Development.

**Addis Ababa University
School of Graduate Studies
Institute of Educational Research**



**June 2009
ADDIS ABABA**

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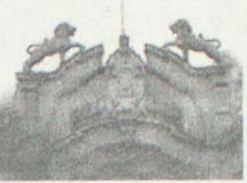
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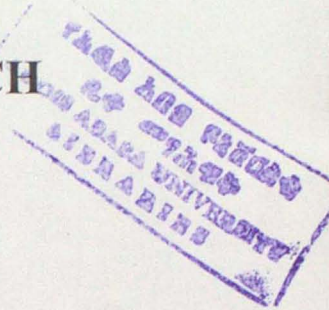


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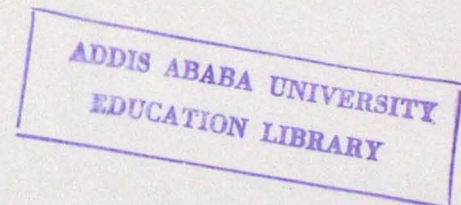


**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
INSTITUTE OF EDUCATIONAL RESEARCH**



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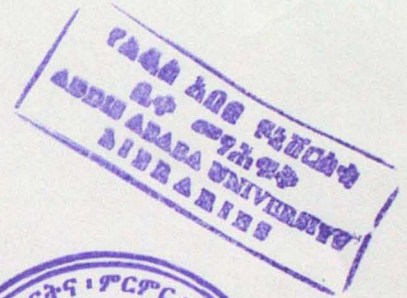


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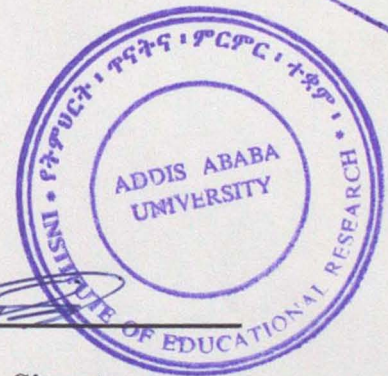
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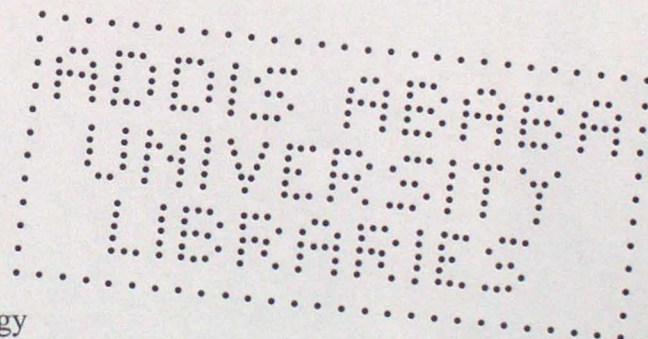
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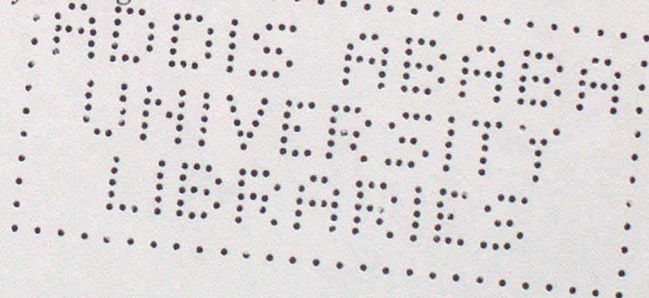
Abbreviation and Acronyms

AAU	Addis Ababa University
BA	Bachelor of Art
BPR	Business Processing Reengineering
BSc	Bachelor of Science
CBE	College of Business and Economics
CDANR	College of Dry Land Agriculture and Natural Resources
CLG	College of Law and governance
CNCS	College of natural and computational sciences
COE	College of engineering
COM	College of medicine
CSSL	College of social sciences and languages
CVS	College of Veterinary Sciences
ETP	Education and Training Policy
FDRE	Federal Democratic Republic of Ethiopia
HEIs	Higher Education Institutions
HEP	Higher Education Proclamation
IER	Institute of Educational Research
MA	Masters of Arts
MOE	Ministry of Education
MSc	Masters of Science
MST	Ministry of Science and Technology
MU	Mekelle University
MWR	Ministry of Water Resources
NGO	Non-Governmental Organizations
NORAD	Norwegian Agency for Development Cooperation
PhD	Philosophy of Higher Degree
RPO	Research and Publication Office
TGE	Transitional Government of Ethiopia
UNESCO	United Nations Education Science and Cultural Organization.



Abstract

Teaching, research and consultancy are the main missions of higher education institutions. However there are research evidences that indicate the status of research in these institutions is not as expected. The concern of this study is therefore to examine the status of research undertaking in Mekelle University. To achieve this objective, a descriptive survey method was employed. Accordingly the data were collected from 285 instructors and 8 university officials through questionnaire and interview respectively. Important documents (articles, seminar paper, proceedings of a workshop, profile of research projects, etc) were also used as secondary data sources. The data secured through the close-ended items of the questionnaire were analyzed mainly using percentages and mean values because of the descriptive nature of the study. The data secured through the open-ended items of the questionnaire, interview guides and document analysis were analyzed qualitatively. The finding of the study disclosed that, there are efforts so far made by the university in developing and maintaining capacity of research undertaking. 61 instructors have got research training opportunity. Efforts are made to find research fund from different sources. The efforts made in publishing and disseminating research results on the part of the university seems encouraging. However, the finding of the study revealed that with few exceptions, instructors are not actively involved in doing research. Problems related to lack of incentives, lack/inadequacy of budget, lack of conducive research environment, lack of recent reference materials in the library, under-utilization of research outcomes and insufficient internet access have been the major constraints for instructors' failure to conduct research. Based on the findings, it is recommended that in order to improve the research activities in Mekelle University, the academic staff and the university must exert further effort by making a link with industries and networking with other universities.



CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Learning begins at birth and continues through life. Over the years, societies have developed system of education to provide their youth and adults with opportunities and settings to learning in a purposeful and organized manner (Haddad and Demsky, 1994).

In the earlier period, people were very interested in maintaining their food supplies. So they asked questions and tried to find solutions about the natural phenomena such as weather and soil conditions (Masson and Bramble, 1997). They further explained that when men began to live in cooperation among them, they become curious about economics, law, politics and other government related issues. Problems are more powerful in making a human being to seek solutions. However, the types of problems and solutions have greatly changed through time. Effective and sustainable approaches are needed to tackle such problems. Unless problem and its root causes can be tackled effectively, it can not be eliminated. In order to achieve economic growth and development, informed decision measures will be required, which in turn depends on effective research undertaking.

In a general sense, the history of research is as old as humanity itself. This is because research is a way of finding answers to questions and throughout history human beings have sought solutions to their problems. According to Taye (1993), practical solutions to the problems of millions of people who are today cut off from the joys of social and economic progress are, to some extent, achieved through research.

Since research is a means of finding solutions to societal problems, it should be given important place in the functions of higher education institutions. HEIs are expected to

undertake research activities, conduct consultancy and engage in community services. Many researchers; Derebssa (2000), Abdinasir (2000) and Tsegay (2000) agreed to the idea that there should be a strong relationship between higher learning institutions and educational research activities. In line with this idea, the higher education proclamation (HEP) NO.531/2003 that governs higher education institutions in the country, the education and training policy document as well as legislation of MU state that institution of higher learning should be engaged in relevant research that can support the development endeavors of the country and shall be encouraged and assisted. There are important provisions in the higher education proclamation that set the framework for research in the country's institution of higher learning. The HEP (Art 28(3b)) underlines that an academic staff has the duty to undertake problem solving studies beneficial to the country. It also indicates that there is a need to facilitate conditions to conduct research in priority areas.

Mekelle University, which is the research setting of the current study, is one of the higher education institutions in Ethiopia. It is located in Northern Ethiopia (Mekelle, Tigray), at a distance of 783 kilometers from the Ethiopia capital city, Addis Ababa. MU was established in May 2000 by the government of Ethiopia (council of Ministers Regulations No 61/1999 of Article3) as an autonomous higher education institution having its own legal personality.

Mekelle University is a government-funded higher institution with an international reputation for teaching and research and with collaborative understanding with national and international sister institutions. Since its establishment, it has proved to be one of the fastest growing Universities in Ethiopia. Currently, the University has eight colleges: Business and Economics, Dry Land Agriculture and Natural Resources, Engineering, Law and Governance,

Education, Veterinary Sciences, Natural and Computational Sciences, Social Sciences and Languages and College of Medicine.

At present, Mekelle University is providing its training in the regular, continuing education program and summer, evening, distance education and in-service programs in both undergraduate and graduate programs.

The legislation of Mekelle University clearly stipulates the role of research in the university's activities. The fundamental elements of the University's mission are teaching, research and consultancy. Thus, its ultimate goal is to pursue standards of excellence in teaching and research for the betterment of the society (MU, 2004). Particularly, the mission statement of MU states that: Mekelle University will engage in relevant research that can support the development endeavors of the country, artistic and scholarly activities that advance learning through the expansion of the frontiers of knowledge and creative endeavor (MU, 2004).

This clearly sets the ground for the University's research focus. The University's strategic plan supports this mission by pointing out the importance of providing a system and environment conducive to all types of research, creative activity and dissemination of knowledge. This underlines the basis for streamlining research into the main tasks of higher education institutions as it clearly sets the modalities for employment and defines the duties and rights of an academic staff of these institutions.

1.2 Statement of the Problem

Due to the growing importance of knowledge in the world today, the last few years have shown dramatic changes across the whole range of education. The rapid growth of higher education institutions could be mentioned as an example. This wave of expansion has to be

accompanied by quality. To maintain a high standard of excellence among other things, research in higher education institutions is indispensable.

Universities and other institutions of higher learning should be concerned with production and reproduction of knowledge, generating and disseminating new ideas, and findings of research (Garnett and Holmes, 1995 cited in Adane 2000). The needs for research into educational issues seem unquestionable. In addition, the diverse and extensive changes in the status and content of knowledge and technology over the past decades have created a host of new needs and challenges that require attention.

Meeting these needs and overcoming the challenges in turn requires the development and efficient use of research. The contribution of higher institutions of learning to undertake research under such circumstances is evident. Therefore, strengthening research and analytic capacity of Mekelle University in particular and other higher education institutions in the country in general is an essential requirement for bringing sustainable economic, social and political development in the country.

With regard to this, Ethiopia has given due attention for research in the country's higher education system. The following ETP statement can also be a clear evidence of the government's attention to research activities in higher education: "Higher education at diploma, first degree and graduate levels will be research oriented; enabling students become problem solving professional leaders in their fields of study and over all societal needs." (TGE, 1994) In line with this, "Research of practical societal impact will be given priority and the necessary steps will also be taken to facilitate the coordinated efforts of all those concerned." (TGE, 1994) This indicates that the policy has given due attention to the importance of

research as a component part of the effort towards up-grading the quality of education and over all development.

Despite the importance of higher education institutions' research activities, there is limited research in the area. In Ethiopia, though universities are expected to conduct research as stated in the new education and training policy; very little research is actually carried out in universities compared to their potentials (Derebssa, 2004).

Asrat (2007), Gemechu (2006), Amare (2000), and Ayalew (2000) indicated that the status of research in Ethiopia's HEIs is in its early stage. However, it does not necessarily mean that there are no attempts to carry out research. It is to mean that the activities of research are not as much as expected and the need for research activities is still unquestionable. With regard to this, since there are problems to be identified and solved in different areas of the country, much more is expected from higher education institutions to respond to the need for research.

Therefore, it is very important to investigate whether the aforementioned idea is correctly addressed or not. It becomes imperative also to consider the source of the problem that brings the incompatibility of the theoretical beliefs and the actual practices of research in the country's HEIs in general and at MU in particular.

This study is, therefore, an attempt to analyze the relationship between what has been stated by different documents (ETP, higher education proclamation and the mission and vision statements of MU) and by the above researchers Asrat (2007), Gemechu (2006), Amare (2000), and Ayalew (2000) and what is going on in the actual research practices in Mekelle University. Generally, the purpose of this study is to pinpoint the status of research undertaking

in Mekelle University and forward relevant recommendations based on the findings of the study. To this end, the study attempts to answer the following leading questions.

- 1) What efforts are made so far to develop and maintain capacity of research undertaking in MU?
- 2) What is the extent of publication of research results /outputs/ in MU?
- 3) To what extent are research outputs disseminated?
- 4) What factors constrain instructors to conduct research in Mekelle University?

1.3 Objectives of the Study

The main objective of this study is to examine the status of research undertaking in Mekelle University. Specifically, the objectives of this study are:

- to examine the efforts made so far to develop and maintain capacity of research undertaking in MU.
- to explore the extent of publication of research results /outputs/ in MU.
- to explore the extent of dissemination of research results /outputs/ in MU.
- to identify the major factors that hinder instructors from research activities in Mekelle University.

1.4 Significance of the Study

One of the objectives of HEIs is to carry out research. This objective is mainly realized through exposing instructors and students to research work in their field of study. The current study is expected to provide valuable information about the status of research to all concerned bodies including MU management body.

Specifically, the study provides tangible information about the status of research undertaking in MU and suggests the necessary measures required to improve the status. It may create awareness and thereby initiate instructors within and outside MU to conduct researches. Furthermore, the output of this study may be used as a spring board for further investigations.

1.5 Delimitations of the Study

Even though the idea of research is wider and needs to encompass different issues and perspectives, this study is delimited to investigate the status of research undertaking in Mekelle University. The researcher confined the scope of the study to this university, since he is well aware of the region where the university is located and familiar with some of the instructors in the university, which of course, facilitates the data collection process. Furthermore, the study is delimited to exploring the extent of publication and dissemination of research outputs, availability of essential conditions, the efforts made to maintain capacity of research and major factors that affect research activity in MU.

1.6 Limitations of the study

The implementation of BPR has created rearrangement of some colleges and departments. Due to this fact, the data collection has faced some difficulty to find out the locations of the newly arranged departments. This is because the majority of the staff are not aware of the locations of the new arrangements. This in turn elongated the time for data collection. To overcome this challenge the researcher has made discussion with the vice presidents. Accordingly, the locations of the colleges have been identified.

1.7 Definition of Terms

Educational Research: - is a scientific/systematic attempt to gain a better understanding of educational process, generally with a view to improve its efficiency (Derebssa, 2000).

Involvement: - refers to the active participation of individuals in some activities.

Research: - is a systematic and objective analysis and recording of controlled observation that may lead to the development of generalization, principles, or theories resulting prediction and ultimate control of events (Best and Kahn, 1993)

Status: - refers to the position of something with respect to other things.

1.8 Organization of the Study

The study is organized into five chapters. It begins with the introductory chapter, which highlights the background of the study, statement of the problem as well as study objectives, significance, delimitations and limitation of the study. The second chapter reviews the literature on the concept of education and research, essential conditions for conducting research, etc. Chapter three describes the methodology pursued in the study. Chapter four deals with data presentation and analysis. It is subdivided into two parts for convenience. Chapter five provides the major findings of the study, conclusions and recommendations.

CHAPTER 2: REVIEW OF RELATED LITERATURE

In this section, issues that have relations with the problem under investigation are presented. To make the related issues manageable, the section is divided into sub-sections that include: concepts of education and research; essential conditions to conduct research; factors negatively affecting teachers to conduct research; research as one of the objectives of higher education institutions; relationship between teaching and research and status of research in Ethiopian higher education institutions.

2.1 The Concept of Education and Research

2.1.1 The Concept of Education

Different writers have defined education in different ways. The extent of the definition depends on the specific issue for which the definition has been forwarded. According to Habtamu (2000) education is the way to achieve economic, social and political development. The following TGE (1994) statement states that: "Education is a process by which man transmits his experiences, new findings, and values accumulated over the years, in his struggle for survival and development, through generations."

Borg and Gall (1993) also indicated that, education is a wealth, power and a base for all rounded individual and social development. In order to achieve the economic, social and political development of a country highly competent human-power is needed. The role of education to meet this need is human investment largely responsible for economic growth and therefore national development. In this regard, education is considered as a key element for development and brings about a change.

Education is taken as the principal weapon in achieving economic growth. Now a day there is a global understanding that education should be viewed in line with the improvement of the main elements in its processes, namely: lives of learners' quality of teachers, contents, methods and fulfillment of societal needs as well as economic conditions of a particular country (Firdisa, 2000). Due to its importance in all aspects of development most countries realized that without proper education of their citizens, true development can not be achieved. The more education, the more rapid the development of the country will be. Ethiopia has no exception in this regard. The Ethiopian Education and Training Policy (ETP) which was issued in 1994 by the Transitional Government of Ethiopia states "Education enables individuals and society to make all-rounded participation in the development process by acquiring knowledge, ability, skills and attitudes." (TGE 1994)

Although education has different levels, higher education plays irreplaceable role in the development and supply of qualified human resources for the education system as well as for the entire economy of the country. Higher education is crucial for the production of vital human resources, such as teachers, healthcare professionals, lawyers, engineers, managers, businessmen, and researchers essential for socio-economic development of a nation. Furthermore, higher education is a center for knowledge and skills creation, adaptation and dissemination (Teshome, 2004). It also plays a significant role in providing relevant and quality community and public services. Higher education is therefore critical for economic progress, political stability and peace, as well as building democratic culture and cohesive societies (Teshome, 2004).

2.1.2 Research: Concept and Definition

Similar to that of education, different writers have defined the word “research” in different views because of the diverse nature of its activities. For instance, according to Damtew (2007) research is a power house of knowledge creation. Neary (2002) cited in Bekalu (2005) also states that research is an outlet value for innovation and it is responsible for the broadening and deepening of knowledge. In order to achieve innovation there is a need for systematic organization of information. In line with this, Best and Kahn (1993) defined research as “Systematic and objective analysis and recording of controlled observation that may lead to development of generalization, principles, or theories resulting from predication and ultimate control of events.” Similarly, Koul (1997) defined research as “ objective , impartial, empirical and logical analysis and recording of controlled observations that may lead to the development of generalizations, principles or theories resulting, to some extent, in prediction and control of events that may be consequences or causes of specific phenomena.” Derebssa (2004) defined research as “Research is instrumental in the pursuit of truth and providing clear basis for action.”

The above definitions clearly show that research can be considered as systematic process of evaluating the contemporary “truth” for any natural and social aspects in the world. Therefore, it seems apparent that research activity and its result serve as a source of new knowledge, change and improvement through examining the existing “truth.” In connection with this idea, Masson and Bramble (1997) stated that in modern science there is no permanent truth. According to the writers, any truth can be challenged through various investigations for further verification. Therefore, research is a process which mainly stands to search the contemporary truth about something. According to Firdisa (2000) research is best conceived as

the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data. Research is often described as an active, diligent and systematic process of inquiry aimed at discovering, interpreting and revising facts.

Research has been used to develop knowledge and solve perceived problems for a long period of time in history. Different approaches have been also proposed and used to this effect. The most widely used approach for long period of time has been the scientific approach. This approach was applied to serve both natural and social sciences. At times, the terms research and scientific methods are used interchangeably. In this view, research is considered as a systematic attempt to obtain answers to meaningful questions about phenomena or events through the application of scientific procedures. It is also used to describe a collection of information about a particular subject, and is usually associated with science and the scientific method (Addisalem, 2006). In a similar manner, koul (1997) defined research as the application of the scientific method in the study of problems.

In the realm of education, research is the application of systematic methods to the study of educational problems. The focus of educational research is education, and the foremost function is to assist teachers, parents, decision makers and all concerned in the field with the aim of improving the quality of the educational processes, and thus enhancing the quality of life (Asrat, 2007).

Degarge (2000) on his part indicated that research is a wing to development, and in education it aims at making the education sector grow and function effectively. Research plays a pivotal role to education sector by making the teaching-learning process more effective, up-to-date and successful. This is to mean that familiarity with the nature and procedure of

research enable individuals, in particular learners, educators and administrators to be in a position to think scientifically and effectively about their students, clients, and their work.

The concept of education, research and their definitions has been reviewed above. On the subsequent section; therefore, some of the important inputs to undertake research are presented.

2.2 Essential Conditions for Conducting Research

Conducting research is a task that demands a lot of things to be facilitated. Nothing is expected from any body else with out producing conducive environment to make him/her produce the required output. Taye (1993) argues that research is not a job that one can embark upon just because one wanted to. No matter how much competent and skilled a researcher is, s/he can't do anything fruitful in a condition where there is physical or mental stress. This is to mean that, for any activity to be accomplished efficiently and effectively, there are some prerequisites that need to be fulfilled.

Teachers' working condition is a major component among the prerequisites to carryout research. It has been noted that teachers' favorable working conditions like political, social, economic and cultural security would allow them to take part in any essential professional activities; like conducting research (Hitchcock and Hughes, 1995 cited in Bekalu 2005).

The other essential conditions to undertake research is enough time. Before rushing to undertake educational research, a researcher should ask the following questions concerning time: "Will I have adequate time to devise the procedure, select the data gathering devise, gather and analyze the data to complete the research report?" (Best ant Kahn, 1993) In relation to the importance of time for conducting research, Gemechu (2006) stated that'' the work of

research is not an overnight act, it needs relatively long time.” He further indicated that research is time consuming because the investigator may deal with the study of gradual process, growth, gradual deterioration or with questions and issues that require longer time. It is conceivable that time for research is necessary for instructors since research is a time consuming task.

The dissemination and utilization of research findings are also other important inputs for research undertaking. Creation of publishing outlets is one of the institutional inputs for research undertaking. Institutions of higher learning and other research centers are expected to publish and disseminate what has been found so that it could be utilized. To promote research, the creation of academic journals and the implementations of a coherent publications policy at different levels are essential (UNESCO, 1998). In line with this, Derebssa (2004) states that the dissemination and utilization of research findings are seen as an important part of research and a basic means of expanding the positive impact of research on development practice.

Publication, dissemination and utilization of research, since they are essential inputs of research, will encourage instructors to undertake further research. On top of this, as opportunities permit, national awards and public recognition for research achievement is important. This would also help encourage teachers to become more interested in research activities.

Theoretically, it is widely accepted that research is one of the highly encouraged activities in the institutions of higher education as it is written in different documents. The recent Ethiopian higher education proclamation No 351/2003 is one example. In connection to the technical support for researchers given by institutions, Article 12 of the proclamation stipulates, that any institution has the duty, upon request, to provide a worker and student who

undertake research relating to education with information or assist to get access thereto. Similarly, the proclamation under its title "Power and duties" states that any institution shall have the duty to encourage studies and research in priority areas (FDRE, 2003).

Furthermore, the Ethiopian Education and Training Policy (ETP) which was issued in 1994 by the Transitional Government of Ethiopia states that, "Research into curriculum development, instruction methods and evaluation techniques shall be encouraged and assisted. It expresses the need to integrate and coordinate the teaching/learning process with research, and facilitate the participation of teachers and researchers in getting the necessary experience" (TGE, 1994). The aforementioned documents consider the encouragement, access to get information and assistance of the researchers by institutions as the necessary condition to undertake research.

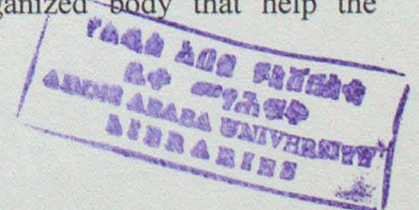
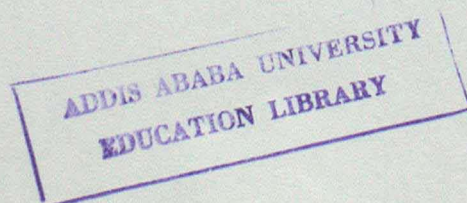
The other essential input in order to conduct research is fund. Wherever it is, financial resource is an important input for almost all activities. Research has no exception in this regard. In the context of institutions of higher learning, for research activities to flourish and to accomplish its goals, it is necessary to have appropriate financial resources. Therefore, funds for conducting research in the institutions of higher learning are the most. With out this important input, looking for achievement of objectives to which organizations and/or institutions of higher learning aim at is difficult. The HEP under the heading "Financing of research and its utilization" indicated that any institution shall allocate funds for research works and shall ensure that the fund is spent on the same (FDRE, 2003). The above idea indicated that due attention is given by the government to fund.

The funds for research work coming from the government budget may not be as much as required. Hence, diversifying sources of funding is central to establish and sustain strong

research efforts. Universities should be equipped with a dedicated office and trained personnel who track funding opportunities around the world. Without massive financial resources building strong research capability will simply remain a dream. In line with this, Damtew (2007) states that “research demands not just a one-off major input but a long-term commitment consistent with the larger mission of building such capability.” Elsewhere, countries are encouraging businesses and corporations to support research and innovation by creating incentives.

Abraham (2004) also stated the conditions that a researcher need to attain in order to conduct effective educational research as: skill in research methodology, attitude and interest to do research, research fund, motivation and enough time. Taye (1993) on his part stated that “Research needs time, money, incentives and other necessary supplies as well as cooperation of all concerned bodies.”

Along with the above themes, the following two researchers have generally categorized the essential conditions that a researcher need to attain in order to conduct effective research, almost in a similar manner. Sawyerr (2004) has tried to classify the essential conditions to conduct research into two components as: Human component (capacity of researcher or team) and environmental component; constituted by the social, institutional, and material factors that provide a setting for the research enterprise and condition for success or failure. Effective research management system, responsibility, coordination system, a clear obligation of academic staff, effective structure, satisfactory data recording system, and create positive coordination for conducting research may be included under the institutional component. The presence of well recorded data and an organized body that help the coordination of research activities are absolutely essential.



According to Seyoum (1985) there are two major dimensions that need to be considered in any research undertaking. These are institutional and personal dimensions. Under institutional dimensions among other things, he mentioned variables like time; research fund and management; research facilities; incentive, availability of data and research culture. Similarly, he discloses the personal dimensions as; interest of the researcher to conduct research, discipline, inquisitive and fertile mind; etc. Furthermore, he indicated that in order to conduct (carry out) research both the personal and institutional variables need to be in place.

Generally, it can be said that, a healthy relationship between the required input conditions and their presence is a prerequisite to any meaningful results in research.

It seems natural that there are various factors which can have positive or negative roles on certain activities. In the abovementioned review of literature, much has been said about the factors that positively affect research activity, if they are readily available. Next to this, let us move to the factors that negatively affect research activities.

2.3 Factors Affecting Research Activities

Research undertaking and its effectiveness could be influenced by a number of factors. These factors vary at different times and settings. Different factors that have a hindering impact on research works are indicated by different researchers. In this section, some of these factors are presented.

Hummadi (1989) cited in Adane (2000) has presented a list of problems which universities in the developing countries are facing in research. It can be summarized as follows:

- 1) lack of trained and experienced personnel
- 2) lack of financial support
- 3) lack of ample staff-time for research
- 4) problems related to library and laboratory facilities
- 5) absence of well established and supporting organizational structure for research and
- 6) Lack of visiting exchange programs between universities.

Many of these and to some extent similar problems are persisting in the context of Ethiopian colleges and universities. In line with this, Taye (1993) highlighted the following major difficulties encountered by researchers at Addis Ababa University: lack of sufficient budget, absence of incentives, under utilization of research outcomes, unfavorable teaching situations, lack of technical skill and competence and administrative delays. Derebssa (2000) on his part made a study on factors influencing research undertaking in IER. He identified the major challenges to the development, survival and utilization of educational research in the institute of educational research; such as insufficient and/or unsustainable funding, inadequate skilled research staff, inadequate facilities, unattractive salary, undeveloped research culture, and weak research demand by policy makers. Apart from IER, in the great majority of cases, the structures of departments or units of educational researches are not well developed (Derebssa, 2000). He further explained that even if there are research units/services in different colleges/universities and regional educational offices to initiate and promote educational research, educational research activities are generally scarcely structured in most of them.

Similarly, Tsegay (2000) conducted a study on factors affecting the conduct of educational research in Addis Ababa University (AAU). The impediments of educational research are many and varied. He identified impediments such as hectic supervisory load,

social commitments, and bureaucratic practices in publications. Generally, he categorized the main factors into five. These are environmental/ institutional, professional, attitudinal, financial and personal barriers. Derebssa (2004) on his part, indicated that lack of skilled researcher and viable research centers, insufficient and/or un-sustained funding, excessive teaching load, lack of support from the government are considered as hindering research undertaking in Addis Ababa University. Currently research in Addis Ababa University is facing problems of resources, research culture, skilled researchers and dissemination (Desalegn, 2006).

As indicate above, lack of dissemination and utilization of research findings are persisting problems for conducting research. Many of the studies of educational issues in higher learning institutions remained shelved in the archives, libraries and documentation centers. If there is no dissemination of findings, there is no utilization of research results and this in turn will discourage teachers from being involved in further research.

According to Adane (2000) the following are among the factors which were considered as persisting problems for conducting research in Bahir Dar teachers college:

heavy teaching load, absence of library and laboratory facilities, the problem of up-to-date journals and books, absence of budget, absence of experienced researchers, lack of encouragement and administrative support, absence of research link with other colleges, absence of a well established effective and autonomous organizational structure for educational research, and the absence of research culture.

Firdisa (2000) in his study “impediments to do satisfactory educational research work in line with the new education and training policy” indicated some of the prominent influencing factors in Oromiya regional state:

lack of incentives, lack /inadequate funding, time constraint, lack of competence of experts and teachers, lack of support and encouragement from top management, research endeavors and findings are not publicized and are left in shelves, lack of conducive climate for research (office space, equipment, stationery, computer with accessories etc).

Furthermore, Gemechu (2006) has made an assessment on factors affecting teachers' engagement in conducting educational research in colleges of teacher education in the same region. He mentioned some of the factors that have hindering impacts on teachers' research work. These are: lack of teachers' research knowledge and experiences, inadequate research work dissemination and use, lack of research fund, facilities and resources, teachers' heavy work load, lack of research plan in strategic plan of institutions and less credit given to research.

As most of the researchers disclosed above, lack of financial resource is one of the prominent factors that hinder instructors of higher education institutions of our country. Insufficient financial resource has prevented even the simplest investigation activities from being carried out. So, lack of finance is one of the greatest problems of many teachers to undertake educational research. Research inevitably calls for recurrent expenditure; frequent travel expenses, transport cost, assistant fees, supplies and charges of secretarial services. The individual researcher cannot properly cover these huge costs (Tsegaye, 2000)

Sometimes, when research funds are allocated, getting it on time as need arises could not be possible due to administrative delays. The problem is not only a matter of getting the approved research fund, but it is also getting it exactly on time without too much red tap (Seyoum, 1985). It is common to hear many researchers complaining of the long process that their proposals undergo to get the require funds to start the actual research. This involves every step that the proposals are subjected to pass through starting from their own department to the section of the financial service from where they draw the research fund (Taye, 1993).

The combination of all these and other factors tends to slow down the emergence and consolidation of a research activity. To alleviate these problems, therefore, there should be effective coordination among concerned bodies.

In summary, regardless of these impediments that obstruct them from conducting educational research, teachers by virtue of their important position in the educational system are required to participate in educational research to improve quality of the teaching learning process. On top of this, if the current higher education expansion and reform effort is to pay the country its full dividends in contributing to national productivity, universities need to give more visible and explicit attention to research. Further effort should be exerted from all concerned bodies, to alleviate the problems and provide the essential inputs for higher education research.

2.4 Research as One of the Objectives of Higher Education Institutions

At a time when the world is transformed into what is widely dubbed as the knowledge society, the importance of knowledge creation has become ever more critical and ever more crucial, consequently placing universities at the center of national development (Damtew, 2007).

One of the primary objectives of universities is the search for truth; advancement of knowledge by conducting research. Taye (1993) stated that "One of the major reasons for the existence of a university anywhere in the world is to get involved in research activities." Similarly, UNESCO (1997) cited in Almaz (2005) indicated that familiarizing and carrying out useful researches is one of the missions of higher education institutions.

Higher education is also crucial for the production of vital human resources such as teachers, healthcare professionals, lawyers, engineers, managers, businessmen, and researchers critical for socio-economic development of a nation. Furthermore, it is a center for knowledge

and skills creation, adaptation and dissemination. It also plays a significant role in providing relevant and quality community and public services. Higher education is, therefore, critical for economic progress, political stability and peace, as well as building democratic culture and cohesive societies. These all are, however, possible through research.

In line with this idea, the world declaration of higher education UNESCO (1998) stated that, the advancement of knowledge through research and dissemination of its results is among the missions of higher education institutions. Currently, research has been considered as one of the key tasks of institutions of higher learning not only as a matter of formality but also for teaching effectively (Derebssa, 2004). Therefore, higher education institutions' research will not only serve the community and add knowledge, but also is an instrument for good quality education.

The higher education proclamation (Art28(3b)) underlines that an academic staff of institution of higher learning has the duty to undertake problem solving studies and research that benefit the country with out affecting the teaching learning process. Furthermore, the proclamation declared that not only research undertaking in higher education institutions but also dissemination of its findings to the end users is important (FDRE, 2003). Here, it is clear that research undertaking and dissemination of its findings is among the objectives of higher education institutions.

As one of the higher education institutions in the country, Mekelle University is expected to meet the objectives of contributing to developmental needs of the country by supporting and conducting research, and by making the teaching-learning process problem-solving and conducive. The research priorities of the university need to be geared to meet the objectives of the higher education in the country. Art 15(1) of HEP, hence, states that "Any

institution shall identify research areas to be prioritized on the basis of the needs of the country and in consultation with appropriate bodies.” More concretely, Art 15(2) states that any institution shall undertake research that:

- a) Takes into account the needs of the country and enables to equip policy makers and practitioners with scientific knowledge, and
- b) Equips students and trainees with basic knowledge that enables them to undertake practical studies and research.

In line with this, MU has the mandate bestowed upon it by law to conduct research, disseminate and publish research outputs and innovation, and provide consultancy and training services by charging appropriate fees. The university’s legislation and strategic plan clearly stipulate the role of research in the university’s activities. Particularly, the mission statement of the university states that Mekelle University will “Engage in relevant research that can support the development endeavors of the country, and artistic and scholarly activities that advance learning through the extensions of the frontiers of knowledge and creative endeavor” (MU, 2004). This clearly sets the ground for the university’s research focus.

The university’s strategic plan supports this mission by pointing on the importance of providing “A system and environment conducive to all types of research, creative activity and dissemination of knowledge.” This underlines the basis for streamlining research into the main tasks of higher education institutions as it clearly sets the modalities for employment and defines the duties and rights of an academic staff. With respect to dissemination of research results and outputs, both HEP and the university legislation clearly stipulate that the university has the right and power to undertake study and research and disseminate the findings as may be necessary.

The translation of these general mission statements and goals into action require creating an enabling environment, setting clear operational guidelines, effective management and coordination of these all. In addition to fostering the over all research activities, the university has established a research and publication office for which it is mainly responsible for the conduction, publication, dissemination and improvement of research.

2.5. The Need for Instructors of Higher Learning Institutions to Conduct Research

All elements of the teaching learning process (the curriculum, the student, the methodology and infrastructure) will be coordinated by the classroom instructors. In the coordinating process of the teaching learning, they are faced with things that call decision making. In line with this, Derebssa (2000) discloses that “Educators and trainers are, by necessity, decision-makers.” They are expected to prepare a lesson plan that may contain; the teaching methodology, method of evaluation, the required materials and other matters. This implies that they have good opportunities to search solutions for problems of education. This in turn, needs to have the knowledge and skills necessary to make these valid decisions. This expected skill and knowledge can be acquired from different sources. However, the most valuable one is through research.

Although there are other sources of knowledge such as experience, authority, and tradition, it is the scientific knowledge about the training process that makes the most valuable contribution to decision making and practice in higher institution. Educators can turn to this source for reliable information and suggestions to be used in a decision-making situation. This fund of knowledge has been made available to educators as a result of research in education (Derebssa, 2000).

There are some issues that provide rational for the question “why instructors should engage in conducting research?” In broad terms, instructors have to take part in conducting

educational research because instructors come across inquisitive situations in teaching-learning process, in curriculum materials preparation, assessment, student related issues; in general professional judgment and development.

The concept of instructors as a researcher implies that teachers make research on their teaching practice for the sake of testing the theoretical principles compared to practical implementation and to assure improvement (Gemechu, 2006). Research in education is essential for providing useful and dependable knowledge through which the process of education can be made more effective. A teacher in the classroom is a technical-production manager who has the responsibility for monitoring the efficiency with which learning is being accomplished (Derebssa, 2000).

The importance of conducting research for instructors of higher learning is multidimensional. Therefore, to enhance their own or a colleague's teaching, to test the assumptions of educational theory in practice, and/or to evaluate and implement the whole school practices, teachers' participation in educational research is highly recommended (Hopkins, 2002 cited in Amera 2004). When instructors become familiar with research, they can daily improve their techniques and methods of instruction and evaluate results in scientific manner. This is to mean that familiarity with the nature and procedure of research enables teachers to be in a position to think scientifically and effectively about their pupils, their subjects and their work (Hussen, 2000)

Instructors' participation in educational research will provide benefits to the country in general and the institutions of higher learning in particular. Among the multiplicity of benefits that can be indulged by institutions of higher learning from conducting research, the major ones include:

- making learning more objective and realistic to students, it increases stimulation and motivation to further learning.
- helping the teachers to improve classroom teaching.
- fertilizing teaching, research increases the power and sensitivity to perception and provides greater capacity to observe.
- renew the teacher and enables him/her to meet new intellectual challenges and prevents him/her from becoming stagnant and complacent (Hummadi,1989 cited in Adane, 2000)

According to Derebssa (2000) research is important to the staff of higher education institutions in at least three major ways. First, it enhances the quality of instruction. Research creates new approach, idea and methods. It can also form the basis for updating the content of lecturers and practical work. An academic staff who does little or no research falls back on his or her old lecture notes year after year.

Secondly, he mentions that “Engagement in research ensures that the teachers are able to supervise research done by their students more effectively.” Teachers are called upon every year to supervise research of their students for undergraduate and/or postgraduate students. Changes in research methods, materials, procedures of analysis, and current literature can only be known by those teachers who are up-date in research. Thus, their work and the works of students they are supervising will benefit tremendously by their active engagement in research.

Finally, he pointed out that promotion is the third importance of research to the staff of higher education institutions. He further states that instructors are expected to “publish or perish.” Research is considered as one of the criteria used to determine the promotion of teachers from one academic rank to the next. Promotion is largely based on contribution to

knowledge through research and publications. To move up the academic ladder, instructors must be engaged in useful research.

Strengthening this idea, Teshome (2004) states "It is essential that research be compulsory and counted in the assessment of each academic staff." His suggestion realized that research is one of the ingredients of many of the instructor's duties to be accomplished, which has to be considered as one of the criteria for their professional career development.

2.6 The Link between Teaching and Research

Before moving on to the discussion of the status of research in higher education institutions, it would be appropriate to briefly review the relationship between teaching and research. This can be seen theoretically and in actuality of the theory.

Theoretically, teaching and research are the two primary tasks carried out in an integrated manner by any institution of higher learning. There is a widely held view among instructors and researchers that there is a close link between research and teaching in higher education institutions.

For example, Derebssa (2004) states that teaching and research are the two primary tasks carried out in an integrated manner by any university. He further writes, "In principle, all academic staff members are required doing as much research as teaching, an approach traditionally followed by universities worldwide." In line with this idea, Bekalu (2005) disclosed that "the closed link between teaching and research is called upon to make institutions the right educational centre." As it is known, research based teaching is deeper, inspiring and favors autonomous thinking. Appraising the quality of education in any higher education institution would be a function of inherent integration between the teaching and research

Garnett and Holmes (1995) cited in Asrat (2007) write about the relationship between research and teaching as “The relationship is two-way and genuinely symbiotic.” This symbiotic relationship expressed by the contribution of research to teaching on one hand, the contribution of teaching to develop research on the other hand. If teaching and research are so inseparable in higher institutions, instructors should be engaged in conducting research. UNESCO (1998) states that conducting research should be an obligation to all members of the teaching personnel at higher education institutions; therefore, all academic staff members are expected to conduct as much research as teaching.

Generally, the Ethiopian government in its education and training policy has developed general guidelines that govern the link between teaching and research. According to the current education and training policy, higher education should be research oriented (TGE, 1994) and in the proclamations of higher education institutions (FDRE, 2003) research is considered as one of the primary tasks of these institutions.

From the above descriptions, it is clear that the focus of the documents is integrating research and teaching-learning process. It also indicates that the problem of quality in education is not only to tackle by producing instructors who are qualified to teach, but also by facilitating conditions to conduct research. In this regard, it is expected that instructors of institutions of higher learning conduct research for improving the teaching-learning process, the curriculum as well as their professional competence.

The aforementioned documents clearly indicate what these institutions are required to do and at least that they have the intent of becoming teaching and research centers. Research is considered as one of the key tasks of institutions of higher learning not only as a matter of formality but also for teaching effectively. Thus, aside from teaching, the institutions expect

their academic staff to be actively engaged in research. Research should keep abreast with teaching and should help to raise the quality of teaching (Derebssa, 2004). Having this theoretical assumption, the next question that can be raised here is what is the status of the integration of teaching and research in our institutions of higher learning?

Here are some, but not exhaustive, answers for the above question. Teaching, research, and service are the sole criteria for academic promotion in Addis Ababa University (AAU). In spite of this fact, the integration of teaching and research is very limited in AAU (Tsegay, 2000). Another writer, Desalegn, (2006) also mentioned that the integration of teaching and research in the college of education of Addis Ababa University is at its lowest level. The findings of Berhanu (2006) also showed that the link between teaching and educational research at Addis Ababa University is not a strong one.

Bekalu (2005) on his study “conducting research in private and public higher learning institutions: An index for quality of education” shows that, with few exceptions, lecturers have detached themselves from doing research. He further states that under the banner of education, research and teaching are quite inseparable; research has been the badge of higher education institutions. In spite of this, most colleges became lenient and they have never taken an interest in research works. He concludes that research and teaching has never remained in close touch in the Ethiopian higher education arena. It is when teachers are satisfied and motivated that they commit themselves to the integration of teaching and research. Here, it can be said that without the integration of teaching and research, a university cannot effectively advance to continually improve the reliability and quality of education, research and consultancy services, to meet the needs of the country and the society.

2.7 The Status of Educational Research in Ethiopian Higher Education

Institutions

Early 20th century can be taken as a land mark of the introduction of modern education in Ethiopia. The genesis of educational research can not be seen in isolation from this history of modern education (Degarge, 2000). The introduction of higher education in the early 1950s has also inspired the need for conducting educational research for academic requirements (Degarge, 2000). Despite all the contributions made by the Ethiopian Orthodox church and the Mosque in producing skilled manpower for both the traditional and modern sector, they have always been criticized for not encouraging critical thinking and scientific inquiry in the teaching learning process (Seyoum, 1996).

Ethiopian higher education is undergoing quite a transformation both in public and private domains. Ethiopia had only a small number of public universities. Over the last few years the Ethiopian government has been making a significant investment in the expansion of higher education and encouraging results have been registered in terms of increasing access compared to that in the 1990s. The attention given to the higher education sub-sector, also demonstrates greater realization of the critical role that higher education could play in enhancing the human capital of the nation and in promoting poverty alleviation and economic growth, good governance and political stability (Tesfaye, 2007).

Even though, there is a progress in the education sector of the country with respect to the past, different researchers seem to have common idea about the status of educational research in Ethiopia. There are some studies on research related to the concern of the present study. These include Amare (2000), Adane (2000), Tsegay (2000), Abraham (2004), Derebssa (2004), Bekalu (2005), Gemechu (2006), Asrat (2007) and Berhanu (2008).

Amare (2000) stated that educational research is yet at its infant stage, though, more than 40 years have elapsed since the process has started in Ethiopia. Asrat (2007) also indicated that despite its existence nearly for half a century educational research in Ethiopia is at an early stage. Berhanu (2008) on his study entitled "The development of research culture in Ethiopian higher education institutions" revealed that although the higher education proclamation stipulates that academic staff in institutions of higher education should devote 25% of their time to research, in the current state of affairs, academic staff in higher education institutions devote either none or only 10% of their time to research. His findings further revealed that although the academic staffs in the institutions of higher education have a firm conviction about the role of research in promoting the quality of education in their institutions, the development of research in general seems to be low.

More specifically, some studies and assessment have been conducted on the status of research activities in the Addis Ababa University. All these works found out that staff research activities at the university were below the average expectations (Tsegay, 2000).

Derebssa (2004) has conducted a study on research undertaking in Ethiopian higher institutions of learning with special emphasis on AAU. He stated that "In Ethiopia though universities are expected to conduct research as stated in the new education and training policy, very little research is actually carried out in universities compared to their potentials."

Similarly, Adane (2000) made a study entitled "Bahir Dar teachers college instructors' involvement in educational research." His findings indicated that the research involvement of instructors of the college was low. Furthermore, Amara (2004) studied educational research practices of Bahir Dar University teachers with particular focus on educational faculty. His findings show that the teachers' involvement in educational research is low. Research is a

perfectly legitimate concern for higher education institutions. However, research was found to be a closed book to most of the colleges in Addis Ababa. Colleges were chiefly concerned with teaching (Bekalu, 2005).

To summarize, though, the importance of higher education institution academic staff involvement in research activities in their fields of study and over all social needs was given due recognition in different documents and proclamations, practically the status of research in the institutions of the country seems to be low.

As one of the higher education institution in Ethiopia, Mekelle University is expected to undertake problem solving research for the over all development of the country in general and to the region in particular. Having this theoretical assumption and the general conclusion indicated in the above review, about the status of research in the country's higher education institutions, it is wise to ask a question "what is the status of research undertaking in Mekelle University?" An attempt is being made on the current study so as to provide information about the status of research undertaking in Mekelle University.

CHAPTER 3: RESEARCH METHODOLOGY

This part of the paper presents the research method and procedures used in carrying out the study.

3.1 Research Method

The major purpose of this study is to investigate the current status of research undertaking in Mekelle University. In order to assess and identify current conditions and research practices of instructors in Mekelle University, descriptive survey method was used. This method was chosen in this study because of the following reasons;

- 1) It is appropriate to assess the status of phenomena
- 2) It is useful to get data from many respondents

3.2 Sources of Data and Sample Selection

The data used for this study were obtained both from primary and secondary sources. Primary data were collected through questionnaire and interview. The primary sources of data were process owners (vice presidents), research institute's director, college deans and instructors of the University. Important documents (articles, seminar paper, proceedings of a workshop, profile of research projects, etc) were also used as a secondary data source for triangulation of the responses obtained from both instructors and officials of the university.

MU has eight colleges: Business and Economics, Dry Land Agriculture and Natural Resources, Engineering, Law and Governance, Natural and Computational Sciences, Veterinary Sciences, Social Sciences and Languages and College of Medicine. These colleges are found in three campuses. The main campus has five colleges (COE, CSSL, CVS, COE and CDANR). Adihaqi Campus is home to CBE and CLG. Ayder campus is also home to COM.

In order to select the sample instructors, multi-stage sampling was used. In the first stage, the COE, CNCS and CSSL from the main campus and CBE from Adihaqi campus were randomly selected based on lottery method. The college of medicine was selected using availability sampling. In the second stage, all departments of the selected colleges were included in the study. Finally, proportion of instructors from these departments was taken as sample of the study. Accordingly, a total of 285 instructors were drawn from these departments using stratified random sampling technique.

In addition to this, process owner: research and community services (vice president), process owner: academics (vice president), a research institute's director, 5 college deans which is a total of 8 respondents were purposefully included in the study as source of data in order to get additional information about the status of research undertaking in Mekelle University. Table 1 below presents the number of sample colleges, departments, and instructors included in the study.

Table 1: Number of sample colleges, departments, and instructors

Campus	Total No. of colleges	Sample colleges	Departments	Number of Instructors	Sample Instructors		
Endaysus (Main)	5	CNCS	1. Biology	21	10		
			2. Chemistry	21	10		
			3. Earth sciences	27	13		
			4. Mathematics	31	15		
			5. Physics	24	12		
			6. Sport science	04	02		
		Sub Total				128	62
		CSSL	1. Amharic	06	03		
			2. Foreign Languages	22	11		
			3. Geography and Environmental sciences	11	05		
			4. History	11	05		
			5. Journalism and communication	07	04		
			6. Psychology	10	05		
			7. Tigrigna	19	09		
		Sub Total				86	42
		COE	1. Architecture and Urban planning	15	7		
			2. Civil Engineering	32	16		
			3. Computer and information Science	28	14		
			4. Electrical Engineering	20	10		
			5. Mechanical Engineering	29	14		
			6. Industrial Engineering	25	12		
Sub Total				149	73		
Adihaqi	2	CBE	1. Accounting and Finance	25	12		
			2. Business Education	22	11		
			3. Cooperatives	12	06		
			4. Economics	24	12		
			5. Management	36	17		
Sub Total				119	58		
Ayder	1	COM	1. Medicine	51	25		
			2. Nursing	15	7		
			3. Pharmacy	22	11		
			4. Public Health	15	7		
Sub Total				103	50		
Total				585	285		

3.3 Instruments of Data Collection

The instruments used for data collection in this study were questionnaires, interview schedules and documentary analyses. The questionnaires and interview schedules were

developed in such a way that they maximize the possibility of generating adequate answers to the basic research questions of the study. On the other hand, the documentary analysis was used to supplement the responses obtained from both instructors and top officials of the university through the questionnaires and interview.

3.3.1 Questionnaire

In order to secure important information for this study, questionnaire was developed as the main instrument. The questionnaire has both close and open-ended items.

Close-ended item was used for the very reason that it provides a greater uniformity of responses, and to make it easier to be processed. In order to have clear interpretation in some sort of quantitative sense, most of the close-ended items of the questionnaire were designed on a five point rating scale ranging from “strongly agree” to “strongly disagree” and from “most serious” to “least serious” with the assigned value which run from five to one respectively. Some of the items were also designed on multiple choice forms.

On the other hand, the major purpose of the open-ended item was to give opportunity to instructors to express their feeling, perceptions, and ideas about the status of research undertaking in Mekelle University without restriction. This enabled the researcher to get detail information about the status of research undertaking in this university.

The questionnaire was prepared in English based on the review of related literature. It involved a number of items. The major contents of the questionnaire were the extent of instructors' training on research to strengthen their research capacity, extent of instructors' involvement in research conferences, seminars and/or meetings, instructors' attitude towards

research, availability of essential inputs to conduct research, means of publications and disseminations of research results, and factors that can hinder instructors' research activities.

3.3.2 Interview Guide

Another instrument used in this study was interview .It was employed as instrument of data collection in order to get additional information from the university top officials about the status of research undertaking in Mekelle University. The process owners (vice presidents), research institute's director, 5 college deans were included for this purpose. The interview items that were prepared by the researcher were an unstructured type. The interview guide mainly included items that reflect the basic research questions.

The interview was administered on one-to-one basis with the researcher asking questions and listening to the responses of the informants.

3.3.2 Review of Documents

The study also employed documentary evidences as instrument of data collection. Documentary evidences were used to supplement information obtained by other instruments and check the reliability of information gathered by interview and questionnaire. To collect information about the instructor's teaching load, the class schedule (time table) of the university was analyzed. Moreover, the researcher has tried to collect different evidences about research outcomes (articles, seminar papers, etc) by reading list of articles appeared in Journals and proceedings and records of the RPO. The strategic plan of MU and the guide line set by the RPO were also consulted.

3.4 Procedures of Data Collection

In the first stage of the data collection, the researcher introduced himself and the purpose of the study to the officials of the university prior to the actual work (data collection) to create conducive conditions and cooperation. Permission letter from the vice president office was secured and circulated to all colleges. Having the permission, the following procedures were followed to conduct the data collection.

A preliminary survey was made to obtain general information about the instrument used in the study. This assisted to pre-test the survey instrument, identify any shortcoming and make modification in some items before the actual data collection is carried out. The draft instrument was tried out in two colleges of MU. The pilot study encompasses colleges of the University which were not included in the main study. The colleges were CDANR from the main campus (Endaysus) and CLG from Adihaqi campus.

The total number of participants in the pilot study was 25 instructors. Out of this total number, 15 instructors were from CDANR of the main campus (Endaysus) and 10 instructors were from CLG of Adihaqi campus. During the preliminary survey, questionnaires were used and discussions were held with some respondents for feedback. The result of this survey was used to develop improved questionnaire for the formal survey. Following the preliminary survey, refinement was made on the questionnaire. According to the constructive suggestion that was obtained from the pilot study, one item (item 3.5) was rephrased, one item (item 5.11) was added and numbering system was used for the multiple choose questions in order to simplify data entry of the SPSS. The reliability of instrument used in the pilot survey was administered by means of cronbach alpha method. Accordingly, the computed reliability of the

instruments was found to be 0.83 and 0.85. Thus, the instrument was found appropriate to collect the data for the actual study.

After assuring the reliability of the instrument, the main data collection activities were conducted. The questionnaires were distributed to the sample instructors of their respective colleges and campuses of the University. After having conversation with the officials of the university, the time to conduct interview was decided. The researcher, in collaboration with the sample college deans arranged the time and places to meet the sample instructors.

Next to this, the researcher carried out the interviews with the university officials while waiting for the return of the filled in questionnaires. Essential data were obtained after dealing with the interviewee officials of the university. The distribution of the questionnaires and the interview schedule were carried out based on the agreements made prior to these activities.

The questionnaires were distributed to the sample instructors of the university and collected by the investigator with the help of the university's officials.

3.5 Method of Data Analysis

The procedure that was followed to analyze the data was different depending on nature of the instruments employed. Hence, the researcher used the following techniques of data analysis: first, the collected data using the questionnaires were coded, tallied, organized, entered, cleaned and analyzed using statistical packages for social sciences (SPSS). Because of the descriptive nature of the study, mainly percentages and mean score value were used as appropriate means to analyze the collected data using close-ended items.

Other data, collected by interview guides, open-ended items of the questionnaire and document analysis were analyzed qualitatively. This was done by consulting the notebook and tape recorder cassettes. Narratives, quotations and the use of thematic categories were the main approaches to illustrate main results.

The collected data were identified and categorized in line with their similarities. Moreover, findings were also demonstrated using tables in order to create convenience for summary.

CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

In this section, the data collected from the participants are presented and analyzed so as to answer the basic questions of the study.

4.1 Background of the Participants

In the questionnaires, instructors of sample colleges were requested to provide information on their background which includes their sex, educational status, years of service, and teaching load per week. Accordingly, background of the participants is presented in the following table.

Table 2: Background of the participants

Items	Responses	Academic staff		University officials	
		No	%	No	%
Sex	Male	252	95.1	8	100
	Female	13	4.9	-	-
	Total	265	100	8	100
Qualification	PhD	12	4.5	8	100
	MA/MSC/MED	135	50.9	-	-
	BA/BSC/BED	118	44.5	-	-
	Total	265	100	8	100
Service year in teaching	5 years and below	175	66	-	-
	6-10 Years	41	15.5	-	-
	11-15 Years	29	10.9	-	-
	16-20 Years	15	5.7	-	-
	21 Years and above	5	1.9	-	-
	Total	265	100	-	-
Teaching load per week	10 hrs and below	83	31.3	-	-
	11-15 hrs	64	24.2	-	-
	16 hrs and above	118	44.6	-	-
	Total	265	100	-	-
Leadership position	Vice-president	-	-	2	25
	College deans	-	-	5	62.5
	Research institute's director	-	-	1	12.5
	Total	-	-	8	100

As can be seen from Table 2, about 95.1% (252) of the total respondents were males while 4.9% (13) were females. This figure shows a greater disparity in sex between male and female instructors in which males are about 19 times greater in number than that of females.

As far as the educational status of the respondents is concerned, PhD holders have the lowest share of 4.5% (12), while the largest share of 50.9% (135) is master degree holders. Similarly, undergraduate degree holders make up a significant proportion of the staff profile which is about 44.5% (118). In general, the above table depicts that academic staff with educational status from the PhD to the first degree level have participated in this study. The finding shows that instructors who have better qualification have better research experience than those who have less qualification. The implication is that qualification seems to provide instructors some opportunity to carry out research.

Service year of instructors may have an influence on instructors' research activity. This could be in terms of perceiving a wide range of problems and seek solutions. As indicated in Table 2, 66% (175) of the total respondents have served for five and below years while 15.5% (41) of the total respondents lie in the service year's range of 6-10 years. About (29)10.9% of the total respondents have 11-15 years of service in teaching. Instructors who have 16-20 service years constitute 5.7% (15) of the total respondents. The 21 and above years range of teaching service comprises 1.9% (5) of the total respondents, which shows relatively small proportion of all other service year categories given above. Generally, the finding indicated that the great majority of the respondents were in the range of 5 and below years of service. It seems that sizable percent of respondents are less experienced.

The implication of the finding in terms of service years and the involvement in research is that the experience respondents have given them better opportunity to conduct research.

70.2% of the total respondents agreed that the experience they have gained from their day-to-day teaching and learning activities develop their research capacity (see section 4.2.1).

The teaching load per week of the instructors indicates the time they may have to undertake research taking the nature of the courses and student-teacher ratio in to consideration. As depicted in Table 2, 31.3 % (83) of the total respondents were teaching for 10 and below hours per week. 24.2% (64) of the total respondents teach 11-15. The remaining 44.6% (118) of the total respondents were subsumed in the range of 16 and above hours per week.

Generally, the data show that 44.6% (118) of the total instructors had teaching load of 16 and above hours per week. This in turn may affect the involvement of these instructors in research activities. On the other hand if the student teacher ratio and the nature of the courses are normal that can give free time to conduct research, 31.3% (83) of the total respondents were not over loaded.

Personal data of the interviewees from the university officials are seen in terms of leadership position, sex and educational status. As shown in Table 2, the interviewees from the university officials participating in this research include 2 process owners (vice-presidents), 5 college deans and a research institute director. All of the interviewees are males and PhD holders.

For any activity to be done effectively, there are certain things to be fulfilled. In the same token, to conduct effective research a researcher needs to attain the following conditions: skill in research methodology, infrastructures and materials, research fund, enough time, incentives and support from concerned bodies. Accordingly, an attempt was made to assess the efforts made to develop and maintain research capacity in Mekelle University.

4.2. Instructors' Research Capacity

As it is well known, any one before deciding to perform any activity, s/he has to make sure whether s/he is armed with the necessary skill or not. This necessary skill can be achieved from different factors.

4.2.1 Factors Contributing to Strengthen Instructors' Research Capacity

The contribution of different factors to strengthen instructors' research knowledge and skill enable them to undertake research. Accordingly, the respondents were required to rate the contribution of each of the listed factors. The responses are indicated in the Table 3 below.

Table 3: The contribution of different factors to the development instructors' research capacity

Items	Level of agreement or disagreement									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
The courses you have taken in undergraduate/postgraduate program about research undertaking	20	7.5	34	12.8	32	12.1	123	46.4	56	21.1
Your private study of research reports and other materials	10	3.8	17	6.4	42	15.8	120	45.3	76	28.7
The experience you have gained from the day- to-day teaching and learning activities	11	4.2	34	12.8	34	12.8	125	47.2	61	23.0
Your participation in seminar, workshop, or in-service training	20	7.5	43	16.2	31	11.7	105	39.6	66	24.9
The university's research criteria to appoint and/or promote the academic staff	25	9.4	49	18.5	53	20.0	118	44.5	20	7.5
The conducive academic environment in your university	53	20.0	87	32.8	50	18.9	53	20.0	22	8.3
The experience in conducting educational research individually or in cooperation with other instructors	20	7.5	53	20.0	62	23.4	97	36.6	33	12.5

Key: 1= Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree

The data in Table 3 disclose that considerable number of respondents 67.5 % (46.4%+21.1%) of the total respondents agreed with the idea that the courses they have taken in undergraduate/postgraduate program about research undertaking contribute to strengthen their research capacity. On the other hand, 54 (20.8% of the total) respondents disagreed with the aforementioned idea. In responding to the second contributing factor, 74 % (45.3+28.7) of the total respondents indicated that their private study of research reports and other materials strengthen their research capacity. The remaining 10.2% of the total respondents disagreed and 15.8% of the total respondents undecided whether their private study of research reports and other materials strengthen their research capacity or not. With regard to the experience respondents have gained from their day- to-day teaching and learning activities, only 17% of the total respondents disagreed while considerable number of respondents (70.2% of the total) agreed that the experience they have gained from their day- to-day teaching and learning activities develop their research capacity.

The respondents were also asked whether their participation in research seminar, workshop, or in-service training contributed to promote their research capacity or not. Accordingly, 73.2% of the total respondents answered that their participation on these occasions contributes to promote their research capacity. On the other hand, the remaining 15.1% of the total respondents responded that they disagreed with the contribution of this factor.

With regard to the appointment and promotion, 27.9% of the total respondents disagreed and 52% of the total respondents agreed with the given idea that says "The University's research criteria to appoint and/or promote the academic staff contribute to build

up your research capacity.” The officials of the university were also asked on the weight given to research in instructors’ performance evaluation and promotion. They responded that effective teaching and publications are some of the basic criteria upon which the principles of academic promotions are based. They further disclosed that weighted values are assigned to each of the major components of the criteria in the manner provided hereunder:

- In the case of promotions to academic ranks below that of an Assistant Professor, it is sufficient that the candidate meets the minimum in terms of publications wherever applicable.
- The criteria for promotion to the rank of Assistant Professor, effective teaching and publications, have been given 50 and 25 score values respectively. On the other hand, 45 and 30 score values have been given for promotion to the rank of Associate Professor and Professor, respectively.

From the above finding one can clearly see that the university has been given some weighted value to research in the instructors’ promotion.

Furthermore, 28.3 % of the total sample instructors responded that the conducive academic environment in MU contributes to strengthen their research capacity and the remaining 52.85 % of the total respondents disagreed. The remaining respondents were undecided whether the academic environment in MU contributes to strengthen their research capacity or not. The last contributing factor forwarded to the respondents was the experience in conducting educational research individually or in cooperation with other instructors. Accordingly, 27.5% and 49.1% of the total respondents replied that they agreed and disagreed with the aforementioned idea of the contributing factor, respectively.

In an attempt to investigate the factors that contribute to strengthen instructors research capacity, respondents were asked to rate these factors. Based on the responses obtained the weighted mean of each item is calculated and ranked to make the data meaningful (see Appendix E). Accordingly, instructors' private study of research reports and other materials, the experience instructors have gained from their day-to-day teaching and learning activities and the courses they have taken in undergraduate/postgraduate program were ranked first, second and third respectively.

Participation in research seminar, workshop or in-service training, the experience in conducting educational research individually and/or in cooperation with other instructors, the university's research criteria to appoint and/or promote the academic staff and the conducive academic environment at the university have ranked fourth, fifth, sixth and seventh respectively.

4.2.2. Organization of Research Seminars in MU

The research knowledge or experience of the instructors can be estimated or assumed based on the opportunity they had in attending seminars and also considering the training they have taken on research. This in turn demands the assessment of organization/availability of research seminars. Respondents were asked, about the availability of research seminars in MU. The response is presented in table below.

Table 4: Organization of research seminars in MU

Are there research seminars in your university	Frequency	Percentage
Yes	227	85.7
No	38	14.3
Total	265	100.0

As depicted on Table 4, the majority of the subjects (85.7% of the total) responded that there are research seminars in MU. This proportion shows that, a number of instructors have agreed with the availability of research seminars in MU. The remaining 38 (14.3% of the total) instructors disclosed that there are no research seminars in their university

The responses of the interviews made with the officials of the university revealed the availability of research seminars in MU. According to the interviewees, the organization of workshops, seminars is very important in disseminating research outcomes, which is one of the missions of Mekelle University. Besides, it helps communities, local and national, to get the research experience and knowledge. They further explained that, it is the means for university researchers and participants to exchange constructive ideas and identify researchable areas of intervention.

One can infer from the above finding that MU has organized research seminars purposefully to disseminate research outputs and exchange ideas.

4.2.3. The Frequency of Organization of Research Seminars in MU

Not only the organization but also frequency of the organization of research seminars has contribution in the research activity of the university. Accordingly, the respondents were asked and the following Table presents the responses in this regard.

Table 5: *The frequency of the organization of research seminars in MU*

Frequency of organization of seminars	Frequency	Percent
Annually	150	66.08
Biannually	18	7.93
Quarterly	44	19.38
Monthly	14	6.17
Weekly	01	0.44
Total	227	100.0

As can be seen from the Table 5 above, 150 (66.08 % of the total) respondents indicated that the research seminar is organized annually. Whereas 7.93 %, 19.38 % and 6.17 % of the total respondents responded that research seminar is organized biannually, quarterly and monthly, respectively. The remaining 0.44 % of the total respondents disclosed that it is organized weekly. With regard to the organization of research workshop or seminar, responses of the interviews made with process owners (vice presidents), college deans, and director of the research institute revealed that workshops are held occasionally while seminars in research are being conducted once a year at both university and college level.

An attempt was also made to consult the output documents of these occasions for triangulation. The document analysis also revealed that the workshops are held occasionally and research seminars are being conducted once a year at university level and once a year in every college.

From the above responses of the interviewees, document analysis and the result of the survey, it seems that workshops on research issues are prepared occasionally. However, seminars are organized annually both at university and college level. What ever the frequency of the organization of research seminars, the question that may be asked is the participation of instructors in such occasions?

4.2.4 Participation of Instructors in Seminars and the Usefulness of the Occasions

An important variable to investigate the status of research done in higher learning institution is instructors' know-how of how to carry out research. This could be acquired either during the undergraduate /postgraduate training or through short term trainings provided on the job and their participation in research seminars. Accordingly, the subjects of the study were

asked whether they have participated in seminars or workshops or not. The following table presents the responses in this regard.

Table 6: Participation of Instructors in Research Seminars and usefulness of the occasions

Items	Reponses	Reponses by campus						Total	
		Endayesus		Adihaki		Ayder		NO	%
		NO	%	NO	%	NO	%		
Have you ever participated in any research seminars, workshop etc	Yes	110	41.5	41	15.5	25	9.4	176	66.4
	No	57	21.5	12	4.5	20	7.5	89	33.6
	Total	167	63.0	53	20.0	45	17.0	265	100.0
how useful is the occasion in equipping you with theoretical knowledge and Practical Research skill	Very much useless	-	-	1	0.6	1	0.6	2	1.1
	useless	3	1.7	2	1.1	-	-	5	2.8
	Medium	20	11.4	6	3.4	5	2.8	31	17.6
	useful	64	36.4	21	11.9	16	9.1	101	57.4
	Very much useful	23	13.1	11	6.3	3	1.7	37	21.0
	Total	110	62.5	41	23.3	25	14.2	176	100.0

It is worth noting from Table 6 that, 66.4 % (176) of the total respondents have participated in seminars or workshop to up-date their research skill. On the other hand, 33.6% (89) of the total respondents have not participated in seminars or workshops. The responses of the interviews indicated that instructors have opportunity to attain annual seminar on research both at college and university levels.

As far as the usefulness of the occasions is concerned, 78.4% of the total respondents disclosed that the occasions were useful and very much useful in equipping them with theoretical knowledge and practical research skill. The remaining 31 (17.6% of the total) respondents responded that the usefulness of the occasions was medium and 7 (3.9%) of the total respondents claimed that it was useless.

4.2.5 Instructors Research Training Opportunity and the Extent to which Training on Research Assisted Them

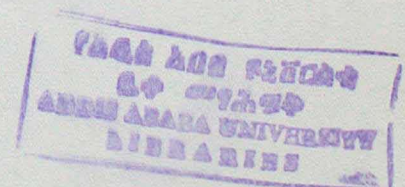
Instructors were asked to provide information on whether they have taken in-service training on research and the extent to which the training they took has helped them in doing research. The following table shows the responses in this regard.

Table 7: The participation of instructors in research training and its impact

Items	Reponses	Reponses by campus						Total	
		Endayesus		Adihaki		Ayder		NO	%
		NO	%	NO	%	NO	%		
Have you taken in-service training on research	Yes	42	15.8	11	4.2	8	3	61	23
	No	125	47.2	42	15.8	37	14	204	77
	Total	167	63.0	53	20	45	17	265	100
The impact of the training to your research capacity is	Very low	1	1.6	-	-	-	-	1	1.6
	Low	1	1.6	1	1.6	1	1.6	3	4.9
	Medium	9	14.8	1	1.6	4	6.6	14	23
	High	28	45.9	8	13.1	3	4.9	39	63.9
	Very high	3	4.9	1	1.3	-	-	4	6.6
Total		42	68.9	11	18	8	13.1	61	100

A cursory glance at Table 7 depicts that 77% (204) of the total instructors did not take any training on research while only 23% (61) of the total instructors had got training of different level pertinent to research. As revealed in the table above, instructors who did not take training opportunity to develop their research skill were greater in number than those who had got training opportunity to develop their research skill.

According to the response of the research institute director, a capacity building training on research methodology and scientific paper writing was given to 65 academic staff of Mekelle University in 2000E.C.



Requested whether they have ever taken training in research or not, 61 respondents replied that they have taken training. Of these, 4 (6.6% of the total) and 39 (63.9 % of the total) respondents have valued the impact of the training given to them to be very high, and high respectively. The number of those who have responded “low” and “very low” comprised 1.6 % and 4.9 % of the total, respectively, and this implies that impact of the training was more than average. The remaining 14 (23% of the total) instructors have valued the impact of the training given to them to be medium.

From the above finding, it can be said that, much more is desired from the University in terms of providing research training opportunity for its instructors so as to equip them with the required knowledge and skill to conduct research.

4.2.6 The Support from the Research and Publication Unit/Section in MU

Research is conducted in collaboration with others. It needs cooperation from different concerned bodies. To maximize instructors’ involvement and to create a research environment at the university, the presence and support of research and publication office is absolutely essential. In this view, the respondents were asked to rate the supporting nature of this office in MU. The following table presents the responses in this regard.

Table 8: *The supporting nature of research and publication office in MU*

Supporting nature of RPO	Responses by campus						Total	
	Endayesus		Adihaki		Ayder			
	NO	%	NO	%	NO	%	NO	%
Very low	48	18.1	17	6.4	21	7.9	86	32.5
Low	57	21.5	15	5.7	12	4.5	84	31.7
Medium	46	17.4	19	7.2	11	4.2	76	28.7
High	16	6	2	0.8	1	0.4	19	7.2
Very High	-	-	-	-	-	-	-	-
Total	167	63	53	20	45	17	265	100.0

As indicated on the Table 8, the supporting nature of RPO is not rated as very high. Moreover, only 7.2 % of the total respondents indicated that the supporting nature of the RPO is high. On the other hand, 31.7 % and 32.5% of the total respondents responded that the supporting nature of the RPO is low and very low respectively. The remaining 28.7 % of the total respondents have evaluated the supporting nature of the office as medium.

The main objective of this office is to support and follow-up the research activities in the university. However, from the above finding 64.3% of the total respondents revealed that the supporting nature of the RPO is low and very low. Even 28.7 % of the total respondents have evaluated as medium.

The availability of such a research coordinating office at the university is appreciable. However, simply its existence can not bring about a change in research activities with out support and coordination. So, expecting effective research undertaking with out an appropriate support and follow up from the RPO is time wasting. In the absence of such support, it may be hard to think of smooth running of research activities.

4.2.7 Availability of Infrastructures and Materials for Research

Conducting research is a challenging and expensive undertaking. Many conditions need to be in place both from the individual and institution sides. Besides the basic research skills; it is necessary to have an appropriate physical environment with infrastructures and equipment. In relation to this, the respondents were asked to indicate the availability and sufficiency of the basic facilities for research in MU. The responses are presented in the Table below.

Table 9: Availability of facilities and materials

Facilities	Availability				Sufficiency			
	1		2		3		4	
	No	%	No	%	No	%	No	%
Computer	248	93.6	17	6.4	131	49.4	117	44.2
Printer	230	86.8	35	13.2	60	22.6	170	64.2
Photocopy services	248	93.6	17	6.4	132	49.8	116	43.8
Duplicating services	246	92.8	19	7.2	139	52.5	107	40.4
Stationery materials	247	93.2	18	6.8	173	65.3	74	27.9
Internet access	243	91.7	22	8.3	30	11.3	213	80.4
Fax services	152	57.4	113	42.6	7	2.6	145	54.7
Telephone services	183	69.1	82	30.9	14	5.3	169	63.8
Conducive working office	181	68.3	84	31.7	25	9.4	156	58.9
vehicle	162	61.1	103	38.9	20	7.5	142	53.6
Recent reference materials	163	61.5	102	38.5	16	6.0	147	55.5

Key: 1=available, 2=not available, 3= sufficient, 4= not sufficient

A brief look at Table 9 indicates that, majority (more than 85% of each) of the respondents replied that computer, printer, photocopy, duplicating service, stationery materials, internet and necessary office equipment are available in MU. With respect to the availability of communication services, 57.4%, 69.1% and 61.1% of the total respondents choose 'yes' that indicated the availability of the services such as fax, telephone, transportation services, respectively. 68.3% and 61.6% of the total respondents also confirmed the availability of conducive work office and recent reference materials, respectively.

On the basis of the responses from the greater proportion of respondents and interview results that show agreement regarding the availability of these essential inputs, it seems that there are available inputs in the university. However, the point towards the sufficiency of these inputs satisfying the demand of the instructors or not needs other responses.

In line with this, the respondents were further requested to show their responses to the sufficiency or insufficiency of these inputs. Accordingly, the responses on the table above show that, printers, internet, fax, telephone, working office, vehicle and recent reference materials are not adequately found in MU to conduct research. Even the sufficiency of the necessary office equipment and photocopy services are supported by only 45.3% and 49.8% of the total respondents, respectively. This by itself may show the imbalance between the demand of the instructors and supply. On the other hand, 65.3% and 52.8% of the total respondents replied that stationery materials and duplicating services are sufficient in MU, respectively.

All of the interviewees were also asked to respond on the availability of these essential inputs. Accordingly, they responded that: computer, printer, photocopy service, duplicating service, stationery materials and office equipments are available at least at minimum levels that enable instructors of the university to undertake research.

As revealed by these interviewees, recent reference materials, internet, fax, and telephone services are found in a very limited amount. They further indicated that, there is critical shortage of vehicles.

The overall result of this investigation revealed that there is shortage of the majority of the essential inputs even though they are available. Derebssa (2004) has found similar finding that basic facilities for conducting research in Addis Ababa University are not sufficient.

4.3 Research Undertakings in MU

Research is one of the main objectives of institutions of higher learning. In order to achieve its objectives instructors of these institutions need to be involved in research activities. This study attempted to obtain information on whether or not academic staff in MU are actively engaged in research or not. Accordingly, instructors were requested to provide information on whether or not they have undertaken research. The following graphic representation indicates the research undertaking of the three campuses of the university.

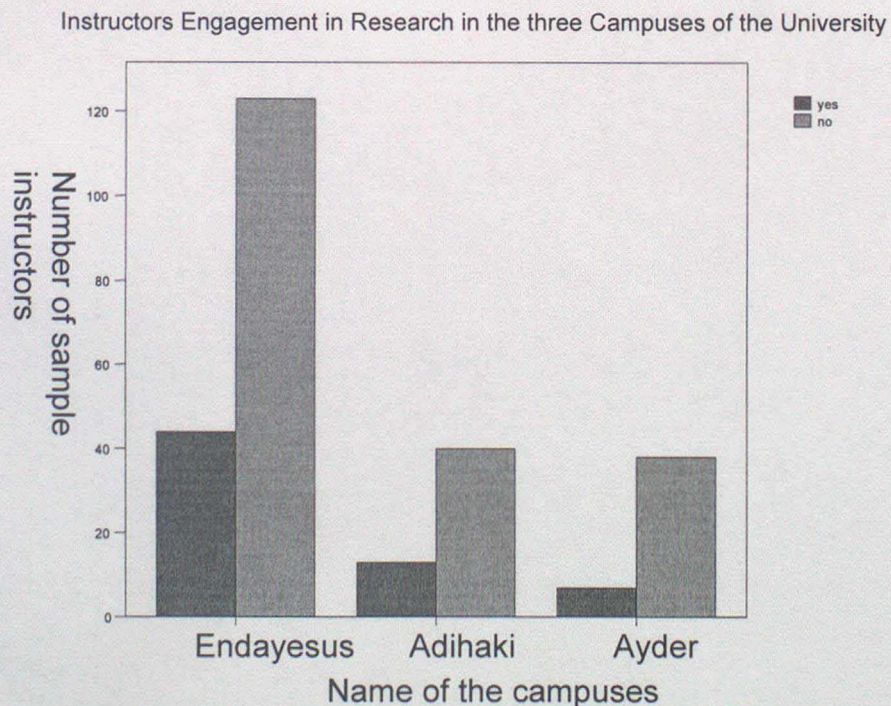


Figure 1: Instructors engagement in research in the three campuses of the university

More than 75.8% (201) of the total respondents have reported that they have never been involved in research. Whereas the remaining 24.2% (64) of the subjects indicated that they have conducted research in their career. As can be seen from the above figure, the percentage of respondents who have conducted research (24.2% of the total) is more than three times less in number than those instructors (75.8% of the total) who have not conducted research.

MU should be appreciated for making research part of its mission with the explicit aim of resolving developmental problems of the country in general and the region in particular. According to the legislation of MU, members of the academic staff are expected to spend 25% of their total time for research activity and the other 75% for teaching. Similarly, according to article 2, no.7 of the proclamation for higher education, academic staff is expected to devote 25% of working time to research and the other 75% for teaching.

College members of the university are also allowed six months paid research leave every four years and one calendar year of paid sabbatical leaves every seven years. The instructors of this university seem to have these favorable conditions to undertake research. However, the finding indicated that majority of the instructors included in this study are not engaged in research undertakings. It has been found that the research involvement of MU instructors is low.

This finding seems to be consistent with the findings of the following researchers: Adane (2000), Amera (2004), Derebssa (2004) and Asrat (2007). Adane (2000) made a study on Bahir Dar Teachers' College. His finding shows that the research involvement of the instructors of the college is low. Moreover, Derebssa (2004) studied research undertaking in Ethiopian

higher institutions of learning with special emphasis on AAU. His finding indicates that only “Very few institutions really conduct research.” Amara (2004) on his part, studied educational research practices of Bahir Dar University teachers with particular focus on educational faculty. His finding shows that teachers’ involvement in educational research is low. Asrat (2007) also revealed that instructors’ educational research involvement was almost non-existent in Haramaya University.

The most important message from the above findings is that most of the instructors in the country’s higher learning institutions have low involvement in research undertaking as compared with the expectation.

4.3.1 Relationship between Instructors’ Participation in Research Training /in Seminars and their Involvement in Research

Table 10: Instructors research training /Participation in seminars and their involvement in research

Instructors who have	Instructors who				Total	
	conduct research		did not conduct research			
	Frequency	percent	Frequency	percent	Frequency	Percent
taken training	42	15.8	19	7.2	61.0	23.0
not taken training	22	8.3	182	68.7	204.0	77.0
Total	64	24.2	201	75.8	265.0	100.0
participated in seminars	51	19.2	125	47.2	176.0	66.4
not participate in seminars	13	4.9	76	28.7	89.0	33.6
Total	64	24.2	201	75.8	265.0	100.0

As it is indicated in the Table 10, among the total instructors included in the study, only 64 (24.2% of the total) of the instructors have participated in research undertakings. An attempt has been made to look at the relationship between the number of instructors who have

taken training on research and their involvement in research undertaking. Accordingly, among the 64 instructors who have conducted research, 42 (15.8% of the total) of them are instructors who have taken in-service training on research. The remaining 22 (8.3% of the total) have not taken in-service training on research. This shows that instructors who have taken research training have better research experience than those who have not taken in-service training on research.

The implication is that training seems to provide instructors some opportunities to carry out research. This finding was confirmed by Yalew (2000) that teachers who have taken research training did more research than those instructors who haven't taken. It seems true that any one who has got some knowledge about research is in a better position than his/her counterpart who has not received any orientation.

Concerning the participation of instructors' in seminars and their involvement in research undertaking, similar finding with the above is expected. That is, instructors who have participated in seminars should have better research experience than who have not participated in seminars. However it can be clearly seen in the above table that from 176 instructors who have participated in seminars, only 51 were involved in research undertakings. While the remaining have not conducted research even though they are expected to do so.

4.4 Extent of Publications in MU

MU is expected to have its own means of publication so as to provide platform for its staff and others. In line with this, an attempt was made to obtain information about the extent of publication in MU. In doing so, the respondents were asked to indicate the availability of publications in MU or not. Accordingly, the result is presented in the table below.

Table 11: Availability of publications in MU

Name of the campus	Are there publications in your university				Total	
	Yes		No		Frequency	Percent
	Frequency	Percent	Frequency	Percent		
Endayesus	147.0	55.5	20.0	7.5	167.0	63.0
Adihaki	46.0	17.4	7.0	2.6	63.0	20.0
Ayder	26.0	9.8	19.0	7.2	53.0	17.0
Total	219.0	82.6	46.0	17.4	265.0	100.0

Table 11 shows that, 265 instructors responded to the question with regards to the availability of publications in MU. From the alternatives presented, the most frequently indicated (by 82.6% of the total respondents) response is 'yes' which confirms the availability of publication. The remaining 17.4% of the total respondents replied that there is no publication in the university.

To counter check the responses of the instructors, the researcher interviewed top officials of the university. Accordingly, all of the officials assured that:

Publication of research results and exchange of information is essential to the growth of any discipline due to this fact Mekelle university has different publications. Moreover, there are several national and international journals available for researchers to publish their research results. So, lack of publication can not be one of the factors responsible for the decline of research activities.

To put in a nut shell, the above finding reveal that there is publication in MU as it was supported by 82.6% of the respondents and all of the interviewees. The availability of

publications in Mekelle University would be able to cultivate the interest of instructor researchers.

Further question was raised in the questionnaire to find out the type of publication presented in Mekelle University. Accordingly, the response for this issue is presented in the following section.

4.4.1 Type of Publications in MU

Those respondents, who replied that there is publication in MU, were further asked to identify the type of publication available in MU. Accordingly, the following types of publications are indicated by the respondents: journals, news paper, brochures, conference-proceeding, magazines, profiles of research projects, and teaching materials.

4.5 Extent of Dissemination of Research Works in MU

Research needs not only to be produced but also distributed, communicated and used. Disseminating research outputs can provide ways for communication and interaction among individuals, institutions and industries. It can facilitate experience exchange and co-working conditions.

The dissemination of research outputs at national and international level can take several forms. One of the popular ways is presenting these findings at workshops, seminars, occasional reports, newsletters and conferences. The other way is publicize in different national and international scholarly journals.

4.5.1 Mechanisms of Dissemination of Research Findings

The respondents of this study were asked to indicate the mechanisms of dissemination of research outputs in MU. The research results need to be known to the immediate consumers such as organizations, industries and community for its implementation. Most instructors revealed that there is mechanism to present the research results and eventually could do the dissemination of research results. Some of them say that conference was the mechanism to disseminate their research outputs. The other respondents have said that publications are mechanisms for dissemination. Seminar and Workshop are organized to disseminate the research findings as it is indicated by these respondents. Accordingly, the following shows the responses in the mechanism used in MU to disseminate research findings: seminars, conferences, workshops and publications.

Basically, research is not an activity performed just to keep oneself busy or do some sort of mental exercise (Taye, 1993). It should be disseminated and utilized by the appropriate individuals or organizations. King (1998) also states that, dissemination can be considered as the process whereby research results reach to different audiences. He further explained that any researchers have to think about their research result dissemination accesses at least when they attempt to begin the research activities.

In line with this, the legislation of the university stated that, an academic staff member has the right to disseminate his/her findings within or outside the university through any media (MU, 2004). Concerning dissemination of research findings, the university's research, publication and consultancy policy has the following specific objective: ensure dissemination of research results by devising appropriate instruments such as organization of workshops,

conferences and symposia, support staff participation in scientific forum, and research publication and launching of relevant scientific journals (MU, 2004).

According to the interviews made with the vice-presidents, college deans and director of research institute, an attempt has been made to disseminate research output through different ways. In this regard the following are forwarded by the interviewees as means of dissemination of research outputs in MU.

Publishing the research out puts in peer-reviewed and reputable journals

- Thirty one (31) original research papers have been published by academic staff of MU in reputable international journals in 2000 E.C.
- Five original research papers have published in chapter of a book.
- Two books have been published.

Publishing Journals at MU

- An interdisciplinary journal for dry land research and sustainable development of Mekelle University the "*Journal of Drylands*"
- The second scientific journal of Mekelle University from College of Natural and Computational Sciences, Called "*Momona Ethiopian Journal of Science*".
- The third journal of the University is on preparation. It is "*Journal of law*"

Publishing Proceedings & Presentation of Completed Research Projects

- In line with the main objective of Mekelle University, completed research projects have been presented in the Colleges Research Review Days and the Proceedings have been published and distributed to scientific communities and relevant organizations.

4.6. Factors Hindering Instructors' Participation in Research Activity

Previously, it was made clear that more than 75% of the instructors did not carry out research. The review of different research results also indicated that instructors' involvement in research activities can be influenced by different factors. These factors could be categorized as internal and external to the individuals. In an attempt to investigate the factors that inhibit instructors from undertaking research, respondents of this study were asked to rate the degree of seriousness of the factors from least serious to most serious. In addition to this, they were asked to list down factors other than the given factors, if any, in the open-ended part of the questionnaire. For the sake of convenience, the factors are presented in different groups as follows:

4.6.1 Personal Factors

Research activity can be influenced both by personal and institutional factors. Among other things, the following are considered under the personal factors.

Table 12: Personal factors hindering instructors' participation in research activities

Personal Factors	Degree of seriousness									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
Lack of confidence to carry out research	83	31.3	95	35.8	40	15.1	26	9.8	21	7.9
Your negative attitude towards research	145	54.7	77	29.1	18	6.8	7	2.6	18	6.8
Lack of instructors' collaboration with each other	36	13.6	77	29.1	47	17.7	61	23	44	16.6

Key: Least serious=1, Less serious=2, serious =3, more serious =4, most serious =5

According to Table 12, 32.8 % (15.1, 9.8 and 7.9%) of the total respondents replied that lack of confidence to carry out research is serious constraint that hinders their research

work. The remaining 31.3% and 35.8% of the total respondents indicated that this factor is least and less serious factor respectively. Instructors' negative attitude towards research is also found to be least significant in limiting their research activities. As it can be seen from the above table, the instructors' negative attitude towards research is considered by only 16.2% (6.8%, 2.6% and 6.8%) of the total respondents as serious problem. This shows that a significant percentage of the sample subjects (83.8) seem to have positive attitude towards research. The above table also indicated that, 57.3% (17.7%, 23% and 16.6%) of the total respondents showed that lack of instructors' collaboration with each other is serious influencing factor that negatively affect research activity in MU.

4.6.2 Time Factors

Time is one of the important factors that can determine the involvement of instructors of higher institution in research activities. The subjects of this study were requested to rate the seriousness of the following listed time factors. The response is presented in the table below.

Table 13: Time Factors Hindering Instructors' Participation in Research Activities

Time Factors	Degree of seriousness									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
Heavy teaching load	31	11.7	53	20	58	21.9	108	40.8	15	5.7
Administrative responsibility	83	31.3	66	24.9	37	14.0	37	14.0	42	15.8
Committee works	71	26.8	79	29.8	51	19.2	39	14.7	25	9.4
Delay in the delivery of Funds	29	10.9	55	20.8	67	25.3	56	21.1	58	21.9
Administrative delay to get necessary material support	61	23.0	52	19.6	43	16.2	40	15.1	69	26.0

Key: Least serious=1, Less serious=2 , serious =3, more serious =4, most serious =5

According to the data in Table 13, administrative responsibility and committee works are found to be least serious factors in limiting research work. However, delay in the delivery of funds and administrative delay to get necessary material support are relatively considered as serious factor by 68.35% and 57.7% of the total respondents, respectively. Here, it seems important to point out that, not only lack of fund but also the delay in the delivery of funds and administrative delay to get necessary material support negatively affect the research activity in MU. The delay in provision of financial support partly discourages investigators from doing research. Regarding this issue, Taye (1993) pointed out that though the research funds are needed on time, many researchers seem to complain the long process that their proposals undergo to get the funds they required to start the actual research. This shows that the problems being faced in getting the allocated funds has its own role to obstruct investigators from conducting research. This situation, in turn, may lead to discouragement of those who are interested in doing research.

When we look at Table 13, 84 (31.7% of the total) respondents reported that heavy teaching load is not hindering factor that limit their research activity. An instructor to be a researcher needs suitable arrangement of his/her teaching and other workloads. Instructors with teaching load 5 hrs per week and below did not conduct research even though they have free time with respect to other instructors load. One can infer from this finding that, at least these instructors are expected to be involved in research activity if the other important inputs are adequately supplied. The responses of the vice presidents indicated that instructors of the university have the time to conduct research. This is because of the fact that the university is tried to implement the legislation in this regard. The legislation of MU concerning this issue stated that the full-time teaching load of an academic staff shall be 12 LEHs.

On the other hand, a vast majority of the respondents, 181 (68.4% of the total) replied that, heavy teaching load is a factor for the insufficient time instructors experienced to do research. In responding this issue, 58 (21.9 % of the total), 108 (40.8 % of the total) and 15 (5.7% of the total) respondents indicated that heavy teaching load is serious, more serious and most serious factor that hinder their research activity, respectively. This indicated that shortage of time is one of the prominent constraints for instructors to do research. The college deans were also requested whether instructors of the university have enough time to carry out research or not. The responses of the college deans disclosed that, since some instructors in their respective college are over loaded, they have no time to conduct research.

The result of the investigation indicated that some instructors at MU have heavy burden of teaching. The response of the instructors concerning their background also showed that, almost 118 (44.6%) of the respondents were overloaded. They were teaching for 16hrs per week and above. Therefore, heavy teaching load is a hindering factor for low instructors' involvement in research. This partly contributed to the inability of instructors to conduct research. Similarly, Seyoum (1998) and Adane (2000) mentioned that heavy teaching (work) load is one of the persistent problems in the participation of teachers in educational research.

4.6.3 Factors Related to Support from Concerned Bodies and Incentives

In order to conduct research the need for support and incentives from concerned bodies is unquestionable. Support for instructors who conduct research could be in terms of different forms. Technical, moral/psychological, material, financial support and participating in different research occasions could be some. The following table demonstrates the response received from instructors on these issues.

Table 14: Support from top management and incentives

Factors	Degree of seriousness									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
Lack of support and encouragement from top management	25	9.4	37	14.0	39	14.7	78	29.4	86	32.5
Lack of Support from research coordinating unit/section	19	7.2	44	16.6	57	21.5	80	30.2	65	24.5
Lack of incentives	6	2.3	12	4.5	29	10.9	55	20.8	163	61.5

Key: Least serious=1, Less serious=2 , serious =3, more serious =4, most serious =5

When one looks at the responses of the instructors in Table 14, it can be noted that lack of support and encouragement from top management and research coordinating unit/section of the university are serious problems that hinder participation in research activities. For the first factor, 14.7%, 29.4% and 32.5% of the total respondents disclosed that it is serious, more serious and most serious respectively. Similarly, 30.2% and 24.5% of the total respondents reported that lack of support from research coordinating unit is more serious and most serious problem that negatively affect their research activity. The main objective of the research institute is to support and follow-up the research activities in the university. However, 64.3% of the total respondents revealed that the supporting nature of the RPO is low and very low (see section 4.2.6).

Concerning the above issue, the interviewees disclosed that encouragement has been given to those instructors who are engaged in research in terms of opportunity to participate in research seminars, promotion and scholarship. They further clarify that promotion and scholarship are not evaluated only by research undertakings. In principle they admit that encouragement should be given to instructors in order to motivate them to be involved in

research. However, this principle has not been implemented practically. The support provided for instructors who did research in MU seems negligible.

It should be clear that the enhancement of the support of instructors to do research is not only for personal gains of the instructors but also for more institutional and social gain. Therefore, their engagement in research has to be regarded as part and parcel of their duties. To this effect, they have to be encouraged not necessarily in terms of financial support, but by creating conducive working conditions

According to table 14, lack of incentives is considered as serious, more serious and most serious impeding factor by 10.9%, 20.8% and 61.5% of the total respondents respectively. This shows that incentive is found to be one of the major constraints; that is, instructor researchers were not given incentives in any form that encourages them to conduct research. The interview responses of the officials also show similar results. They confirm that adequate incentives are not available at their university. It can be said that the university has failed to provide incentives for its instructors to be engaged in research.

In order to be effectively engaged in research, a researcher needs to be provided with material and/or psychological incentives (Seyoum, 1998). Absence of incentives, as argued by Taye (1993), is a problem well recognized by most researchers. Failure to provide incentives may keep instructor researchers aloof from participating in research work.

The finding of the questionnaire and the interviews clearly depicts that, lack of support and incentives are serious impediments, which need immediate attention, if an attempt is to be made to promote research in MU.

4.6.4 Lack of Opportunity to Participate in Research Training and Symposium.

The importance of research knowledge and skill to enable instructors undertake research is unquestionable. This important capacity could be acquired through different ways. Of these, participating in research training, symposium, and forum are some. On the other hand, lack of access to these occasions may have negative impact on instructors' research undertaking. The following table presents the responses of the instructors on whether these factors are problems that hamper their research activity or not.

Table 15: *Lack of opportunity to participate in research training and symposium*

Factors	Degree of seriousness									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
Lack of access to symposia and forums	94	35.5	82	30.9	30	11.3	36	13.6	23	8.7
Lack of opportunity to participate in a research training	26	9.8	35	13.2	17	6.4	91	34.3	96	36.2

Key: Least serious=1, Less serious=2, serious =3, more serious =4, most serious =5

As depicted on the Table 15, 13.6% and 8.7% of the total respondents indicated that lack of access to participate in seminar and forum is more serious and most serious problem, respectively, that hindered them from research activity. On the other hand, 6.4%, 34.3% and 36.2% of the total respondents responded that lack of opportunity to participate in research training is serious, more serious and most serious problem that negatively affect their research activities. This proportion shows that considerable number of instructors has considered this factor as prominent problem that negatively affect their research activities.

The responses of the interviews conducted with college deans also support the aforementioned idea. According to the responses of the interviewees, lack of research training is a serious problem for conducting research in MU. If the instructors of MU are to be expected to conduct research, it becomes imperative that they should get opportunity to participate in research training.

4.6.5 Research Fund

One of the most essential inputs to carryout research activity is financial resource. Evidently, research requires money. It remains useful and indispensable input to conduct research. Research inevitably calls for travel expenses and transport costs, data collector fees, charges of secretarial services and others. Unless adequate budget is allocated; it will be difficult for instructors to undertake research.

In this regard, interview was held with the process owners (vice- presidents), college deans and the director of research institute. These officials of the university were asked to enlighten whether there is a budget allocated in the university for the purpose of research undertaking or not. Of the funding sources for research work that the interviewees identified, the following are common.

- Internal research funding
- Government
- National sources and
- International sources

The results of the analysis of interview questions concerning the sources of budget for research can be summarized as follows.

4.6.5.1 Internal Research Funding

The university has created a research fund at different levels of its structure: at the department, college and university level. The research fund has generated from overhead charges to projects, from consultancy fee charged to the university and other internal revenue sources.

Research fund at the university: The research fund at the university has generated from 50% of the overhead charge of all projects and from 25% of the consultancy fee accrued to the university and sale of teaching materials and textbooks.

Research fund at the colleges: The research fund at the college has generated from 25% of the consultancy fee accrued to the university, 10% of its internal revenue and an amount allocated from the university research fund.

Research fund at the department: The research fund at the department has generated from 50% of the consultancy fee accrued to the university, 20% of its internal revenue and an amount allocated from the college research fund.

4.6.5.2 Government Budget

All of the interviewees, made clear that the government recurrent budget is one of the means for conducting research activities in MU. According to the responses of all of the interviewees, the government has budget lines (6417, 6271, 6221 and 6223) that may be used for supporting research. The research institute director disclosed that: every year about 450,000 birr is allocated for research activities from the government recurrent budget. Colleges and departments are requested to prepare budget proposals on these budget lines with strong justifications. Such budget proposals may be used to cover consumable materials, funds for

senior projects/essays, postgraduate students, and funds for organizing trainings, seminars and workshops.

All of the interviewees indicated that the budget allocated from recurrent budget is a limited amount to undertake research. They further disclosed that there is deficiency of budget for research work at MU. Since the availability is beyond the reach of most individual researchers, the existence of research sponsoring institutions became indispensable (Seyoum, 1998). The Beirut and Tokyo conferences as cited by UNESCO (1998) also stated that: to guarantee high quality research, suitable systems for supporting research have to be designed.

The vice presidents and the research institute director were further asked on whether any effort is made to call for NGOs to fund research or not. An attempt was made to look into different sources of fund as it was indicated by the responses of the interviewees. According to them, different national and international sources were found to fund the university's research projects in addition to the recurrent and internal budget. Of these sources, the following are common:

4.6.5.3 National Organizations

According to the response of the top officials, the university has made necessary contact and relations with the following national sources of fund.

- Ministry of Science and Technology (MST)
- Ministry of Water Resources (MWR)

The research institute director and college deans further indicated that:

There are also other national institutions that do a call for different research through out the country, so the academic staff of Mekelle University can write proposals. The competition is very hard, so the academic staff should be smart to compete with other researchers.

4.6.5.4 International Organization

Depending on the nature and scope of the research project, the university has looked for funding from international sources. Accordingly, the following are some:

- United Nations Institutes for Training and Research
- NUFU (Norwegian Program for Research and Education)
- Dry Land Coordination Group (DCG)
- Centre for Development and Environment (CDE) of University of Berne, Switzerland
- International Foundation for Science
- Centre for Sustainable Agriculture/Swedish University of Agricultural Sciences
- Horn of Africa-Regional Environmental Centre-Demand Driven Action Research
- The Applied Training Project of Nile Basin Initiative
- The Royal Institute of Technology of Sweden
- Norwegian School of Veterinary Sciences
- Wagenigan International
- British Ecological Society
- The National Geographic Committee for Research and Exploration
- Federal Ministry for Foreign Affairs/The Federal Republic of Germany
- Development Fund (Norwegian NGO)

The summary of quantity of research projects funded by these agencies is

Presented in the following graph

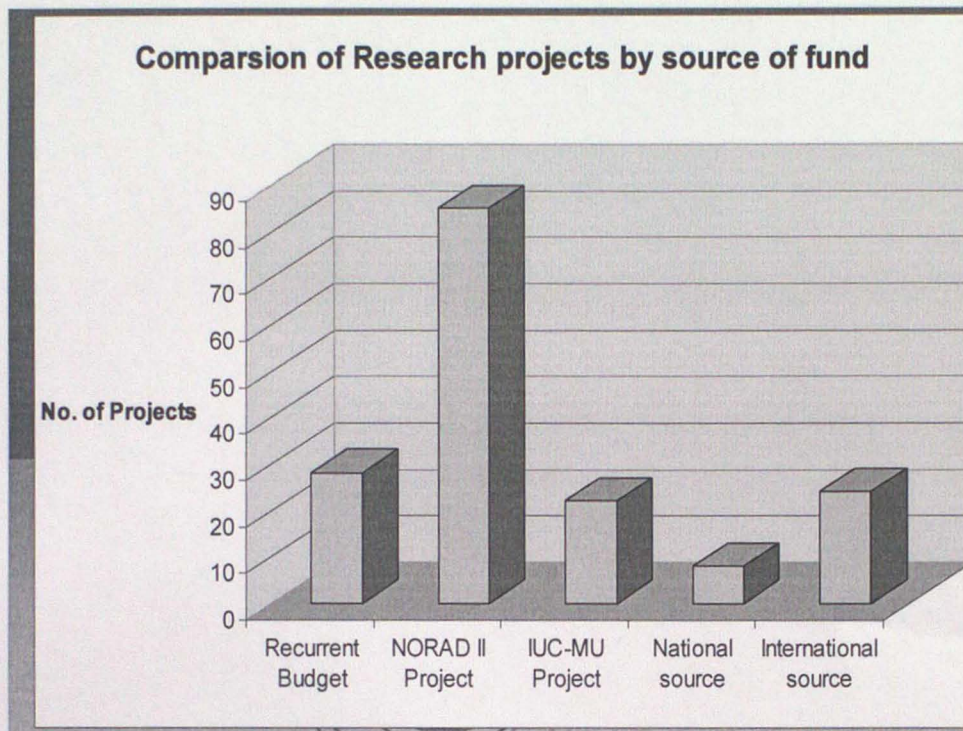


Figure 2: Comparison of research projects by source of fund

The above finding clearly shows that research projects funded by NORAD II have got the highest quantity whereas national institutions have earmarked relatively least quantity. The other three sources of research have earmarked almost similar funds. In spite of the funds secured from the international institutions, funds allocated by national institutions for conducting research in MU are relatively scarce. These institutions should consider that research is a means for bringing about change and development in the country and allocate funds accordingly.

Adequate and lucrative financial support to research is unquestionable. In this regard, the respondents were asked to identify the financial problems and their degree of seriousness. Accordingly, the table below presents the responses.

Table16: Financial problems and their degree of seriousness

Financial Factors	Degree of seriousness									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
Lack of stationery material to conduct research	95	35.8	77	29.1	49	18.5	24	9.1	20	7.5
Lack/Inadequacy of budget	9	3.4	11	4.2	22	8.3	80	30.2	143	54.0
Inability of the research unit/section to find external research funds	15	5.7	30	11.3	93	35.1	53	20.0	74	27.9
Lack of clearly specified budgetary procedures that ensure allocation of research fund	25	9.4	41	15.5	75	28.3	56	21.1	68	25.7

Key: Least serious=1, Less serious=2 , serious =3, more serious =4, most serious =5

More than 64% (35.8% and 29.1%) of the total respondents reported that lack of stationery material is not a serious problem to conduct research whereas the other 35.1% (18.5%, 9.1% and 7.5%) of the total respondents indicated that it is a serious factor that hindered their research activities.

The inability of the university's research institute to find external research funds and lack of clearly specified budgetary procedures that ensure allocation of research fund, are

considered by 83% and 75.1% of the total respondents, respectively, as serious prominent factors that negatively affect research activities.

30.2% and 54% of the subjects revealed that lack/inadequacy of budget is more serious and most serious problem respectively that hindered their research works. Thus, it is reasonable to say that research funding is an explanatory variable that could bring hindrances on research works.

In the interview made with the college deans, they replied that, efforts were being made to carryout research. However, the efforts were encountered by some problems. The main constraint to obstruct research activities is lack of sufficient budget .They reported that proposals on research topics were prepared by instructors and submitted to the research institute of the university. However, among these proposals only some are selected and sponsored because of lack of financial supply for research activities.

As it is indicated by the officials of the university, the government recurrent budget is not adequate to conduct research. So, the university has tried to find other sources of fund. They further revealed that, the amount of fund secured from these sources is not also sufficient. It seems clear from the result of the instructors and officials that insufficient fund is one of the prominent problems that obstruct research activity in MU.

4.6.6 Other Factors

There are also other factors that hinder the involvement of instructors in research activities other than the listed above. The factors are presented in the following table.

Table 17: Other factors hindering instructors' participation in research

Other factors	Degree of seriousness									
	1		2		3		4		5	
	No	%	No	%	No	%	No	%	No	%
Lack/Insufficient internet access	20	7.5	23	8.7	47	17.7	64	24.2	111	41.9
Inaccessibility of data	37	14.0	46	17.4	46	17.4	81	30.6	55	20.8
Lack of recent reference materials	14	5.3	26	9.8	41	15.5	82	30.9	102	38.5
Inadequate library service in the university	49	18.5	79	29.8	55	20.8	42	15.8	40	15.1
Under-utilization of research outcomes	17	6.4	14	5.3	47	17.7	96	36.2	91	34.3
Lack of staff development scheme for researches	14	5.3	24	9.1	54	20.4	91	34.3	82	30.9
Frequent changes of personnel in research units/sections at the university	58	21.9	80	30.2	59	22.3	39	14.7	29	10.9
Lengthy research administration process in the university	18	6.8	37	14.0	56	21.1	82	30.9	72	27.2
Lack of conducive research environment in general	12	4.5	15	5.7	30	11.3	79	29.8	129	48.7

Key: Least serious=1, Less serious=2, serious =3, more serious =4, most serious =5

When one looks at the responses of the instructors in Table 17, it came to light that lack/insufficient internet access is a noticeable constraint for research activities. The greater proportion (83.8 % of the total) of respondents showed that they do not have sufficient internet access for research. This constraint is rated less and least serious by only 7.5% and 8.7% of the total respondents, respectively. According to the information obtained from the college deans through the interview, the speed of the internet is very weak and due to this, instructors of the university are not in a position to use the internet in order to get current literature.

It is clear that the internet service plays a remarkable role in production, communication and dissemination of research works. In line with this idea, the university's

research, publication and consultancy policy has set the following objectives: develop mechanisms for improved management information systems, facilitate access to international literature and database by improving IT infrastructure of the university. However, the above findings, both the responses of the interviewees and the instructors, indicated that there is insufficient internet service in MU.

Better access to ICT is essential in today's information-based economy and the knowledge society; MU staff must be able to access global information and apply it towards the solution of Ethiopian development challenges. ICT must support academic staff research activities.

Concerning the accessibility of data it is also obvious that, an immediate response from respondents creates conciliation between the researcher and the subjects so that the researcher can complete the expected duties of research in the planned span of time. On the other hand, inaccessibility of data may frustrate the researcher. As indicated in Table 17, 31.4% of the total respondents have the opinion that the data are accessible to investigators. It is indicated as least and less serious factor by 14% and 17.4% of the total respondents respectively. The remaining 68.6% of the total respondents showed their agreement indicating that getting immediate response from respondents is difficult. Which means for about 68.6% of the total respondents inaccessibility of data is one of the impeding factors.

Up-to-date reference materials like books, journals, research reports etc are basic necessities and sources of research information. These reference materials show and guide the investigator to the areas that have not been explored. These materials also provide the researcher with the current findings that are pertinent to his/her research work. In line with this, 15.1% of the total respondents responded that lack of recent reference materials (books,

journals, research reports etc.) is not serious problem to conduct research in MU. However, majority (84.9% of the total) of the subjects responded that lack of recent reference materials is one of the serious problems that hinder research activity. In this regard; Adane (2000) and Hussen (2000) have found the same finding, that lack of up-to-date library materials is one of the constraints that hinder instructors to conduct research.

Different service giving sections of the University are expected to play significant role in accelerating and fulfilling the accomplishment of research activities. The library, being one of these service giving centers, is a source of reference materials. The availability of reference materials in the library without adequate library service is no less than obstacle. Fast and on time services encourage researchers and save their time to do more. On the contrary, poor services may offer the reverse of the above and become a push factor that discourages investigators.

As can be seen from Table 17, more than 48.3% of the total respondents indicated that the service being given by the libraries of the university under investigation is not a problem that negatively affects their research activity. On the other hand, slightly more than 50% of the total subjects responded that inadequate library service in the university is an impeding factor that limits their involvement in research activity.

In responding to the research administration process, 210 (79.2% of the total) respondents indicated that lengthy research administration process in the university is also another problem that hinders their involvement in research. Only 20.8% of these respondents are responded in opposite way. The research administration process in the University has three phases: pre-award, post-award administration and termination phases.

The pre-award phase includes identifying funding opportunities, preparation of a proposal, submission of a proposal for review, acceptance of research award, and signing of project contract for MU sponsored projects. The post award administration starts with the registration of the project at the research directorate office of the University. An entry workshop is organized involving all stakeholders to inform about project objectives, overall activities, expected outputs and mechanisms of implementation. Submission of technical and financial progress reporting and review of project outputs is an important activity during post-award administration. The last phase in the research process involves the organization of an exit workshop involving all stakeholders, dissemination of research outputs, handing over of project properties as per the agreements, possibilities for continuation of outputs and sustainability of project activities. This is the process that 210 (79.2% of the total) respondents indicated as serious hindering factor.

The majority of respondents (89.8% of the total) disclosed that absence of a well laid out environment for research is a prominent factor restricting them in doing research. That is, absence of conducive research environment remained to be the major problem. In the same vein, respondents were also asked about the utilization of research outcomes. Accordingly, 88.3% of the total subjects responded that under-utilization of research findings is a factor limiting their research works. Whereas, frequent changes of personnel in research unit/section at the university is not indicated as serious factors by 52.1% of the total respondents.

Based on the responses obtained the weighted mean of each item is calculated and ranked to make the data meaningful (see Appendix F). Accordingly, lack of incentives, lack/inadequacy of budget, and lack of conducive research environment in general are ranked first, second and third respectively. Lack of recent reference materials (books, journals,

research reports etc) in the library, under-utilization of research outcomes and lack/insufficient internet access are also ranked fourth, fifth and sixth respectively.

The factors that inhibit instructors from undertaking research ranked from seventh to tenth are the following: lack of opportunity to participate in research training, lack of staff development scheme for research, lack of support and encouragement from top management, lack of access to symposia.

On the other hand, factors that have not ranked as more serious and most serious impediments to conduct research in MU are negative attitude of instructors towards research, lack of stationery materials, lack of confidence to carry out research, committee works, administrative responsibility, frequent changes of personnel in research unit/section and inadequate library service in the university.

It is important that the above issues should be taken in to consideration. If these are at least at satisfactory level, it would be possible to expect instructors to undertake research activities in MU.

4.6.7 Summaries of Additional Problems Perceived by Respondents

4.6.7.1 Problems Perceived by Instructors

The respondents were also requested to list down what they think, impeding factor that hinder research activities in MU. Accordingly, the following impeding factors were mentioned.

1. Instructors' salary is very low to cope up with the existing economic situation that will force to work outside the university other than research.
2. No laboratory materials that help to interpret our work.
3. Lack of different soft wares
4. Lack of commitment both from instructors and management side.
5. Lack of implementation of the research policy in the university.

4.6.7.2 Problems Perceived by Officials of the University

Similarly, officials of the university were requested to list down what they think as impediments that hinder instructors in MU from satisfactory research activity. Accordingly, problems and challenges indicated by these officials are presented below.

Critical shortage of vehicles/transportation problem

- Loose and not timely follow up of research projects by concerned bodies.
- Lack of sufficient training on research methodology
- Critical shortage of research fund
- Lack of instructors' researcher skill
- Lack of attraction and incentive
- Instructors negative attitude towards research
- Staff turn over because of income
- Excessive load
- Lack of individual initiation

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of the major findings and conclusion of the study. It also presents the possible recommendations forwarded by the researcher, which are hoped to avoid and/or at least minimize the problems revealed in the study and promote research activity in Mekelle University.

5.1 Summary

This study is an attempt to analyze the relationship between what has been stated by ETP, higher education proclamation and by the mission and vision statements of MU and what is going on in actuality of research practices in Mekelle University. Hence, the main purpose of this study was to explore the status of research undertaking in Mekelle University. A study about the status of research undertaking in institution of higher learning provides valuable information for decision makers including instructors themselves and other stakeholders. To this effect, the study attempts to answer the following basic research questions:

- What efforts are made so far to develop and maintain capacity of research undertaking in Mekelle University?
- What is the extent of publication of research results /outputs/ in MU?
- To what extent are research outputs disseminated?
- What factors constrain instructors to conduct research in MU?

To find out answers for the basic questions indicated above, descriptive survey method was used. Questionnaire was the main instrument to collect data. Before the actual data collection, preliminary survey was made to obtain general information about the

instrument. The total number of participants in the pilot study was 25 instructors. These instructors were selected from two campuses of the university which were not included in the main study. The reliability of this questionnaire was found to be 0.83 and 0.85 at cronbach alpha level. Since the questionnaire was found valuable to collect data for the actual study, it was administered in three campuses of the university.

A total of 35 departments of the sample colleges were included in the study. A proportion number of instructors were randomly selected from the sample colleges and respective departments summing up to 285 instructors for participation as sources of data. Interviews and document analysis were also used to collect data from university officials for triangulation. A total of 8 university officials were purposefully included in the study.

The collected data from the questionnaire were organized, entered, cleaned and analyzed using Statistical Packages for Social Sciences (SPSS). The data secured through interview and document analysis were analyzed qualitatively. Based on the analysis of the collected data, the following are the main findings of the study.

1. Efforts so far made in developing and maintaining capacity of research undertaking by Mekelle University.

- The majority of the respondents indicted that the following major factors have contributed a lot to develop their research capacity: their private study, the experience they have gained from day to day learning-teaching activities and the courses they have taken in undergraduate/postgraduate program.
- The findings indicated that significant proportion, 204 (77% of the total) instructors did not take any training on research. Lack of research training as one factor could put strong barrier in the research undertaking. Of the 61 (23%) instructors, who have got training opportunity, 39 (63.9%) have valued the impact of the training given to them to be high.

- The data show that computer, printer, photocopy services, duplicating services stationery materials and necessary office equipment are available in MU at least at minimum levels that enable instructors of the university to undertake research. Concerning the insufficiency of some essential inputs to conduct research, the finding indicated that, internet, fax, telephone, conducive working office, vehicle and recent reference materials are not adequately found in MU.
- There are different sources of fund for research activities in the university such as internal research funding, government recurrent budget, national sources and international sources. In spite of the efforts made in finding means of research fund from different directions, there is shortage of fund.
- The results of this study demonstrated that involvement of Mekelle University's instructors in research activities is so limited. Only few instructors, 24.2% of the total, have been engaged in research.
- Among the 64 (24.2 %) instructors who have conducted research, 42 (15.8 %of the total) of them are instructors who have taken in-service training on research.
- Concerning the participation of instructors in seminars and their involvement in research undertaking, from 176 (66.4% of the total) instructors who have participated in seminars, only 51(19.2% of the total) were involved in research undertakings.

2. There are different means of publications in Mekelle University.

- Concerning the publications of research results, it has been found out that instructors have wider opportunity to publicize their research results. The finding reveals that Mekelle University has different types of publications. Conference proceedings, journals, news papers, brochures, and books are published within the university that could give opportunity for instructors to publicize their research outputs.

3. There are different means of dissemination of research outputs in MU.

- As far as the opportunity to disseminate research results is concerned, it has been ascertained that instructors have wider opportunity to disseminate. One of the popular ways is presenting research findings at workshops, seminars, occasional reports, and conferences. The university has organized research conferences and symposia purposefully to disseminate the research findings of its instructors. The other means of dissemination is publications in different national and international scholarly journals.
- The finding revealed that, there are research workshops and seminars in the university. The workshops are held occasionally and research seminars are being conducted once a year both at university level and in every college.
- The participation of instructors in such occasions seems to be moderate. About 66.4 % of the total respondents have participated. The majority of these respondents reported that the occasions were useful in equipping them with theoretical knowledge and practical research skill.

4. The factors that impede instructors research activities.

- Based on the responses, instructors' involvement in research activities is influenced by factors, internal and external, to the individuals. Major reasons why instructors show less participation in research activities are: lack of incentives, lack/inadequacy of budget, lack of conducive research environment in general, lack of recent reference materials (books, journals, research reports etc) in the library, under-utilization of research outcomes, lack/insufficient internet access, lack of opportunity to participate in a research training, lack of staff development scheme for research,

lack of commitment both from instructors and management side, shortage of vehicles/transportation, lack of instructors' research skill. Besides this, lack of support and encouragement from top management, lack of access to symposium, lengthy research administration process in the university, inability of the research unit/section to find external research funds, lack of clearly specified budgetary procedures that ensure allocation of research fund, inaccessibility of data were found to have negative role on research undertakings.

Inadequate library service in the university, frequent changes of personnel in research unit/section, administrative responsibility, committee works, lack of confidence to carry out research, lack of stationery materials, instructors' negative attitude towards research are found relatively least serious factors in MU.

5.2 Conclusions

Mekelle University should be appreciated for making research part of its vision and mission with the explicit aim of resolving developmental problems of local community, the country and humanity in general and making research an integral part of the learning-teaching process. There are efforts so far made by the university in developing and maintaining capacity of research undertaking. There is also encouraging effort in finding research funds from different national and international organizations. The other important achievement is in terms of publication and dissemination of research outputs.

Despite these, the findings of the data analysis demonstrated that with few exceptions, instructors are not actively involved in doing research. Problems related to lack of incentives, lack/inadequacy of budget, lack of conducive research environment, lack of recent reference

materials in the library, under-utilization of research outcomes and insufficient internet access have been the major constraints for instructors' failure to conduct research.

It can be generalized, from the findings of the data analysis that the present status of research undertaking in Mekelle University remains to be satisfactory. The implication is that Mekelle University is in the way to meet its objectives related to research. Further progress can be achieved if the problems are avoid or at least minimized.

5.3 Recommendations

In order to facilitate and improve instructors' involvement in conducting research, the researcher forwards the following suggestions.

1. The organization of research seminars and its impact on increasing instructors' research involvement should thoroughly be investigated.
 - It can be recommended that the participation of instructors should be strengthened. In line with this, the university should rearrange the organization for these occasions by conducting impact assessments in terms of whether the organization of the occasions and participation of instructors in these occasions bring about a change on their involvement in research activities or not.
2. In order to improve the research activities in Mekelle University, the instructors have to be supported by adequate training.
 - It is important to give them intensive on- job training to boost up the knowledge and experiences of the instructors. Though the training cannot be provided for all at the same time, it seems better to use multiplying effect. However, it should be reliable that the trainers get intensive training so that skills are transferred to the instructors at large. At

the same time, it is better to assess research training given to instructors in terms of whether the training is useful or not.

3. The supportive nature of the RPO of the university should be strengthened to facilitate research undertakings and motivate the instructors.
 - The main objective of the establishment of such office wherever is to support and follow-up research activities. The same is true for the establishment of RPO in MU; therefore, it should work further to achieve its objective. This office should create a mechanism to revise and improve the research policies of the University (for Example the lengthy research process). Furthermore, it is better to collect feed backs about the service given by this office so as to solve its weaknesses and to continue with its strengths.
4. The publications in the university should be continued in a sustainable manner.
 - The wide opportunity for instructors to publicize their research results should be increased in a sustainable manner. If it is possible every college of the university has to have its own means of publication like journals.
5. The dissemination of research results need to be continued with increased mechanisms.
 - The colleges produce and disseminate multidisciplinary knowledge in their respective areas on continual basis through different publications including the journals, conference proceedings, bulletins, and newsletters. There should be a further mechanism through which researchers exchange experience and boost their interest. If the results are made public and clear for pertinent organizations, instructors and top officials, it is possible to have a clear understanding on how to implement the result of research.

6. The university in collaboration with national and international organizations should allocate adequate budget.

- The University needs to exert further effort to find additional fund through collaboration, partnership and networking with national and international organizations and institutes as quickly as possible. The RPO should look for more funding sources which increase the amount of fund as required. Instructors of the university on their part should compete, in different occasions of call for papers, with other researchers to find research funds.

7. Attention has to be paid to solve problems encountered in doing research.

- The problems that hinder instructors of Mekelle University are multi-dimensional. Lack of research capacity, time, incentives, fund and others. To get rid of the problems, the way forward shall be focused. This begins from initiating instructors through incentives, trainings and support. The other important point is to allocate adequate budget that may be obtained from different sources. The university needs to make all the necessary institutional arrangement. Similarly, the academic staff should exploit their knowledge as much as possible.

Generally, research should be considered as a means to bring about a change in the over all development of the country. Therefore, it has to be given attention by the university, Ministry of education, governmental and non-governmental organizations, national and international organizations and institutes.

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Appendix 'A'

**Addis Ababa University
School Of Graduate Studies
Institute of Educational Research**

Questionnaire to be filled by Mekelle University's Instructors

Purpose: The purpose of this questionnaire is to collect basic data for the study entitled "the status of research undertaking in Mekelle University." Your cooperation to offer relevant and honest information is highly important for the success of this study. I would like to assure you that your response will be kept confidential. Hence, please feel free to answer all questions frankly and accurately as much as possible. It is not necessary to write your name on the questionnaire.

Thank you in advance.

Instruction: Some questions which have been designed to assess your opinion about the status of research undertaking at your university are listed down. Please, read each statement carefully and indicate your answer by marking (√) in the appropriate box.

1. Background Information

1.1 Name of the campus

1. Endayesus 2. Adihaqi 3. Ayder

1.2 College name _____ Department name _____

1.3 Sex: 1. Male Female

1.4 Educational status/Qualification

1. Diploma 2. BA/BSC/BED
3. MA/MSC/MED 4. PhD

1.5 Service Year in teaching

1. 5 Years and below 3. 11-15 Years
2. 6-10 Years 4. 16-20 Years
5. 21 Years and above

1.6 Average teaching load per week

1. 10 hrs and below 2. 11-15 hrs
3. 16 hrs and above

Instruction: For the following questions, please indicate your level of agreement or disagreement by using the following scales and marking (√) in the appropriate column.

Strongly disagree=1, Disagree=2, Undecided=3, Agree=4, and strongly agree=5

2	Factors Contributing to Strengthen Teachers' Research Capacity	1	2	3	4	5
2.1	The courses you have taken in undergraduate/postgraduate program about research undertaking contributes to strengthen your research capacity					
2.2	Your private study of research reports and other materials strengthen your research capacity					
2.3	The experience you have gained from the day- to-day teaching and learning activities develop your research capacity					
2.4	Your participation in seminar, workshop, or in-service training in the university contributes to promote your research capacity					
2.5	The university's research criteria to appoint and/or promote the academic staff contributes to build up your research capacity					
2.6	The conducive academic environment in your university contributes to strengthen your research capacity					
2.7	The experience in conducting educational research individually or in cooperation with other instructors in your university contributes to build up your research capacity					
3	Teachers' Attitude toward Research	1	2	3	4	5
3.1	Research is solely the task of professional researchers, and thus does not concern instructors					
3.2	Research is one of the major tasks of instructors					
3.3	Instructors could be more creative and improve their teaching methods if they involve in educational research.					
3.4	Educational research contributes much in solving practical educational problem.					
3.5	Conducting educational research negatively affect effective teaching					
3.6	Research should be given the same attention as that of teaching					
3.7	Research is important in promoting the quality of education					

4. For Each of the Following Questions, Please, Choose and Circle the Letter of Your Possible Response.

- 4.1 How do you, rate the supporting nature of the research and publication unit/section in your University? 1) Very low 2) Low 3) Medium 4) High 5) Very high
- 4.2. Are there research seminars in your university? 1) Yes 2) No
- 4.3. If your answer to question (4.2) is 'Yes', please, rate the frequency of the seminars? 1) Annually 2) Biannually 3) Quarterly 4) Monthly 5) Weekly
- 4.4. Have you ever participated in any seminar or workshop to up-date your research skill?
1) Yes 2) No
- 4.5 If your answer to question (4.4) is "Yes", how useful is the occasion in equipping you with theoretical knowledge and practical research skill?
1) Very much useless 2) useless 3) Medium 4) useful 5) Very much useful
- 4.6. Have you taken in-service training in research undertaking to develop your research capacity? 1) Yes 2) No
- 4.7. If your answer to the above question (4.6) is 'Yes', the impact of the training to your research capacity is?
1) Very low 2) Low 3) Medium 4) High 5) Very high
- 4.8. Do you conduct research in your career? 1) Yes 2) No
- 4.9 If your answer to the above question (4.8) is 'Yes', please list down the area or issue which you have studied and the source of fund for your research activities?

	Research Title	Academic year	Source of Fund
1			
2			
3			
4			
5			

4.10. What percentage of your time do you devote to research?

- 1) 5% and below 2) 6-10 % 3) 11-20% 4) 21- 30% 5) Other, if any _____

- 4.11. Are there publications in your university? 1) Yes 2) No
- 4.12. If your answer to the above question (4.11) is 'Yes', what kinds of publications are produced? You can give more than one answer.
- 1) Teaching materials (text books) 2) Journals 3) News paper
4) Brochures 5) conference -proceedings 6) other, if any _____
- 4.13. By what mechanism do teachers in your university disseminate their research work?
You can give more than one answer.
- 1) Conference 2) Publication 3) seminar 4) workshop 5) other, If any _____
5. Some of the basic materials and infrastructure needed to conduct research are listed in the following table. Please, indicate the availability and sufficiency of the basic facilities in your university by putting a mark (\checkmark) at the appropriate column? Use the following scales: Yes=1, No =2, Sufficient =3, Not sufficient =4

N.O	Facilities	Availability		Sufficiency	
		1	2	3	4
5.1	Computer				
5.2	Printer				
5.3	Photocopy services				
5.4	Duplicating services				
5.5	Stationery materials				
5.6	Internet access				
5.7	Fax services				
5.8	Telephone services				
5.9	Conducive working office				
5.10	vehicle				
5.11	Recent reference materials				

6. In the following table, some of the expected factors which may hinder teachers from research undertaking, are listed. Please, rate the intensity of the factors by marking (√) at the appropriate column? Use the following scales: Least serious=1, Less serious=2, serious =3, more serious =4, most serious =5

No	Factors Hindering Teachers' Participation in Research Activities	1	2	3	4	5
6.1	Lack of confidence to carry out research					
6.2	Your negative attitude towards research					
6.3	Lack/Insufficient internet access					
6.4	Inaccessibility of data					
6.5	Lack of recent reference materials (books, journals, research reports etc.) in the library					
6.6	Inadequate library service in the university					
6.7	Lack of support and encouragement from top management					
6.8	Lack of instructors collaboration with each other					
6.9	Lack of access to symposia, seminar , etc.					
6.10	Lack of opportunity to participate in a research training					
6.11	Under-utilization of research outcomes					
6.12	Lack of staff development scheme for researches					
6.13	Frequent changes of personnel in research units/sections at the university					
6.14	Lengthy research administration process in the university					
6.15	Lack of Support from research coordinating unit/section					
6.16	Heavy teaching load					
6.17	Administrative responsibility					
6.18	Committee works					
6.19	Lack of stationery material to conduct research					
6.20	Lack/Inadequacy of budget					
6.21	Inability of the research unit/section to find external research funds					

6.22	Delay in the delivery of funds						
6.23	Administrative delay to get necessary material support						
6.24	Lack of clearly specified budgetary procedures that ensure allocation of research fund						
6.25	Lack of incentives						
6.26	Lack of conducive research environment in general						
You can write other problems (if any)							

7. What do you recommend to alleviate the problems and improve research activities in your university? Please, suggest your idea on the blank space provided below.

Appendix 'B'

Interview schedule with College Deans

Purpose: The purpose of this interview is to get necessary information for the study entitled "the status of research undertaking in Mekelle University." The opinion of College Deans is believed to contribute much to this study. In this regard, your cooperation to offer relevant and honest information is highly important for the success of this study. The data will be used only for research purpose. The information obtained from you will be kept confidential and will not affect any body in any way. Hence, please feel free to offer your opinion frankly as much as possible.

Thank you for your kind cooperation

Issues to be raised in the interview with College Deans

1. Do instructors in your college have enough time to carryout research?
2. Do instructors get the essential materials and services for research purpose (Computers and printers, stationery materials, library and internet services)?
3. Is there budget, which is allocated for research undertaking and how about the adequacy of the budget in your faculty?
4. How is the weight given to research in instructor's performance evaluation and promotion?
5. What mechanisms do you use to encourage instructors to conduct research?
6. Is there any effort to organize research conferences, workshops and/or in-service research training in your college? For what purposes are these occasions organized?
7. What do you say about the opportunity of instructors in your faculty to publish their research findings?
8. What do you say about the opportunity of instructors in your college to disseminate research results?
9. What do you think about the factors that hinder instructors in your college to conduct research?
10. What do you suggest to eliminate the problems and improve the engagement of teachers in research?

Appendix 'C'

Interview schedule with Process owner, Academics (vice President)

Purpose: The purpose of this interview is to get necessary information for the study entitled "the status of research undertaking in Mekelle University." The opinion of Academic and Research Vice President is believed to contribute much to this study. In this regard, your cooperation to offer relevant and honest information is highly important for the success of this study. I would like to assure you that your response will be kept confidential and will not affect any body in any way. Hence, please feel free to offer your opinion frankly as much as possible.

Thank you for your kind cooperation

Issues to be raised in the interview with Process owner, Academics (vice President)

1. Do instructors in your university have enough time to carryout research?
2. Do instructors get the essential materials and services for research purpose (Computers and printers, stationery materials, library and internet services)?
3. Is there budget, which is allocated for research undertaking? What about its adequacy and the time taken to deliver the fund?
4. Is there any effort to call for NGOs to fund research? If yes, can you please list some?
5. How is the weight given to research in instructor's performance evaluation and promotion?
6. What mechanisms do you use to encourage instructors to conduct research?
7. Is there any effort to organize research conferences, workshops and/or in-service research training in your university? For what purposes are these occasions organized?
8. What do you say about the opportunity of instructors in your university to publish their research findings?
9. What can you say about the opportunity of instructors to disseminate research results?
10. What do you think about the factors that hinder instructors' research activities in your university?
11. What do you suggest to improve the engagement of instructors in research?

Appendix 'D'

Interview schedule with Research institutions Director

Purpose: The purpose of this interview is to get necessary information for the study entitled "the status of research undertaking in Mekelle University." The opinion of Research and Publication Officer is believed to contribute much to the study. In this regard, your cooperation to offer relevant and honest information is highly important for the success of this study. The information obtained from you will be kept confidential and will not affect any body in any way. The data will be used only for research purpose. Hence, please feel free to offer your opinion frankly as much as possible.

Thank you for your kind cooperation

Issues to be raised in the interview with Research institutions Director

1. Do instructors get the essential materials and services for research purpose (Computers and printers, stationery materials, library and internet services)?
2. Is there budget, which is allocated for research undertaking, what about its adequacy and the time taken to deliver the fund?
3. Is there any effort to call for NGOs to fund research? If yes, can you please list some?
4. How is the weight given to research in instructor's performance evaluation and professional promotion?
5. If instructors conduct research in your university and/or desire to conduct research, what mechanisms does your office use to encourage these teachers?
6. Is there any effort to organize research conferences, workshops and/or in-service research training in your university? How often do these occasions organized?
7. What do you say about the opportunity of instructors in your university to publish their research findings?
8. What can you say about the opportunity of instructors to disseminate research results?
9. What do you think about the factors that hinder instructors in your university to conduct research?
10. What do you suggest to remove the problems and improve the engagement of instructors in research?

Appendix 'E'

Rank of factors based on their contribution to strengthen instructors' research capacity

Factors	Mean	Remark
The courses you have taken in undergraduate/postgraduate program	3.6075	3
Your private study of research reports and other materials	3.8868	1
The experience you have gained from the your day-to-day teaching and learning activities	3.7208	2
Your participation in research seminar, workshop or in-service training	3.5811	4
The university's research criteria to appoint and/or promote the academic staff	3.2226	6
The conducive academic environment at your university	2.6377	7
The experience in conducting educational research individually and/or in cooperation with other teachers	3.2642	5

Appendix 'F'

Rank of problems based on their seriousness

Problems	Mean	Remark
Lack of confidence to carry out research	2.2717	24
Your negative attitude towards research	1.7774	26
Lack/Insufficient internet access	3.8415	6
Inaccessibility of data	3.2679	15
Lack of recent reference materials(books, journals, research reports etc) in the library	3.8755	4
Inadequate library service in the university	2.7925	20
Lack of support and encouragement from top management	3.6151	9
Lack of teachers collaboration with each other	3.0000	19
Lack of access to symposiums, forums, etc	3.6075	10
Lack of opportunity to participate in a research training	3.8189	7
Under-utilization of research outcomes	3.8679	5
Lack of staff development scheme for research	3.7660	8
Frequent changes of personnel in research unit/section	2.6264	21
Lengthy research administration process in the university	3.5774	11
Lack of support from research coordinating unit/section	3.4792	13
Heavy teaching load	3.0868	17
Administrative responsibility	2.5811	22
committee works	2.5019	23
Lack of stationery materials	2.2340	25
Lack/Inadequacy of budget	4.2717	2
Inability of the research unit/section to find external research funds	3.5321	12
Delay in the delivery of funds	3.2226	16
Administrative delay to get necessary material support	3.0151	18
Lack of clearly specified budgetary procedures that ensure allocation of research fund	3.3811	14
Lack of incentives	4.3472	1
Lack of conducive research environment in general	4.1245	3