Research Practice in Public Universities of Ethiopia

The Case Of Mekelle University

Dawit Girmay Weldemichael

Master of Philosophy in Higher Education, Department of Education, Faculty of Educational Sciences

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Tittel Research Practice in Public Universities of Ethiopia: Case Study

Forfatter Dawit Girmay Weldemichael

http://www.duo.uio.no

Trykk: Reprosentralen, University of Oslo

Abstract

This study explores research practice in public universities of Ethiopia. The purpose was mainly to identify the main factors affecting research practice and to examine the relation research to teaching and community service. The purpose of this study, Mekelle University (MU) which is one of the public universities in Ethiopia, was chosen as a case study. The study adopted qualitative case study method. In this study the data collection methods used documentary analysis such as: ESDP, policy documents, internal organizational reports, memos, minutes and phone and Skype interviews of university officials, selected department heads, academic staffs, students and support staffs.

The finding of the study reveals that research practicing in Ethiopian universities is lagging behind. Mekelle university`s research policy draws from the higher education proclamation no. 531/2003 that governs HEIs in the country (FDRE, 2003). HEIs intends to develop applied research and consultancy relevant to Ethiopia's development needs. However, in practical there is less appear at present to be any overall coordinating and overseeing body to ensure that the research practice meeting the country's developmental needs. MU teaching staff is minimal or not engaged in research. despite statements in university regulation mentioning that every teaching staff should devote 25% of working time to conducting research. The research activities carried out in universities are inadequate both in quantity and quality. Some of the challenges are: lack of research fund, fewer facilities, poor management support system, teaching load, shortage of qualified and committed staff.

MU has few laboratories to support research and they are not fully operational and poor preservation. Last but not least, academic freedom was not observed, staffs are reluctant to practice, even what has been granted by the proclamation. The current environment drive the existing staff to seek other employment.

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Acronyms

AVPRGP	Associate Vice President for Research and Graduate Program
BPR	Business Process Re-engineering
CSA	Central Statistics Agency
ESDP	Educational Sector Development Program
FDRE	Federal Democratic Republic of Ethiopia
GER	Graduate Enrollment Ratio
HEIs	Higher Education Institutions
HEP	Higher Education Proclamation
HERQA	Higher Education Relevance and Quality agency
HESC	Higher Education Strategic Center
ICT	Information Communication Technology
MOE	Ministry of Education
MU	Mekelle University
QA	Quality Assurance
RICU	Research Institue Center and Unit
R&CS	Research and Community Service
R&D	Research and Development

Chapter 1: GENERAL OVERVEIW

Research is one of the three components (teaching, research, community service) of the university's mission, which the creation of new knowledge lies upon. The product also advances further research and scholarship along with other two duties: teaching and community service. That's why countries invest a huge amount of resources for research in universities. The academic fruits of work have responsibility to ensure the return of investment. Faculty research and scholarship represent invaluable professional asset. But, the value of that asset lies in its effective implementation.

From the establishment of Mekelle University (MU) in 2000, MU tried to engage its faculty in research. The university manual (2008) clearly stated research as one of the major components of the duties of a university (MU, 2008). Higher Education Institutions (HEIs) believe that an active research agenda is a mandatory requirement of all HEI and that research excellence is non-negotiable institutional objectives (Hazelkorn, 2005). Currently, MU developed a strategic plan to map the future direction of the institution (MU, 2008). The university is taking steps to shift its focus towards graduate school and research. The strategic plan is the first attempt to chart its future direction. If the primary focus of MU is moving towards excellence in research, it is helpful to have empirical data on its faculty research practice.

1.1 Background of the Study

Ethiopian higher education system is relatively young. It started a little over 50 years ago (Teshome, 2003). However, its development within half a century, by any standard, was very low. Emphasizing the sluggish development of higher education in Ethiopia Teshome (2003) commented for a population of over 80 million, the expansion of both public and private HEIs was totally insignificant. Since the HEIs of the country had been for many years under full control of the government. Mainly involved in the production of elite and governed by elite system. Ethiopia found itself with a higher education system that was restricted top-down conservative adminstration in its professional activities, this limited in its academic freedom (Saint, 2004).

No matter how remarkable the change witnessed at system level is, the desired change is far from being realized at institution level related to research and development (R&D) (MOE,

1998). According to Teshome (2003) the implementation of reforms in the university`s before anyone discussed about what they are meant for being one of the major reasons behind the resistance of the academic community (Teshome,2003:15). Moreover, as Clapham (1995) described, the first wave of reforms in the early days of the EPRDF government was politically motivated Clapham, 1995: 131). Aiming to root out an established firmly but articulated section of the national elite that remained from the previous regime and thereby bring the universities under the functional needs of incumbent politicians (Tefera, 2009). These imply that the reforms at an institution level were usually tried in the conventional and traditional elitist top-down approach with an implicit motive that, except the minor changes realized either as complements or as Clark (1983) explained incremental to the existing system, the universities organization structure, R&D set up. Ethiopian Higher Education Proclamation (HEP) no. 531/2003 mentions that every teaching staff should devote 25% of working time to conducting research (FDRE, 2003). However, research in university has various challenges. For example, Nega (2012) stated the main problem of universities is the lack of qualified academic staff and Meles (2012) add on his studies explained the universities teaching staff are not engaged in research. Ashcroft and Rayner (2011) also claim that "There is little quality research being undertaken in Ethiopia's universities, though knowledge production and transfer are at a early stage" (Ashcroft and Rayner, 2011: 235). This study, therefore explores how research is practiced in public universities of Ethiopia.

1.2 Statement of the Problem

The policy of higher education institution of Ethiopia on teaching and research load article No 5.5.1/2003:99 which the researcher of this thesis wants to emphasis, states that academic staff members are expected to devote 25% of their time to research, and staff members of research institutes are expected to have a home base in an academic faculty or department where they are expected to devote 75% of their time on research (MU, 2008). MU Business Process Re-engeenering (BPR) document shows also the university aims to create autonomous academic staff and research system to meet the challenges and to satisfy demand of the stakeholders (ibid). However, some of the works on the R&D aspect of Ethiopian higher education system are either politically motivated or narrow in dimension (Teshome, 2003). It is repeatedly stated that the Ethiopian higher education institution`s research is poor in practice, inefficient and insufficient. In addition, Ethiopian higher education system is still severely controlled in its administration in its scholarly activities (Saint, 2004). Furthermore,

Tesfaye argues that the complex organizational structure and politically oriented formation might make it difficult for the universities of Ethiopia to function flexibly and effectively (Tesfaye, 2004). The problems seem very diversified and deep-rooted, despite an increase interest in the field of research. MU as part of the higher education system of the country is not far from the above mentioned problems.

Therefore, general research question of this study is stated as:

How research is practiced in Ethiopian public universities?

This fundamental research problem is further broken down into basic research questions:

1. What conditions affect research in Ethiopian public universities?

2. How is research integrated with teaching and society?

1.3 Purpose of the Study

This study helps to reveal the status of research undertakings at the various levels of the university`s institutes, colleges, faculties and departments of MU. It provide descriptive explanation of research undertaken in the context of the country`s universities. The study might give suggestions to the concerned authorities (university Boards, President, deans, department heads, etc). And senate to alleviate the research arrangements of the main academic organs of the university and Minister of Education with a goal to extend and create useful to policy makers, higher education officers, practitioners, university leaders, academicians, and other stakeholders in the country's higher education sector. It might also serve as a basis for further research and discussions.

1.4 Scope of the Study

The study mainly focuses on the research practice of MU. Accordingly, research and knowledge production are dominated by teaching. In fact, teaching and research have been one part of the theme. However, the fundamental value of the University to be competitive has been explored since, excelling in research among others have been used as a base to be ranking and pristage.

MU is neither from the two oldest nor the from thirteen newly established universities in Ethiopia. The university is one of the 8 oldest HEIs in Ethiopia with the mission to have "excellence in research" institutional reform at BPR was adopted in 2009 for research purpose and the personal proximity of the writer of this study. Therefore, the researcher

believes that studying MU research undertakings might indicate how the Ethiopia public universities are practicing research undertaking.

1.5 Limitation of the study

This study may have some special shortcomings due to my inability, as a researcher, to collect data in person when the persons are interviewed. It might be difficult to make the sample representative from a distance where the researcher cannot see what is happening interviewee's actions, facial expresstions. However, more than half of the interviewees are MU staff pursuing their studies in Norway and from the group of top management of MU who came to UMB Norway for NORAD project in 24-28/02/20114. Due to this, the respondents are main actors and have detailed information and practical experience.

The study is also a case study of just one university. Even though the university has been selected purposive since the researcher's preliminary study shows it is in between the old and the new established universities. In addition, the university is implementing new reform (BPR) on R&D and is envisioned as a research excellence university. It cannot claim to have taken into account the whole Ethiopian higher education system for the study outcomes. It is also understood that different environmental conditions and situations can determine and influence the attitude, perception and organizational pattern in one institution than other. Hence, there is likely to have different outcomes when such topic is investigated in other institutions.

1.6 Organization of the study

The first chapter introduces the study by describing the research problems. The second chapter deals with the literature review with major themes in connection to research problems and concepts are explored at length. The third chapter discusses the theoretical framework which guides the study. The fourth chapter reveals the research design and method of the study. The fifth chapter is about the research context. It describes the Ethiopian higher education system in general and about MU in much detail. Chapter six is about discussion and analysis of the actual practices of MU from documents and interviews. Finally, chapter seven provides the conclusions and recommendations of this study.

Chapter 2: LITERATURE REVIEW

2.1 Classification of Research

To generate new concepts, understandings and methodologies for the creation of new knowledge or the use of existing knowledge in a newly and creative way of synthesizing and making analysis of previous research to the extent that it leads to new and creative outcomes. Research needs consistent with a scientific methodological research practices and experimental development, this leads to creative work undertaken on a systematic basis in increasing the stock of knowledge to produce new applications (OECD, 2002).

According Frascati Manual, (2002) and Taylor, (2006) definition of research as below:

Pure basic research is theoretical and experimental works performed to acquire new knowledge without looking for long plan advantages other than the creation of knowledge.

Strategic basic research is experimental and theoretical work undertaken to have new knowledge directed into specified large areas that are predicting to useful findings. It provides the base of knowledge necessary to solve known practical problems.

Applied research is original investigation undertaken to acquire new knowledge but directed towards a specific, practical aim, including a stakeholder purpose experimental development must be identified from a wide range of activities relating to experimental development with a scientific and technological basis.

Experimental development is systematic work or practical experience that is able to producing new products materials and/or devices, or to installing new processes and to improving those already produced or installed.

Different scholars based on their perspectives define knowledge, Myrtle Beach (2003) referred to Nokaka and Takeuhi stated there is the distinction between knowledge from an epistemological point of view and knowledge management perspective and Tiwana (2000) knowledge in the business perspective but for this study is about knowledge creation instead of knowledge itself.

Grey (1995) defined knowledge as “full utilization of information and data, coupled with the potential people´s skills, competences, ideas institutions, commitments and motivations” (Grey, 1995). In the dictionary Free On-line Dictionary of Computing defined knowledge “If information is data plus meaning then knowledge is information plus processing” (Encyclopedia, 2014). In business Perspective knowledge defined how we should process

data and information to achieve decisive end results, from this perspective, knowledge is not simply a higher level of information. It is the guide, which helps us process data and information to deliver optimum results.

2.2 Importance of Conducting Research in Universities

Learners and researchers in higher institutions are by default, decision makers On a day to day activities. In the course of doing the teaching and learning process, their way of making decisions to plan learning and teaching, manage students, and organizing a training system. Unlike unskilled workers who are told what to do, researchers and instructors must plan daily activity. They have to have expirence and the knowledge necessary to make valid decisions about what to do and how to do. There are other sources of knowledge, such as experience, authority, commonsense and tradition; it is the scientific knowledge about the teaching process that makes the most valuable contribution to decision-making in HEIs.

This source of knowledge has been made available to educators because of research.Wapachu (1995) argues research is the base of university. It is research that make academics to have their professional value and is measure their career advancement (Wapachu, 1995). Research is the main part that differs universities from other institutions in case of promoting, speed up, and improving knowledge and skills disclose and pursue for by students in the teaching and learning process. It also serves as a stepping-stone for innovation and sustainable development. Research is instrumental in the quest of truth and providing a clear basis for action (Griffith, 2004).

In addition a teacher in higher institutions, in spite of the higher competence level they may have in their field, eagerly to becoming illustrious teaches as well. This may demand both the personal and institutional efforts and personal contribution. The most productive way of making this a reality is encouraging them to be competent researchers and facilitate situations so that their research will be appraised and acknowledged.

According to Dufera (2000) Research is mandatory for the staff of HEIs for increasing the quality of instruction research findings generated by researchers or others teachers in the field from the source for updating content of lectures and practical work (Dufera, 2000). Engagement in research secures that the teachers are able to supervise the research by their students more effectively.

Teachers get the opportunity every year to supervise research of their students of undergraduate or postgraduate studies in their degrees. They have the opportunity to

participate different in research methods, materials, procedures of analysis, and those teachers who are updated in research can only know current literature. Thus, their work and the works of students they are supervising will have a huge advantage by their active engagement in research. The other importance of research to the higher education teacher has to do with advancement. Teachers of HEIs are expected to publish in academic journals; Promotion is largely based on contribution to knowledge through research and publications. So to move up the academic promotion, teachers should be engaged in productive research.

Globalization demands wider dissemination of research capacity throughout the world. Knowledge production must spread internationally. Research universities were defined as academic institutions "committed to the creation and dissemination of knowledge, in a range of disciplines and fields, featuring and infrastructures that permit teaching and research at the pick" (Altbach, 2007).

The research university is a highly complex and multifaceted institution, serving many societal roles. Research is relevant to the society. Worldwide, research in universities played key roles in the academic of research production and teaching students practicing research. Large amount of research is carried out in collaboration, with funding organizations, industries and other sources (Altbach, 2007).

2.3 Factors that Affect Research

2.3.1 Factors affect research at the national level

Research is vital to HEIs mission to creation of stimulating learning environment to attract and retain high quality faculty and students in maintaining curriculum to help sustain relationships with other academic institution, the profession and industry, to expand the boundaries of knowledge and understanding within and across the discipline. All participants in HEIs developing research capacity and capability are knowledge to both their institution`s mission. American universities improving their competency of research by financing to attract talented students, this lead to better of community services and amplifying using volunteers (Geiger, 1993). Similarly, in Uk invite undergraduate and postgraduate students provide an extensive consultancy to endure an academic reputation (Hazelkorn, 2005:56).

According Hazelkorn (2005) there are external and internal factors influencing institutional research mission and strategies. External like globalization, knowledge economy, national research strategy, external funding mechanisms and policy instruments, international

benchmarking, institutional position with external factors like socio-economy of the region, demands from industry, consultancy and entrepreneurial activities put as external influencing factors.

Internal factors influencing mission and strategies are a requirement of refunding body, change of status and self-perceptions, availability of competent, funding opportunities, recruitment or retention of students and relationship with industry some of the internal influencing factors. How are institutions defined the of their research strategies? the most important objective of their strategies it is clear that strengthening research capacity and capability is the most critical and primary goal. Beyond the development of research capacity to revenue linking research to wider societal responsibilities enhance institutional profile (Hazelkorn, 2005:56-59).

HEIs choices according objectives and asking themselves where are we going and how do we get there:

HEIs are choosing to focus recruitment strategies or faculty development policy`s ability to recruit good researchers available of competence, availability of funding and responsiveness of faculty. The decisions are also influenced by external factors such as government policy, funding levels, demographic changes, competition are opening up or constricting institutional opportunities, is it possible to grow researcher from the existing faculty? Is there time to grow researcher? Or should a greater reliance be placed on recruitment strategies (Hazelkorn, 2005:118).

Many new HEIs have adopted the definition of research to embrace a broader concept of Culture of scholarship rather than simply research culture. Moving non-hierarchically across boundaries to include innovation and creativity traditional publication and creativity, professional practice, disciplinary and industry relevance activities.

In the recognition of their history and mission some HEIs defining themselves with in triangle of teaching, research and practice, rather than simply between teaching and research. But others convert everyone to active researcher status may not be appropriate and are developing their strategy accordingly it is difficult to conclude any relationship between the average annual teaching load of the individual and their total productivity. An institution has groups of faculty actively involved in research, not necessarily all staff members or the majority of staff membership. Selective faculty research involvement is seen as more realistic and agreeable for institutions with strong vocational commitments and large groups of practice oriented instructors (Skoie, 2000).

According (Gibbons, 1994, Hazelkorn, 2005:119-121) the structure and organization of research and teaching as:

Type 1 Teaching equal to research institutions and academics favor a close relationship between teaching and research. Small research groups which are related within department, faculty are likely to have both teaching and research responsibilities increasing emphasis is being placed on the former the latter.

Type 2 research and teaching as critical mass develop and external pressure increase the need of the research team and the strategic need of the institutions begin to favor more formalized structure for research faculty move seamlessly between teac`hing and department commitment and the center, but there may be an effort to the second or buy out research active faculty to for a greater part of their time in the Centre.

Type 3 Teaching parallel to research centers institute, located either in the institution campus or industry parks are favored when the research group has reached an effectively incompatible with the routine academic demand of the department. The center operates an integrated and semi autonomous part of an institution. These centers are expected to be income generating but tasked with becoming financially self sufficient if not profitable and the nexus between teaching and research begins to widen. The center may also house of many dedicated researchers, and there may be shared seminars.

Type 4 teaching not equal research wholly autonomous or independent research centers on institute are not common features of higher education and were not widely favored by participants. There is a clear separation between teaching and research some support postgraduate students and after post-doctorial opportunities. Large a scale or interdisciplinary projects, academic contacts and reward system develop a culture of scholarships and basis for self sustained intellectual charged research environment (Hazelkorn, 2005:119-121). According the above organization of Gibbons structuring teaching and research, type 4 is adopted but, it has been less interdisciplinary projects and poor reward system in Ethiopian public universities.

2.3.2 Factors affect research at institutional level

Resource and funding allocation within universities

For new HEIs the key question is the extent to which they can make up the difference between diversifying funding resources to develop resource allocation models to support institutional choice regarding the distribution of institutional external funding. Investments in

research rearrange their budgets and putting asked funds require strong institutional leadership and the political will to do that. Institutions are trying to adjust internal budgets contemplating whether research funding should be targeted at only a winner or likely winners? Should be targeted research priority institutional or national or should it encouraged as many as possible to grow include new research areas? Should professional or suitable areas to be given preference?

Each of the choices can potentially raise intra institutional tension. Institutions many decide to allocate a percentage of funding for new ideas or new researchers or they may decide to use seed con approach for a given number of years to enable some kind of Darwinan nature of selection to emerge. HEIs are making choices about which areas to fund knowing that decisions may under privileged or disadvantage other fields of activity (Hazelkorn, 2005:119-124). HEIs funding mechanism has setting criteria and prioritize research domain; significant research domain, industry linked, applied research, basic research, new technology, collaborative external to institutional, interdisciplinary, consultancy and considering others. According Hazelkorn (2005: 72) factors influencing priority setting research fund are put as:

- Competitive advantage
- Availability of competence
- Availability of fund
- Internal evaluation process
- Budget constraints
- Compliance with regional priorities
- Internal institutional pressures

Broadband traditional fields of research with strong link with industry regional and national knowledge transfer activities with commercialization opportunities returns to primarily producers and variety retail market consumers. The two decision-making processes to fund allocation to research are

1) Centralized or top-down approach priorities and funding are determined primary by the province chancellor for research or equivalent, to develop research within short time frame.

2) Decentralized or bottom-up approaches are set mainly by individual researcher or departments long tradition of respecting and promoting the autonomy of an academic unit. Priorities are set via the involvement of different levels or committee of university personnel and boards. The research office generally plays a key role (p. 77).

Research culture

Creating a research culture or environment is critical (Hazelkorn, 2005). Simply put a research culture is the intellectual requirement for sustainable and productive research endeavor. In ideally, faculty recognize the importance of the nexus between research and teaching and endeavor to balance these different activities, while the institution facilitates, encourages, recognizes and reward research activities and output it will generally recruit and promote faculty in the basis of achievement across the twin domain of research and teaching however the balance of recognition gives to each may vary the institution to institution. In this respect the institutional definition of research plays an important role in establishing the framework within which a research culture will flourish. Research culture is more than, although it is particularly dependent upon the provision of good physical and financial resource (Hazelkorn, 2005:63).

Graduate schools are becoming criteria in the process of growing a research culture it is just more than everything. It takes well to change and really accommodate what is essentially a cultural shift. Geiger (1993) argue new HEIs experience difficulty to differ taught from undergraduate and postgraduate programs to research doctoral or post doctoral practice focus on applied and potential pedagogy has caused challenges research universities recruit and attract high level students and encourage facilitate their development as research supervisors and professors (Geiger, 1993). Many agreed that focus has been on applied research rather than interdisciplinary and basic research (Hazelkorn, 2005).

The issue of critical mass is fundamental to any discussion about research culture and building research capacity and capability. Researchers and research students together create a community of scholars. Building research culture is not a once projecting, but rather the result of ongoing strategic policies and actions that to develop, support and built. It is difficult to increase participation staff or faculty members in research. Hazelkorn (2005:49) institutions ethos and culture can act as major inhibitors representing particular difficult emphasis on applied and professional pedagogy has caused challenges. According Westbury (2004) the more a university practice research the more it met financial difficulties and was at risk of failure. Because, heavier teaching dependency and university research is under funded (Westbury, 2004).

Research and academic freedom

According Bjorkman (2007) state academic freedom the possibility of choosing research problems without external interference that yields knowledge without any hidden motives or the possibility dedicate oneself without limit to pure research and ultimately being able to

focus education and teaching on what one considers desirable as an academic. The right to choose the subject matter freely and not have to think about the source of money, but go where curiosity leads. Academic freedom is strongly linked to research initiated by the researchers themselves and based on the choice of research problems on the internal disciplinary logic that would ideally govern the research process. The right of researchers to select their own problems provides a guarantee that the problems identified will in fact yield to research, the right to decide on their own working hours, not to be subordinate to a structure predetermined by others but able to create the structure themselves (Bjorkman, 2007).

Gustaysson (1997:129/130) academic freedom is the researchers confidence using own full energy and their own decision to scientific development, this is ideally but in the implementation of academic freedom it is a tremendous act of confidentiality towards the academic community, its inherent potentials. And the freedom to choose problems has been regarded as one explanation of the dynamism and potential for development that has characterized academic research, this does not certainly mean to maintaining the interest of researchers but academic freedom is a norm that imposes a great deal of responsibility.

The main thing is the balance between the researchers and the stakeholders. In todays research procedure it is very important to balance between the wishes of the society on the one hand and the disciplinary grounds on the other. It is almost impossible researchers at university conduct their research within their posts before choosing they have to sure financial possibilities. They are free to ask for money for whatever they like, but they do not get money for whatever they like and when they do get funding it is not enough, and this things limits their freedom. As the researchers ask fund they are losing their freedom.

Now day's researchers know how to use the new system to maximize the benefit for research undertakings in which they believe at the same time they are motivated internally by convictions that to some extent differ from those presented to the outside world. The academic freedom need not primarily for self-interest of individual researchers, but rather for institutionalizing divergent thinking and for dynamic development. Research that has been carried out mainly to fulfill demanding from external expectations like the industry and stakeholders is less innovative, therefore to do not keep the scope of limitation of researchers it is very important to take care research organizations give incentive (Bjorkman, 2007).

2.3.3 Factors affect research at a department or faculty level

According Hazelkorn, (2005) the purpose of HEIs includes research activities in their strategic is: increase the number of researchers and research students, grow or recruit research active faculty and student, and expand research activity. Such as

- Grow or recruit research active faculty and student
- Expand research activity
- Increase research funding
- Allocate resource to facilitate research productivity and excellence
- Establish center of excellence
- Enhence institutional status and mission
- Enhance institutional profile
- Ensure strong research teaching nexus (p. 58)

While factors influencing the individual researcher cannot be overlooked original issues of collaboration availability of resource and workload are significant contributing factors. Studies supports the view that while research productivity is primary driven by individuals aspirations it is critically influenced by the work environment (Deane et, at, 1999); Bland and Ruffian (1992) identified characteristics of a productive research environment such as; clear goal of co-ordination, research emphasis, distinctive culture, positive group culture, decentralized resources size and diversity, operate rewards, recruitment emphasis, relationship with both research skill and management practice. Research still is not understood by many of them as one of the basic activities of universities teachers. The research or teaching load of some members of the staff is not well balanced" (Bland and Ruffian, 1992).

Skoie (2000) cautions that the task of introducing research should be approached carefully to generate an effort with reasonable standards.

The key factor influencing the higher education environment and shaping the role of individual institutions is the government policy and strategy plus third party factors like research councils, research funding, evaluation criteria (Skoie, 2000). If HEIs have poor infrastructure, luck sufficient or significant research. In addition, as Hazelkorn there are external and internal factors help and hinder the growth of research activities. External factors such as; government strategies, technologies, foresight studies, institutional recognition, institutional funding levels, research funding criteria, institutional competition, existing collaboration partnership or network and evolution process. The internal factors are

institutional ethos or culture, rigidity or lack of flexibility, staff response, funding levels, luck of researchers, speed with which decisions implemented partnership or network and internal evaluation process.

In developing human resource faculty hired to teach lack the necessary prerequisite research postgraduate qualification or notably a decorated expectation or experiences. Because of this academic work where by research part of teaching may also be questioned in relation to the issue of work load research built on the back of heavy teaching commitments. In another instance internal tension and moral difficulties compounded by salary and career differential, which inhibit faculty-building strategies. Problem and tension affecting setting research priority like internal management issue, human resource development, external funding issue and training (Hazelkorn, 2005:46).

The other problem identified by Hazelkorn (2005:47) is even if HEIs have sufficient number of qualified researchers the issue is who can be competitive and retention institutions that have a good profile recognize the research potential or opportunities of new disciplines or to support more ambitious faculty.

Motives to conduct research in universities

HEIs preferred to hire "young but very promising researchers" rather than "already high profile researchers" to ensure co-ordination between recruitment and research strategy.

HEIs often reward and award systems, noticeable research time is considered the most important and effective incentive researchers, followed by travel funds, targeted grants, salary increase and facilities. The informal incentives such as public recognition can also be important (Hazelkorn, 2005:105-106).

Staff or faculty development or training initiative is another important part of human resource strategy some of the incentives and assistances are: research time with in an academic year, travel funds, targeted grants, salary increase, facilities, sabbatical leave, research time with industry, individual research account and informal incentives.

The HEIs are now widely recognized as part of the national innovation system "an important aspect of the innovation system relates to the production of the knowledge of individual or collective agents"(Lundvall, 1992).

HEIs believe that an active research agenda is a mandatory requirement of all HEI and that research excellence is non-negotiable institutional objectives can be: teaching only, research informed, research based, research active, research led, research intensive and research only.

"Excellent researchers tend to be individuals that do not easily cope with others unless they have the control over the situation" (Harris and Kane, 1994). People who cite teaching

commitments as a reason for not engaging in research are more likely to be people with weak incentive and who believe that research achievement is a function of external circumstances.
While poor facilities may often be used an excuse rather than an explanation for research in activity, teaching load are one of the biggest distinctive for research. Rowley Lujan and Dolence (1997) suggest that adapting to change can be much more difficult for people who only engaging teaching rather than both teaching and research. The later, face new idea and participate in a peer review culture as a normal part of their academic practice while the former are primarily educational (Hazelkorn, 2005:98-102).
Strong research profile is critical not just to institutions mission, but also for status and survival. We try to find new models of involvement, one of the biggest challenge is how to encourage research with in a system which in some cases has traditionally flavored teaching, when faculty were hired primarily for teaching purpose (Hazelkorn, 2005).

2.4 Research Productivity, and Relevance to Society

Higher Education and research have an important role to poverty reduction and significant role in economic growth, which guarantee seriously success in human development. To bring sustainable development, implementation of policies and development strategies of HEIs through their functions of teaching, training, research and services will play their fundamental roles. Furthermore, higher education and research have an essential role in improving democratic cultures and national productivity, having a direct effect on poverty reduction and laying a base for good governance. The training of internationally competent and liable citizens, as well as the support for national innovation system through research is fundamental to ascertain a country's competitiveness and living standards (Tefera, 2007).
Higher education benefits individuals and the economy of the country. Information from different countries indicate a positive correlation between increasing higher education access and economic growth as state by enlarging per capita income of human development index (UNESCO, 2003).
Nowadays the society demanding and the supply of higher education is not balanced. The demand is greater than the supply. Developing research is not an easy task, it is particularly and historically weighted public organizations funding HEIs to research practicing. Without embracing HEIs it is difficult to the government to reach its target in developing socio-economic plan. HEIs need alternative funding sources and greater autonomy to feel

unprotected, but it is a difficult priority set by others. There is unbalance funding for institutions when established by the government intentionally or unintentionally.

According Hazelkorn (2005:16) the reason why countries should facilitate research and innovation in HEIs:

1) To increase access to the knowledge society, establish an investment fund as part of regional strategy and to remove legislative constraint

2) Overcome development provided grants funds to building infrastructure; laboratories, libraries, strong management and leadership capabilities

3) Benchmark to support diversity providing base line research funding as part of negotiated contract between government and HEIs, re examine definition of research add criteria for competitive research and reorganize and award improvement and potential.

2.4.1 Benefits of research and scholarship

Researchers are energetic to change our institution and our environment, social, and individual world. Research procreate job opportunities. It improves profitability between partnerships, the business world and the academy. Research and scholarship attract talented workers and large employers. Research earns extramural funds that can be used to develop university programs and offset reductions in state funding.

Research makes the undergraduate experience for society strong and resourceful. In a research university, undergraduates receive instruction from the faculty who write the books, create the knowledge the students acquire, and they also have many opportunities to see up close how science, art, and new knowledge gets created by participating in these experiences as researcher.

Research enables to attract and maintain strong faculty. Without strong faculty it is difficult to have a strong teaching university with a mission of open access for the society.

Research gives us pride in our state and ourselves and enhances the reputation of the University, as well as the national and worldwide. When a researcher or scholar produces intellectual and cultural wealth that gets national and international recognition, this help also the recognition of the society.

While some in the community might view this rapid growth of scientific knowledge as an indication that we've pretty much covered all that needs to be realized the application and effect of academic research on daily lives. We do know it will be fundamentally different from today; and we can be sure that it will be different because scientific technology and

innovation might certainly start in the university research environment. Even if, some research benefits are obvious for benefits of an economic kind. Research is not only critical to social development and economic of University industry linkage.

Academicians, industry leaders and officials have been highly interested in the university-industry linkage (Butcher and Jeffrey, 2007: 1273). Universities research and innovative performances of the firms have a key position about emerging the innovation with university-industry collaboration (Agrawal, and Henderson, 2002; Cohen,Nelson, & Walsh, 2002; Feldman, Feller, & Bercovitz, & Burton, 2002; Murmann, 2003; Baba, Shichijo, & Sedita, 2009: 756).

In the new economy the rights of mental ownership and the efforts of enterprising are more strongly emphasized. By means of university technology transfer offices, the increasing of university-industry technology transfer arouse to increase the complexity of agreement of partnership, which includes industries and universities, and the field of effect together (Siegel, Waldman, Atwater, & Link, 2004: 128)

University-industry collaboration necessitates the harmony between different disciplines (Perkmann, King, & Pavelin, 2011: 548). University-industry collaboration is especially focused on four basic reasons; research supports, research collaboration, information transfer and technology transfer. A firm from collaboration with outstanding academic institutions can also ensure benefits such as reaching the students who have received higher education both obtaining talents and opportunities and raising its image (Santoro, & Chakrabarti, 2002: 1164). The scientific and technical connection in the interaction of university- industry, Perkmann, & Walsh, (2008) were emphasizing the development of academic consultancy typology in their researchers, they mention from three different ways; opportunity incentive, the activity of commercial incentive and research incentive (ibid).

The first one of these three ways is about to get income because of the consultancy of academicians (Boyer, & Lewis, 1984; Rebne, 1989), the second one is the success of technologies created in the universities and having a doctorate of the academicians degree with the expertise of the academicians (Shane, 2004), the third one is the consultancy activities which are direct connected with the research projects of the academicians (Perkmann, & Walsh, 2008).

Active administration of university-industry collaboration must include the precautions, which will help to carry on the benefits and responsibility of industry partners (Barnes, Pashby, & Gibbons, 2002: 284). A good university-industry collaboration requires to be attained a suitable balance between the priority of academic aims and industry.

In developed countries, like in the U.S.A, the university-industry collaboration shows very strong and internal feature that the demands of industry have become the projects of the universities. Besides, universities must follow the innovations and technologies in the world at close range of R&D (Barnes, Pashby, & Gibbons, 2002: 284).

2.4.2 Research productivity

Kennedy (2003) in his discussion of academic duty wrote, "All the thinking, all the written analysis, the experiments and the data collecting are nothing until in a written form. In the world of scholarship, we are what we write (Kennedy, 2003:186). According Stafford (2011:8-26) stated Publication is, in turn, the primary basis of scholarly recognition and esteem within institutional, national, and international level; therefore, publication, scholars keep alongside of their field, verify information, obtain critical response to their work and redirect research interest and enables the university faculty to communicate their expertise and scholarship within and outside the academe (Fox, 1985; Arreloa, 1995; O Meara & Braskamp, 2005; Tefera, 2003; and AAU, 2008). Therefore research is not done until it is published and publication is becoming one of the most important requirements.

Stafford (2011) discussed the indicator of faculty behavior are individual constructs like socio-demographic characteristics, career, self-knowledge and social knowledge and environmental constructs like environmental conditions, environmental response and social contingencies. They identified not only individual and environmental factors as indicators of faculty role performance but also they added the dynamic interaction between self-knowledge and social-knowledge to explain faculty behavior (Stafford, 2011). Personal motivations to engage in research and faculty members' perception of the environment as supportive of their research endeavor. Institutions can increase faculty research productivity by providing a financial, technical and environment support (ibid).

Socio-demographic Chronological age has been a positive and negative predictive in faculty productivity. Fox (1985) argues the association of age and productivity is neither linear nor monotonic. As a group, academic women publish less than men (Fox, 1985).

Career Variables Faculty research productivity is different among different disciplines. Academic disciplines shape research productivity and disciplines differ in their research activities. The emphasis of graduate school where the faculty member earned the highest degree influences the research productivity. Such universities are highly selective in their admission of students. They introduce brilliant students to the academic profession. Research

universities with resources introduce graduate students to the norms of the academic profession. Faculty members who are trained in research-oriented universities will have the opportunity to engage in research after graduation, they will have the skills and the scholarly network that assists them to conduct research and disseminate their discoveries. Fox (1985) argued institutions can maximize faculty productivity by using the reward structure for promotion. Others suggested that faculty do not publish to earn rewards. If institutional rewards like contract and promotion are the incentive behind faculty productivity publication would have declined after earning the desired status. Promotion is one of the predicting variables of faculty research productivity (Tien, 2000).

Self-Knowledge and Social Knowledge Self-knowledge is self-evaluation of competence, efficacy and commitment preference of faculty. However Social knowledge looks at faculty perceptions of the environment like institutional and collegial support, colleague commitment to the roles about what the institution prefers. Blackburn and Lawrence (1995) stated social knowledge is the key construct, it is the motivating factor in faculty behavior and stands between faculty perception of themselves and their perception of the environment in which they work (Blackburn and Lawrence,1995).

Environmental Characteristics Several studies suggest that environmental characteristics are powerful predictors of research productivity (Hekelman et al., 1995). Individual perception of the work environment will influence their performance. Institutional and departmental climate set the standard for individual and group research productivity. Policies requirements for tenure and promotion motivate scholars to engage in research and publish.

The environmental characteristics like institutional resources and norms will limit or enhance faculty productivity (Blackburn & Lawrence, 1995). It also includes prestige of employing institution, the mission of the university, reward system, organizational culture, a positive group climate, colleagues, disciplinary differences, accessible resources, and leadership with research expertise are environmental factors affect research productivity (Stafford, 2011). In addition, the individual variables under discussion, the environment contributes or inhibits their productivity.

In developing countries, there is a need for well-qualified faculty. Many faculty members in developing countries have little graduate level training, use old teaching methods and earn very low salary, insufficient resources, unqualified university officials and faculty members unable to engage in research (World Bank, 2000, Habib & Morrow, 2006; Sanyal & Varghese, 2006). However, little knowledge is available about research practice in MU and Ethiopian public universities.

Chapter3: CONCEPTUAL FRAMEWORK

3.1 The Essential of Research in Universities

Various theories and concepts about relevant topics that are fundamental building blocks of conducting research in a university will be searched out. As discussed in the literature review, constituting research as one of the components (teaching, research and community service) in universities of Ethiopia is the emphasis of this study. To increase their contribution to development through the dissemination and production of knowledge, Education in developing countries need to be grounds for economic development.

Universities have to be the change agents; they must not wait for others. They require both creativity and the willingness to engage in thoughtful dialogue, both within and outside the universities (Castells, 2001). In addition, Castells (2001) also figures out with four major functions of universities: the formation and diffusion of ideology, the selection of dominant elites, the production of knowledge and the training of skilled labor force. Clark (1983) "triangle of co-ordination" reinterpreted in an attempt to include the modern transformations on higher education particularly related to the global processes institutions as a whole and his specific tasks required to be engaged in a continuous search around the best practices that can enable to stay and be winners in the global competition (Clark, 1983). However, Gibbons et al, (1994) state that demand and supply for specialized knowledge created the conditions for Mode 2 (problem focused and interdisciplinary) to emerge. Hence, it is linked to economic competitiveness, collaboration, and globalization. But the essential contribution of knowledge to economic competitiveness and social welfare is now widely recognized. Such recognition has increased the attention to the role of universities in the production and dissemination of knowledge (Gibbons, 1994). Moreover, universities have to answer, are they contributing as demanded? And how well are they performing?

Various scholars have identified what research in universities looks like. According Taylor (2006) Presence of pure and applied research, delivery of research-lead teaching, breadth of academic discipline, high proportion of postgraduate research programs, high level of external income and international perspectives are key distinguishing features of research in university (Taylor, 2006).

Sustainable finance is a crucial ingredient for research in university; it is necessary to attract talented academician and talented students. In relation to research University's management

and governance is also partly dependent on students and academic staff since student and staff recruitment activities plays a key role. Salmi (2009) also states providing a high concentration of high talent, plentiful resources and helpful governance are three frameworks for building capacity in research in universities (Salmi, 2009). Despite, universities all over the world face different challenges in practicing research, responses to such challenges cannot be the same in the developing world as it is for universities in developed countries (Altbach, 2007). However, we should remember that universities are not isolated institutions, they are socially embedded; practicing research in university is nothing without connecting it to the society. So connecting university`s knowledge out put to the society and the business is unavoidable task (ibid).

3.2 Building Blocks of Research Productivity

Learning requires not only the formal gathering of knowledge. But also the develop capability to solve problems and skills in problem-solving it improves through long process (Muchie, 2008). From study, basic science is not only the source of innovation, learning is occurred when people find the opportunity to learn and develop the capacity of problem (Stafford, 2011).

Knowledge must be actively recognized as a vital issue for development. Universities and other organizations must work together to meet the goals this transforms universities into better producers and disseminators of knowledge. Business organizations and universities should be change agents, to stimulate a more challenging demands. In addition, devising policies of government has a main role in fostering the demand for knowledge, and helping other parties for efficiently use of knowledge. Knowledge producton and its dissemination should maneged and drive by the stakeholders of knowledge users (Muchie, 2008).

Kyvik (1995) larger sizes of faculties within institutions enhance research productivity. One critical dimension of departmental research productivity is its relationship to organizational and faculty size (Kyvik, 1995). Kyvik also argues large department can better facilitate co-operation and collaborative research for joint research products, more likely to attract high quality researchers and have a greater amount of resources with more degree of freedom in their use. Despite this advantage, there are also disadvantages due to the large size. As a department´s size increases, performance can be hampered because of lack communication and more formal rules and routine that may hinder initiatives and innovativeness. In the current situation of Ethiopian public universities, as a university opens new departments it

may encounter the stated disadvantage and other problems such as the constraints of facilities, budget and qualification. Despite the advancement of technologies might provide more opportunities for faculty to communicate within and collaborate with other universities outside of a country.

Institutions play a significant role in determining both individual and departmental productivity. Departmental size often is seen as a critical factor in facilitating research. Large departments may simply become more powerful within a college or university and receive more facilitating resources for research activities such as equipment, supplies, secretarial support, research assistants, travel funds, or teaching replacements for those on leave and these resources may facilitate greater research performance (Dundar & Lewis, 1998:613). Besides, departmental economies of scale may arise and lead to even more efficiency through shared use of such resources. Beyond the size of faculties and organizational control, other departmental factors have been found, that correlated with departmental research performance. These factors have included the annual research spending of the department, the number of students in the department, and the percentage of departmental faculty holding research grants.

According to Johnes (1988), the student and staff ratio, the quality of computing facilities, the size of the library, and the availability of secretarial, administrative, and teaching assistance were all factors that might influence the research performance of a department. Moreover, other studies also have focused on the use of technology to enhance both instructional and research productivity. Hence, another possible difference in research output can be due to differences in research funding (Johnes, 1988).

3.2.1 Research productivity at faculty level

The costs of HEIs specifically raising the cost of research that influence faculty productivity to produce productive faculty has been debated. Fairweather (2002) argues the relative value of teaching and research, as elements of the institutions mission in relation of individual, institutional productivity and value of social (Fairweather, 2002). However, Hu & Gill (2000) argues the consideration of accumulative advantage, research as valued activity attracting both faculty and funding promotes more productive individual faculty members and the institution. Hence, in this study focuses both on the institutions mission in relation to individual and on value to society and the accumulative advantage. For instance, if we look at the experience of other countries, there are over 3000 universities in USA including some of

the best ones in the world. The top-ranking universities have considerable strength in research. The investment in R&D in the US has been far higher than other countries, even other developed countries. In China also, in 1990s, a "big jump" of higher education occurred; the difference is not in educational scale but quality and not in teaching, but research capability, at present government and firms are primary investors for R&D (Chunyan Zhou and Henry Etzkowitz, 2006). Therefore, the accumulative advantage of research enhence faculty´s productivity. However, factors influencing research productivity have integrated effects of personal and institutional characteristics.

Faculty research productivity is affected by the ongoing interaction between individual faculty and their environment. Individual research training, without a suitable environment, may not result, productivity in research; the reverse is also true. A supportive academic environment will not be successful without the required research expertise of the faculty member (Stafford, 2011).

Blackburn and Lawrence (1995) and Stafford (2011) have examined individual and environmental properties that contribute to or influence faculty behavior and productivity. Moreover, the framework emphasizes that present and future productivity will be affected by the ongoing interaction of individual faculty and their environment. Hence, the question is, how these factors influencing research productivity in MU faculties? In this regard, two general types of factors are assumed to explain in research productivity: individual factors and environmental factors.

The individual factors are characteristics of faculty members and it includes socio-demographic (sex, age, race/ethnic identities), career factors (career age, discipline, prestige of the institution faculty member attended graduate school), and motivation. The other factors are interrelated relationships like age, experience and productivity, example as age and experience increase, productivity also increases up to a point and then appears to level off, this relationship has been found to be more mixed with higher education and varies by field (Clark and Lewis, 1985; Levin and Stephen, 1989). Nevertheless, it has also been noted that:

> *"generally full and more senior professors tend to have accumulative advantages over the most assistant and associate professors that result in higher levels of productivity. These factors of individual characteristics generally have been introduced in several different ways (innate and environmental) most of which have included innate attributes such as ability, stamina, personality, gender, age, and years of experience" (Clark and Lewis, 1985).*

Other individual attributes have been related to environmental location, including quality of graduate training, prestige of employing department or institution, communication networks, and freedom in the workplace. The environmental characteristics are the institutional resources, norms that will limit or enhance faculty productivity (Blackburn and Lawrence, 1995).

The discussion about building a research culture in university could follow the topic line of modeling the practice of research in teaching and management. In addition, resource, academic staff and student are main structural components (stafford, 2011).

The culture of a department or institution, also has been found to be an important factor determining research performance of individual faculty. Research-oriented culture exists when faculties and administrators are socialized to be strong researchers during their graduate training, value research, and maintain continuous internal and external communication with other researchers, culture relates to shared attitudes and values in an academic unit (Dundar and Lewis, 1998).

3.3 Measures of Faculty Research Productivities

Researchers present their ongoing research or converse with colleagues to let others know about what they have discovered is through publication. Grant money is sought to assist them to focus on their research and disseminate their findings through publications.

Cattell (1963) states in his discussion the importance of both individual and environmental factors are the product of:

- A socio-cultural climate
- A sufficiency of individuals gifted with an uncommon combination of abilities and character qualities
- A satisfactory economic-administrative matrix
- Special acquired research skills and thorough process
- Daily working conditions, which must not hinder creative minds (Cattell, 1963:11).

Research practice would mean nothing without production. Therefore, the practice of research in university can be dedicated in simple model of input, process and output. Research product has moved beyond this input-process-output framework in practical world may not be linear as it looks like in the diagram but rather conditional and cyclical linkages. Therefore, it is very simply representation.

So what can be expected of research practice providing production? First in terms of inputs start by characteristics of productive researchers in faculty is the effect of the variables in the categories which addressing issues related to conducting research, in depth knowledge, research skill, early school habit in research, being an advisor/mentor, supply of resources for research by the university, personal motivation to conduct research and academic freedom. Those inputs are as raw materials after certain process becomes the output.

Second, where as the process part are as facilities and conditions which universities have to acquire and which a conducive environment for researchers in practicing have a great role for their efficiency in productivity. Therefore universities should schedule adequate research time, conducive working environment, infrastructure of Information Communication Technology (ICT) and internal and external network system and accessing research projects.

Third, publication is the output making knowledge available.

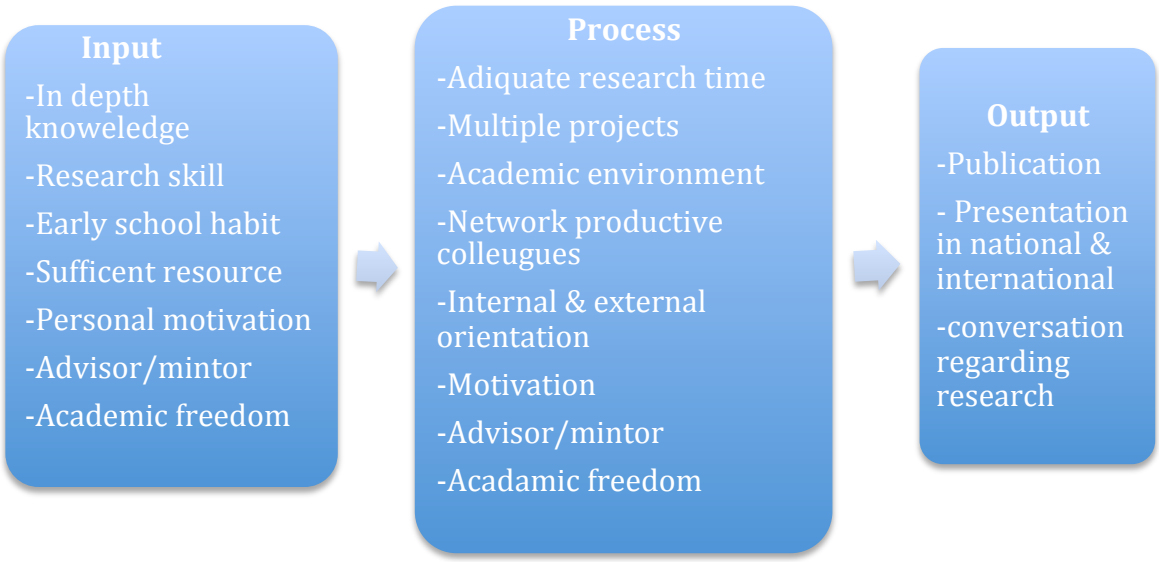

Figure 1: Illustration of research productivity in faculty level
Source: own construction based on literature review

Advisor/mentor, motivation and academic freedom are both inputs and process in research productivity that impacts research performance. Research performance while an output is an input and a part of the process leading to output. However, they are similar and interwoven the input and the process with each other led production. Hence, the inputs are individual factors signifying strong relation with the process part that leads to output or direct effect to

the output whereas the process part is more of environmental factors which acknowledge that there are weaker effects between several constraints to the output.

Individual research training and motivation, without a favorable environment, may not bring productivity. A supportive academic environment will not be successful without the required training and research expertise of the faculty member. Faculty productivity is affected by the ongoing interaction between individual faculty and their environment.

Chapter4: RESEARCH DESIGN

4.1 Introduction

This chapter provides a description about the research method used in this study. The research method is selected in a way that highlights the research practice with teaching learning process. Which enables to get a complete picture of research practice of MU by analyzing the factors that affect to conduct research. Research is a systematic investigation designed to develop and to create new knowledge (Goddard and Melville, 2007). To be valid and credible it need to follow certain procedures in collecting, analyzing and interpreting data. To conduct a research, researchers should develop appropriate methodological procedures and obtain anticipated data (Kvale, 2007). Therefore, the purpose of this chapter is to present the research method used, the research design chosen, the data collection tools and instruments employed and the participants involved in the study.

In this chapter the researcher presents, first, the research design, the credibility and validity of research, the sources of the data collected, the data gathering tools and the way the interview was administered and finally, the methods used in analyzing the data.

4.2 Research Design

A case study method was employed because it is found convenient to show the existing situations of research practice in the area under study. Besides, any method of data gathering can be used in case study (yin, 2012). To investigate how research is conducted in Ethiopian HEIs. Specifically, how research is perceived by the various parts of the university (faculty, institution/department, college) and how this might affect its successful knowledge production and bringing about the desired institutional vision. This was achieved through a case study of a university that has had an experience in research. Rather than using samples and following inflexible procedure to examine a limited number of variables, case study methods involve a detailed investigation of a single case or occasion (Babbie, 2013) .

The investigator's little control over the events; their suitability for studies with a large variety of evidence, and for the analysis of contemporary happenings are some of the characteristics of the case study approach which make it to be preferred as a legitimate research approach. Various types of documents, archival records, interviews, field

observations, etc., can be considered as typical examples of multiple sources evidences for case study (yin, 2012).

MU, one of the HEIs implementing research with respect to the Ethiopian HE system, has been the case study used in this study. The choice among the research approaches can depend upon the purpose of the research. Qualitative research is concerned with the generating theories than testing of theories (Bryman, 2012). Hence, qualitative methods can be used to obtain the intricate details about phenomena that are difficult to extract or learn about through more conventional research methods. The study, therefore, has used a qualitative type research method where case study is selected as a research strategy to collect and analyze data.

4.2.1 Validity and reliability

The main rationale given to reliability and validity issues tests include truthfulness, credibility and data dependability (yin, 2012). Research results and conclusions consider those issues at the time of the design of the research and, after deciding which appropriate research method to employ.

According to Chambliss and Schutt (2012) validity is "the state that exists when conclusions about empirical reality are correct also state validity as the approximate certainty of the truth of an inference or knowledge claim" (Lund, 2005:121). In order for something to be counted as knowledge the certainty should be satisfactory(ibid). The researcher should give emphasizes to its interpretations because valid conclusions are based on accurate terms and connected with assessment of the quality interpretations. This allocates that validity issues are fundamental in knowledge construction and issues of validity and reliability are critical to valuable research.

For the primary data to ensure validity and reliability of this study important measures were taken. First, pilot study the interview guide, it was ensured if the right questions were asked and as instruments used for collecting data are reliable and valid of the semi-stracture interview. The interview guides given for pilot on the first week of January 2014. Three former academic staff of MU, now students in the University of Oslo, have had a mock interviewed using the semi-structured interview guides. Later, these people were made to give their comments. These people were chosen because of their relative experience in research and which have knowledge of what is going at MU just before they left for Oslo.

Secondly, the right people or people well vested with the information that was required were purposive selected as informants for this study. Appropriate permission from the respondents and keeping privacy of respondents is the assurance of confidentiality when carried out the study.

Another way of increasing the validity of research consists of showing your research subjects excerpts of your interpretation of their interviews (Mason, 1996). With this respect, the researcher undertook two methods to get the consent of the respondents what they said was rightly interpreted in the way they want to say. First, tried to summarize their responses to the questions at the end of most of the interviews. Besides, some of the respondents also give their opinion in written form. Careful cross checks were done between the document and interview done on issues which were found unclear further elaborations were requested via mail and calls. This was mainly undertaken with the academic staff interviews. Secondly, explanations and further descriptions were asked some of the respondents during translation of the interview.

Reliability measures how consistent are our research findings (Yin, 2012). Chambliss and Schutt, (2012) also argues "We cannot really measure a circumstance if the measure we are using gives inconsistent results" (Chambliss and Schutt, 2012). Events may be influenced by mistake in what we want to measure and what we measured. Therefore, the end goal of reliability is to minimize the errors and biases in the study (Yin, 2012).

The study used both sources, primary data through interviews and secondary data from documents can be used as tools to examine the reliability of this study. Furthermore, policy guideline of research and community service (R&CS) manual of MU, manual BPR on research, Educational Sector Development Program (ESDP III and IV), other internal reports of the university and HEP of 2003 and 2009 were used as secondary sources of data. Further more, previous studies with themes related to R&D have been referred as secondary sources of data. In addition, interviews have been conducted with the university community from student up to college deans and management heads as a source of primary data. Almost all of the written evidences are openly available to public and the information they contain can be verified. Furthermore, evidence, which are considered to be important can be accessed from the research institute center and unit of the university.

4.3 Research Participants

The most critical issue in planning research is that the selection of research participants should be undertaken carefully(Frederick J.Gravetter & Lori Ann-B.Forthano, 2005). The researcher used purposive sampling technique. Before choosing the subjects identification of those first answering who would have more information about the topic under study and planning on how to reach up to these people with the relevant information. To answer these questions the researcher found a strategic attempt to establish a corresponding relationship between the research questions and the interviewees (Bryman, 2012). Purposive sampling technique was appropriate sampling technique. Patton (2002:230) states qualitative inquiry focuses on relatively small, and information rich cases yield insights and in-depth understanding rather than empirical generalizations. The researcher choose the following most relevant twenty interviewees from the university community.

Table 1. Profile of participants in the study

Code	Sex	Level of education	Field of study	Year of service	Current position
AM1	M	PhD	Pedagogy	18	Assistant Professor
BF2	M	PHD	Pedagogy	20	assistant Professor
CG3	M	MSC	Geology	5	Assistant Professor
DTs4	M	MSC	Hydro Engineer	4	Lecturer
ES5	M	MVD	Veterinary	8	Lecturer
FF6	M	MSC	Agriculture	12	Lecturer
GTw7	M	MA	Foreign Language	4	Assistant Lecturer
HTe8	M	MSC	Chemistry	6	Lecturer
ID9	M	MA	Geology	5	Assistant Lecturer
JHa10	M	MVD	Agriculture	10	Assistant Professor
KHi11	F	BA	Accounting	6	Support staff
LE12	F	MD	Medicine	5	Assistant Lecturer
MM13	F	BA	MIS	8	Support staff
NA14	F	BA	IT	5	Support staff
OH15	M	MA	Economics	7	Student
Pas16	M	BSC	Sanitary	6	Assistant Lecturer
QFs17	M	PhD	Economics	13	Assistant Lecturer
RSa18	M	MSC	Forestry	9	Assistant
SS19	M	MD	Health officer	6	Lecturer
TEL20	F	BA	Mgt		Student

The respondents were purposive selected staff who were expected to allot more time on research. College's dean and administrative and management leaders, especially top

management is probably the most critical element directly or/and indirectly in conducting research (Dufera, 2000). Besides, they were also the individuals who had been in the position and observed more than the teaching staff. For these reason two college deans were also included as respondents. Believing that those who stayed in the position would have more detailed knowledge, deans or vice deans were included in the study.

Academic staffs of the university were engaged in research at different levels, like research co-ordinator, evaluator of research proposal and other activities in research projects. Regarding this, academic staff were important assets for this research. Accordingly, fifteen academic staff members whose duty is teaching and research activities were purposive selected. Three respondents from administration wing, including the human resource department, and the financial management department who indirectly affected the university's research activities were selected as sources of information. In addition, two postgraduate students were included in the study as they conduct research as fulfillment of their degree. Finally gender, age category, work experience in the selected respondents were considered.

4.4 Instrument Used for Data Collection

In this study, semi structured interviews and document analysis were used as main instruments to collect data. The interview is employed with the intention to collect data concerning the factors, attitudes and perceptions of a wide range of subjects towards the practice of conducting research at the university.

The document analysis was employed to provide a contextual understanding of policy and practice that situated to practicing research. Each of the two data collection instruments employed in this study are described below.

4.4.1 Semi structured Interview

The interview was essential in feeling the gap that is created by the document analysis. Different versions of semi-structured interview schedules were developed and administered to the key officials, selected department heads, academic staffs, graduate students and support staffs. It aims to obtain relevant data regarding the participants' personal perspectives and meanings, opinions, values and beliefs concerning the current research practises in their respective university.

Interviewing has some particular advantage compared to other methods in the qualitative research. If what is required is opinions or impressions of interviewees, normally it is easier for respondents (Lofland & Lofland, 1995). It also gives the participants of the study to express their own point of view and have the freedom to tell the stories of their choices rather than limiting themselves on filling some form of questions (Charmaz, 2014). And for the interviewer it can enable to pursue in depth information around the topic with a person who has had the relevant experiences and for further investigation of their responses. The low cost needed to obtain the data and its suitability in obtaining valuable information, which is difficult to obtain from a quantitative research are also some of the advantages that make an interview the major data gathering tool used in this study (Charmaz, 2014).

A number of semi-structured interviews were conducted with three university officials and support staff (college deans and department heads), fifteen instructors and two students over a period of two months (16th January– 15th March 2014). The interview lasted between 20 to 30 minutes for each respondent on the phone and 60 to 90 minutes interviewed face-to-face. All interviews were conducted using Tape-recorder, telephone, Skype and face-to-face interviews. Discussion for more clarification type discussions were also conducted later by telephone, e-mail and face-to-face. The language used in conducting the interview with the academic staff was predominantly English and Tigrigna language as Tigrigna was used to when it is necessary to make things more clear. Amharic and Tigrinya were used to interview all of the students and the administrative staffs.

I have chosen to use a semi-structured interview guide that enables me to determine the succession of the topic to be investigated. Accordingly, the topics of investigation were laid down first, but the succession is determined along the way while making sure that the intended topics and questions are answered. In addition to the questions put on paper, the researcher should encourage the informant to elaborate by giving positive feedback such as nodding and asking follow-up questions (Thagaard, 2003). Hence, the respondents were free to come up with topics that I was not aware of before. While in the phone, I was using follow up non-verbal utterances show the respondents that I am following them.

There were some choices of transcribing interviews. This included how the statements should be transcribed, verbatim and word by word, or in a more formal manner, if the entire interview should be transcribed or whether the transcribes should condense and summarize the parts that consist of less important information. Transcribing the interviews was time consuming. But, the audios were of good quality and for the most part, all the informants spoke clearly (with few exceptions in telephone and Skype interview). This simplified the

process of transcription. To reduce the possibility of losing valuable information, I transcribed the entire interviews, word-by-word and later categorized then thematically.

4.4.2 Document analysis

This document analysis helped the researcher to compare what was said in the interview and done in practice. The document analyses included official government records or policy documents, manuals, internal organizational reports, memos, and minutes.

In this study limited documents have been analyzed. Due to the researcher's inability to conduct, observe and choose various documents from the faculty/department up to the Ministry of Education (MOE) are not analyzed. It only included data from the university which is available online and others sent via a mail by friends who are working in the university.

4.5 Ethical Issue

Burgess (2005) illustrates the ethical implications involved in the relationship between the researcher and the researched when gaining access, and handling field relations (Burgess, 2005). It is principles of informed consent, and question concerning harm, deception, confidentiality and anonymity (ibid). Hence, ethical strategies should be included in research procedures. There should be set in place to ensure that the research conducted is appropriate and done in an ethical manner. The following sections provide a discussion about the ethical aspects of the research methodologies used in collecting both the primary and secondary data, as well as conducting the data analysis.

4.5.1 Ethical Issues Regarding the Primary and Secondary data

There were some problems identified with ethical consideration in research. The support for their claim is that they have sought appropriate permission from the institutions and participants had been informed about the relevance of the study and the researchers have to be careful in enhancing the co-operation of the respondents (Pickard, 2007). The fact that the researcher has asked consent from the respondents can be considered as keeping up with the basic code of ethics established to guide research in scientific way. In addition, Punch (1998) states, "the major safeguard to place against the invasion of privacy of respondents is the assurance of confidentiality" (Punch, 1998:175). The names of the interviewees participated in this study were not diclose in the data analysis; instead they were given codes, that the

participants freely expressed their ideas and feelings. It also conducted a short discussion with all of the selected respondents, state the purpose of the study and assuring them all with confidentiality. I used more of open-ended questions, that enable the informant to speak freely, and some close-ended questions to get specific answers. I also urged the informant to elaborate on certain subjects where I found to be more important or sometimes unclear and incomplete.

4.6 Data Analysis

After the required information has been collected (both from document and interview), each approach was analyzed differently. The collected document was categorized according to their type and importance. In other words, systematic classification of data in terms of type and classification based on the typology provided a thorough thematic analysis to see what themes emerged and were analyzed in a way the themes related to each other. In so doing, a careful consideration was made in deciding the way much data were analyzed at a time, the units of meaning and the categories in use. Then the data obtained through interview were transcribed from an oral to a written mode converts the interview conversations into a form more applicable for analysis (Kvale, 1996).

There is, however no standard form or code of transcribing interview material, but there are some choices to make. This includes how the statements should be transcribed, verbatim and word by word, or in a more formal manner, if the entire interview should be transcribed or whether the transcribers should condense and summarize the parts that consist of less important information, and finally if the researcher should include non-verbal expressions such as laughter, sighing or gestures. There are no correct answers; it depends on the intention of the transcript, but it is important to state explicitly how the transcriptions were made (Kvale, 1996).

As I expected, transcribing the interviews was time consuming. The audios were of good quality and for the most part, all the informants spoke clearly (with few exceptions in the student interview.) This simplified the process of transcription. To reduce the possibility of losing valuable information, I transcribed the entire interviews, word by word and later categorized thematically.

Next, the meaning of the materials collected was determined how and what research practice, integrated and factors affect research practice in MU in relation to the literature review and conceptual framework of the study. Checking the reliability and validity of the materials or

verifying the reporting or telling the finding to readers by taking all ethical considerations of research (Babbie, 2013).

Chapter 5: RESEARCH CONTEXT

5.1 Introduction

The focus of this chapter is to bring research to the right track in governmental universities in Ethiopia, the existing research practice is essential. In this part, the research context presented by describing the most fundamental reality of Ethiopian higher education. It is structured in this way: the first part introduces the country Ethiopia in general. Then, follows a presentation on specific realities of the Ethiopian education, higher education staff and students' enrollment trend, and research in Ethiopia higher education system, educational overview of MU. Lastly, research in institutional level in MU.

5.2 Background

Ethiopia is in the horn of Africa. It is one of the oldest civilized nations in the world (Bridges and Ridley, 2001). In the 4th century the first major empire officially adopts Christianity as the state religion. Ethiopia is the only African country which retains sovereignty as an independent country (Bridges and Ridley, 2001). Furthermore, one of the independent members of the League of Nations in 1923, UN in 1942 and the principal founder of the Organization of African unity and the headquarter of the United Nations Economic Commission for Africa and Africa Union (Zenawi, 2006). Ethiopia is second populated in Africa its population was around 84 million in the year 2012(CSA, 2013). A federal administration is in place with 9 regions are based for more than 80 diverse ethnicities. The annual average growth rate of population was 2.7%(CSA, 2012). It is also endowed with young populations with 55.2% being with an age range of 15-65 and around 41.5% being below the age of 15. Besides, based on the 2010 census, rate of urbanization is 3.8 and around 17% of the population resides in urban(CSA, 2012).

The Ethiopian economy predominantly depends on agriculture for it contributes around 44% to the Gross Domestic Product (World Bank, 2010 a) by employing 85% of the total employment and Coffee has been a major export crop which 80% of Ethiopia's commodity export earnings (World Bank, 2002 b). While GDP growth has still high, per capita income is among the lowest in the world With Gross national per capita income of $280; it is one of the poorest nations in the world. The country stands the bottom in living standard with 0.396 Human Development Index and 0.289 in the education Human Development Report, 2013. It

is also important to notice that the last couple of years Ethiopian Economy has shown a tremendous growth of an annual average of 8-10%(World Bank, 2010 b).

5.3 Ethiopia Higher Education System

Higher education institution in Ethiopia is established 1950 (Bridges and Ridley, 2001). Before that the country has a long and rich tradition of elite education associated with the Orthodox Church (ibid). According Bridges and Ridley, (2001) church education has its own teaching and learning approach which is highly dependent on rote learning and emphasis imitation as a strategy of teaching.

> *Secular Higher Education was introduced into the country when the 'church elite', as a spiritual educator, was considered as the model of the educated. The way of teaching was considered as the ideal and it was during this time that the secular school system, usually called by the locals as the 'modern education, started spreading in the country. The approach commonly used by the then church schools is believed to have influenced the intellectuals, even to the present day HEIs since the majority of the academic staff in the universities is observed employing the traditional methods of teaching that encourage transferring information from the teacher to the passive listening students (Zenawi, 2007:2).*

The last five years (2008-2013) HE in Ethiopian around the academic staff was suffering problems in the form of a shortage of research practice, weak research productivity. Until 1998, there were only two universities running in the country for more than 70 million populations (Teshome, 2003). From its establishment around half century, only few talented and fortunate students out of thousands who completed secondary school educations were admitted to higher education each year. Those institutions, few by themselves, were severely hit by a lack in capacity, equity and very much inadequate output (Zenawi, 2006).

It is also worthy to note that the Ethiopian system of qualification structure are BA/BSc (3-4 years), Engineering and Law (5 years), medicine (6 years), MA/Msc(BA/BSc+2 years) and PhD(MA/MSc+3years) (Ashcroft, 2004a). In line with this, an intermediate qualification in between the existing qualification pyramid has been suggested (ibid).

Teshome (2003) pointed out the prevalence of Poor management and leadership in Ethiopian higher education system indicates "poor utilization of resource, poor administration, misuse manpower, inappropriate resource consumption, and poor management" (Teshome, 2003).

Fore instance, in 2006/2007 undergraduate students, both public and private, has shown an enormous expansion from a little above 200,000 students to almost 500,000 students in 2011/2012. In 2011/2012, 55% of the undergraduate enrollments were regular students. The other 45% consisted of students in evening, summer and distance programs. About 15% of the enrollments were in private institutions. However, for regular students only 7% enrolled in private education, while for distance education, 55% of the enrollments were in private institutions. Between 25 and 30% percent of students and graduates are female (MOE, 2012).

Graduate and post-graduate education (masters and PhD) is still very limited, an annual growth rate of 35%. Which was growing from 7,000 to over 25,000 students in the same annual year. Between 10 and 20% percent of students and graduates are female. Over 95% of the graduate enrollments are in public institutions.

The number of PhD students (as part of the total of graduate and post-graduate students) has increased from 258 in 2007/2008 to 1849 in 2011/2012 (MOE, 2012). Expansion of higher education during ESDP III was realized both by expanding the existing eight universities and by erecting an additional 13 new public university. Despite the growth in enrollments, targets of ESDP III were not completely met due to the delay of the construction of new buildings (MOE, 2010).

ESDP IV (MOE, 2010) outlines strategic and key outcome targets for the period until 2014/2015. Leading to a Graduate Enrollment Ratio (GER) of 9.3% and to an additional increase in enrollment in both (graduate and post-graduate) programs, with a special emphasis on science and technology. Expansion is realized by enhancing enrollment capacity in existing universities (in particular access to programs in science and technology), by transforming four faculties of technology into institutes of technology and by constructing and equipping nine new universities. These new universities will have an enrollment capacity of 1,215000 students in ESDP IV (MOE, 2010).

The current gross higher education rate is still very low when compared to other average of Sub- Saharan countries; according Trow (1973) the Ethiopian higher education is still elite less that 15% enrollment rate which is less than 6%. Although expansion of the HE sector are very significant, the perception that quality is being compromised in the current effort to expand enrollment is on the rise among all stakeholders including the government (Nega, 2012:111).

5.4 HEP Framework

The establishment of the higher education, legal framework was one of the results of the reform initiatives of ETP in June 2003 based on the education and training policy and on the need to establish a legal framework for higher education sector (Proclamation No 351/2003, articles 7 & 43). The proclamation is the first national higher education regulation in Ethiopian history that accorded autonomy of administration, academic freedom and accountability to universities. The two agencies, the Higher Education Relevance and Quality agency (HERQA) and Higher Education Strategic Center (HESC), were established based on the proclamation. HERQA its name is recently changed to Education and Training Quality Assurance Agency (ETQAA) was established as an autonomous government organ having its own legal personality to assure the relevance and quality of higher education offered by any institution Proclamation No. 351/2003 (FDRE, 2003).

Ensuring the relevance and standard of higher education, evaluating the activity and performance of the institutions, gathering and disseminating information about the standards and programs of study of foreign HEIs and examining accreditation issues are some of the duties of the agency stated in the proclamation.

HESC is another autonomous organ established to formulate a vision and strategy for the higher education system of the country. In that way, HESC aims to enable the system to remain compatible with the country's needs and international developments. However, the proclamation also suffers from limitations.

Lack of clear provisions regarding the establishment of an independent and autonomous private accrediting organization, lack of provisions for accreditation of public universities, lack of provisions for the autonomy of HERQA and HESC, lack of incentives and principles in public fund allocation: the quality assurance (QA) as well as the absence of mechanisms to enforce implementation of requirements are some instances (Nega, 2012).

On the operational level, the MOE also performs the tasks of admitting and placing students (FDRE, 2009). HEI's, both public and private, are responsible for education, R&CS. The HEP mentions four kinds of HEI: university, university college, college or institute (FDRE, 2009). Only universities practice research the other institutions are teaching and learning (Deuren, 2013).

According Central Statistics Agency (CSA) (2010) in 2003 the first HEP was established, followed by a new version in 2009. The importance of higher education for country development was stressed in this policy. This new HEP 650/2009 HEP (FDRE3, 2009)

currently functions as the legal basis for the transformation of higher education (MOE, 2010). These educational strategies and plans are described in subsequent Educations Sector Development Plans (ESDP). The period from 2010/2011 – 2014/2015 are ESDP IV and ESDP III was from 2004/2005 – 2008/2009 (CSA, 2012).

According ESDP the objectives of higher education are to:

- Prepare knowledgeable, skilled and attitudinally mature graduates in numbers
- Demand-based proportional balance of fields and disciplines so that the country shall Become internationally competitive
- Promote and enhance research focusing on knowledge and technology transfer
- Consistent with the country's priority needs
- Ensure that education and research promote freedom of expression based on reason and rational discourse and are free from biases and prejudices
- Design and provide community and consultancy services that shall cater to the developmental needs of the country
- Ensure institutional autonomy with accountability
- Ensure the participation of key stakeholders in the governance of institutions
- Promote and uphold justice, fairness and rule of law in institutional life
- Promote democratic culture and uphold multicultural community life
- Ensure fairness in the distribution of public institutions and expand access on the basis of need and equity strategic plans

Nega (2012) stated that the proclamation has lack of provisions regarding higher education financing strategies. Public universities are eligible for government funding based on student enrollment, regardless of the quality of education they provide. The other limitation is the absence of provisions that encourage competitions between students and funding among universities. The proclamation does not require public universities to gain accreditation. On the one hand, the proclamation grants autonomy to universities in pursuit of their mission and on the other hand, the MOE controls student admission and placement, provides core funding, and co-ordinates curriculum review and development (p: 110).

5.5 Ethiopian HEI Budgets and Efficiency

Higher education contribution to the knowledge economy requires the combined management of enrollment growth with sustainability in financing and preserving education quality (World Bank, 2009). The public expenditure for education in Ethiopia is rising recently. The annual

recurrent expenditure per student is roughly $860, which is lower, compared to so many of African country (Saint, 2004). The strategic portion of HE as part of the ESDP total budget was 24% under ESDP III and is 21.7% under ESDP IV compared to respectively 60.8% and 57.1% for general education and 8.6% and 8.0% for Technical and Vocational Education and Training (TVET) (MOE, 2010). The HE budget is divided into four categories. Salaries account for 12.1% of the recurrent and the remaining costs amount up to 43.0% of the recurrent budget. Another 1.7% is spent on sector administration and support. The largest part of the budget, 43.2% is capital spending for construction (Deuren, 2013).

However, in African countries, the World bank (2009) stated "too rapid an increase in enrollments, as has happened in the past years, has eroded quality and is undermining the contribution of tertiary education to growth" (World bank,2009: xxii). The viewpoint of research and teaching should take an multidisciplinary, rather than a disciplinary, also add practical learning (e.g. internships and guest lecturers) as complementary to theory and should make use of assessment through, project work next to written examinations (Alemu & Schulz, 2012 and World Bank, 2009). However, faculty inclines to traditional teaching methods because of lack of time and resources to new forms of teaching, rigidity of timetables, negative lecture attitudes and lack of instructional materials and administrative support (Alemu & Schulz, 2012). This would require a shift in higher education institutional culture and its values and norms with regards to teaching (World Bank, 2009). Assessment techniques as these of norm-referenced method, use of clear criteria for grades awarded and use of external examiners are not often practiced (HERQA, 2011).

5.6 University Industries Linkage

There is hard to find in the developed country university that does not have any form of interaction with industry. The history of industrial enterprises in Ethiopia is a very short one compared to its early civilization and independence which dates back over three thousand years. If rapid economic development is to be achieved, it is essential to transfer and make use of emerging technologies. Because of lack of technological capability, most firms are inefficient. Furthermore their productivity and profitability has been declining for long. An attempt was made to form Addis Ababa University (AAU), Ministry of Industry co-operation program in mid 1980's. The program had done quite a lot, but not solving industrial problems. The concept of technology transfer is the purposive movement of established technology and in one context when implemented in a different culture and economy (Kitaw, 2006).

A technology is said to be transferred when the recipient understands and knows the technology deep enough to use it, adapt it, modify it or adjust it until it begins to spread within the recipient's economy. Technology adaptation and the generation of new technologies require R&D, and more broadly, an environment in which R&D have a chance of being effective. Where urgent national problems have to be solved, the direction of R&D efforts should be determined by national science and technology policies whose priorities are compatible with available skills and financial resources and have been shown to be valid in the light of what is being done elsewhere (Kitaw, 2006).

Many of the Universities teaching and research resources available in the faculties, Schools and Institutes carry out teaching and research activities. More than 8 university faculties have started postgraduate studies to satisfy the manpower requirement of the country, especially for the newly emerging regional universities. However, in most of the faculties and research institutes, problems of research staff development, financial constraints, adequate selection of relevant research areas and proper research facilities (infrastructure, equipment and supplies) are evident (Kitaw, 2006).

Monitoring of research in progress and evaluation of R&D effectiveness are quite unheard of. It is evident that, while it is essential for R&D institutions to establish a close relationship with the productive sector, effective linkages are missing. For example, Research results in the form of designs for more appropriate technologies, often stay on shelves instead of being tested and disseminated.

Recently, Higher Education Industry Resource Integration Centre (HEIRIC) is established. The primary thrust of the proposed HEIRIC, is to integrate the Higher Education Institution staff and students as well as its research infrastructure to resolve problems of industries and boost productivity and to improve their own teaching and research capabilities. However, after the change in policy of the present government, from a centrally planned economy to a market economy. The university-industry linkage deteriorated and the program was suspended. Another attempt was recently made by the Technology Faculty so as to revive the linkage of University with the industry (Kitaw, 2006).

5.7 Academic Staff and Students Enrolment Trend

It is important to notice that apart from the higher composition of less-educated staff, academic staffs working conditions are deteriorating. Tessema (2009:37) has discussed the recent higher education staff disempowered in light of expansion HE processes in Ethiopia,

which reveals worse working condition. He has described due to the number of enrollment increasing every year educators forced to work for long hours.

ESDP IV (MOE, 2010) outlines strategic and key outcome targets for the period until 2014/2015. According MOE (2010:63) mentioned in ESDP IV component aims at improving the quality of teaching and learning in HEI. This should lead to an improvement in the graduation rate from 79% to 93%. Activities foreseen at the national level are the development of a national system to access professional competencies of graduates, the establishment of a national system for identification and dissemination of best practices and the development of the higher education component of the Ethiopian Qualifications Framework. Also, universities will be equipped with laboratories, libraries, and ICT facilities. In addition, aims at increasing research and technology transfer capacity (Dueren, 2013). In 2014/2015 a national research priorities framework will be available and technology transfer capacity (CSA, 2012).

Universities and institutes of technology will be supported in establishing research policies, innovation funds, consultancy centers, technology transfer business units and incubators (Deuren, 2013). However, as MOE (2013:63) stated the main challenges at the end of ESDP III of higher education system with limited access to higher education relatively GER of 5.3% in 2008/2009. Admission targets have not been met, too low admissions of postgraduate leading to serious constraints on the system in terms of local staff availability. This was because of the rapid system expansion, low share of female academics, hardly remain in development of open and distance education. Undergraduate enrollments evolve more rapidly than qualified teachers putting serious constraints on working conditions and the quality of education.

Shortages of qualified staff particularly pronounced in science and technology areas where enrolments are expected to increase sharply, having very young academic staff and only a small number of PhD. Constraints in tapping resources through the internet and sharing experiences, private institutions relevance and quality is not in line with expectancy, lack of strong technology transfer system (Deuren, 2013).

Based on the need of the industry, higher education management and leadership system is not at the required level (Deuren, 2013). The main question is, let alone teachers student ratio, can we say with out accessing facilities (class rooms, dormitories, laboratories, libraries) expansion is realized? However, the component plan is enhancing enrollment capacity in existing universities and ambitiously expanded top down ESDP IV.

5.8 Educational Overview of MU

MU is found in northern of Ethiopia, in Tigray region at the town of Mekelle at 783 Kilometers from Addis Abeba the capital city (MU, 2013). MU is one of the public institutions of higher learning in Ethiopia. Established in 2000 by the decree no. 61/1999 article 3 of the Council of Ministers of the Federal Democratic Republic of Ethiopia (FDRE) as a merger of two former Colleges Mekelle Business College and MU College. MU has the mandate bestowed upon it by law to conduct research, disseminate and publish research outputs and innovations. Since its establishment, it has proved to be one of the fastest growing Universities in Ethiopia (MU, 2013).

In 2013/2014 MU expand to 5 campuses and two more campuses are under construction, 7 colleges, 8 institutions, 90 undergraduate programs and 70 postgraduate programs and with more than 31000 student enrollment in all programs (regular, evening, summer and distance) having 1648 academic staff and 2374 administrative staff.

MU's research policy draws from the HEP no. 531/2003 that governs HEIs in the country (FDRE, 2003). There are important provisions in this legislation that set the framework for research in institutions of higher learning. The HEP states that "academic staff" means an employee of higher education institution who devotes 75% of his time to teaching and 25% of his time to research and shall include an employee of a research center of the institution who devotes 75 % of his time to research and 25% of his time to teaching.

The HEP further, underlines an academic staff has the duty to undertake problem solving studies and research beneficial to the country. The University's legislation and strategic plan also clearly stipulate the role of research in the University. The Mission statement of MU states MU will engage in relevant research that can support the development endeavors of the country. Artistic and scholarly activities that advance learning through the extensions of the frontiers of knowledge and creative endeavor. 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. This underlines the basis for streamlining research into the main tasks of HEIs 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 the power to undertake study and research and disseminate the findings as may be necessary. Therefore

how is the academic staff practicing research? And how is the above proclamation functional goal into action?

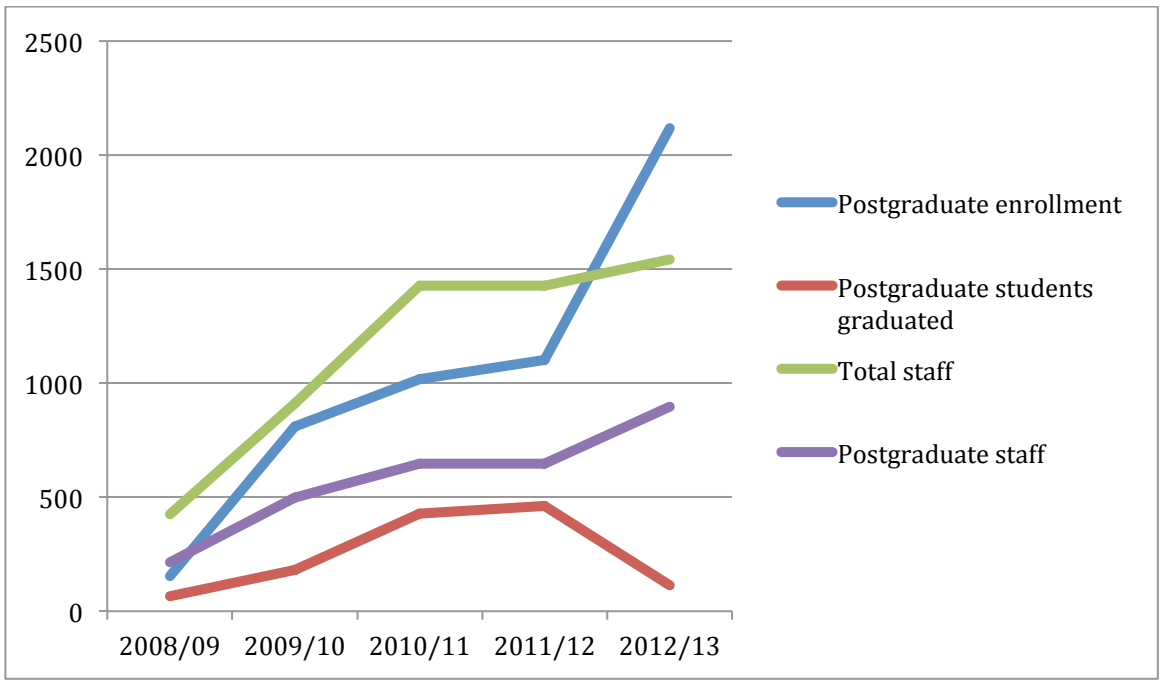

Figure 2. MU 5 year trend of enrollments of postgraduate students, total academic staff and postgraduate staff
Data source: from MOE educational statistics annual abstract from 2008/09-2012/13.

The number of students increased with in 5 years (2008/09-2013/14) from 12,960 to 24,477. In later year, MU enrolled in 24 percent of the total enrollment in the country (MU, 2013). More than 20% of the student population were part time undergraduate students. Of the remaining 80% regular students, around 5% were attending postgraduate masters programs and there were no postgraduate PhD student. At the same time, the gender disparity is skewed sharply towards male students at the education level rises (MOE, 2013).

According Taylor, (2006) Postgraduate students, especially PhD students are often used as a point of reference in research productivity. PhD students are among key members of the academic community for their turn in research of their own, collaborate with other staffs and engaged in academic seminar. Among other things the small teacher student ratio can imply that academic staff are too loaded with teaching to undertake researches. Forexample, in 2012 there were 24,477 enrollment. However, there are only 1543 academic staff, less than 7 teachers for 100 students. The number of PhD holders was even dismal, less than three PhD for thousands students (MU, 2013).

5.9 Research in Institutional Level in MU

MU needs research operating in turbulent and dynamic organizational environment. However, the institutional makeup and workflow in which the university operates is evidently incapable successfully respond to the demand and appropriately perform in a competitive way. The mission and strategic direction reflect its commitment to become a research university and to proof excellence. However, due to multifaceted weaknesses in doing researches and providing community service, there is manifestation of dissatisfaction of customers in one hand and ever-increasing rising needs and expectations. Nevertheless, the diagram below clearly depicts the input-output or the outcome process along the impacts and feedback for the system.

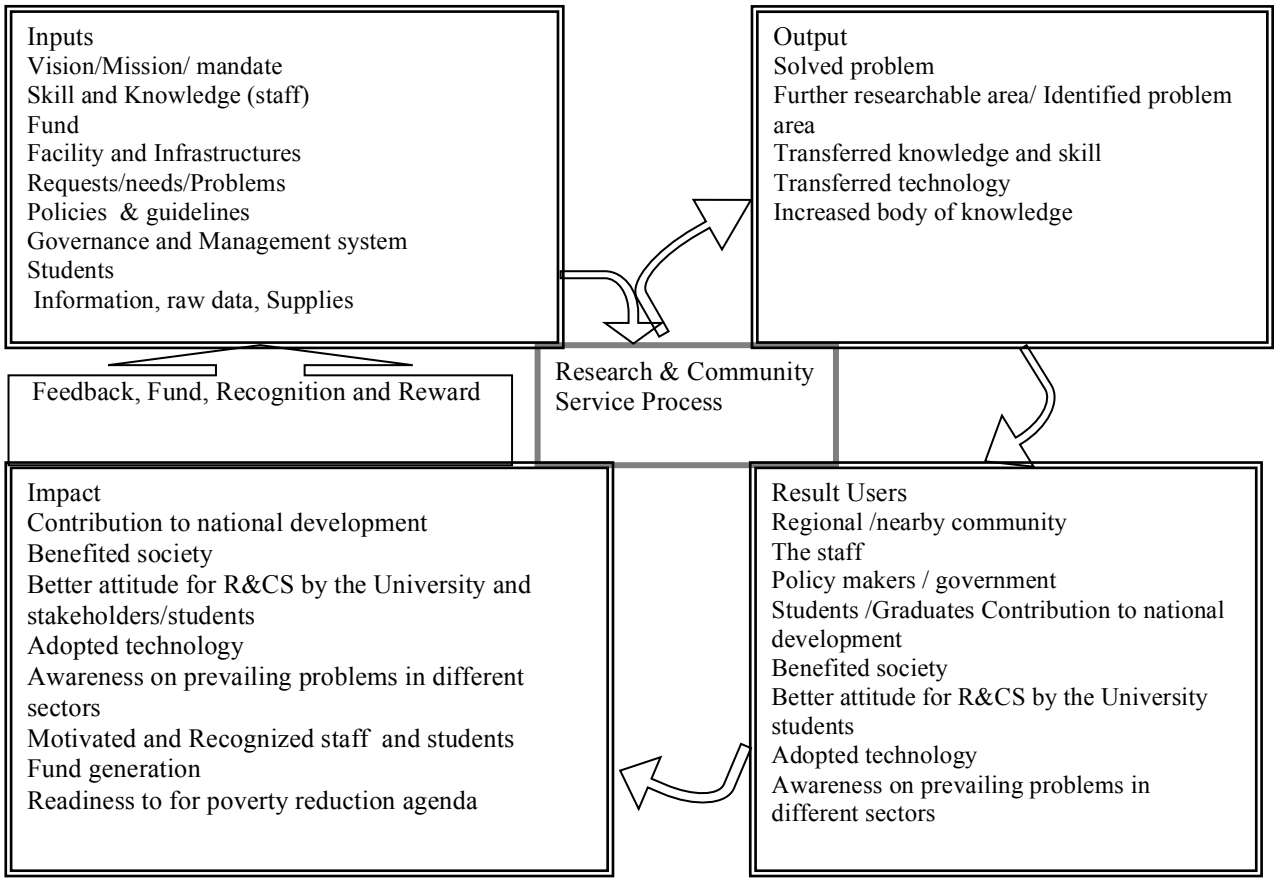

Figure 3. The process of MU R&CS input, output, result and its impact
Source: Adopted from manual of policy and guidelines of MU 2008.

Private and public similar institutions and other industries are attracting staffs and sharing students. Local and international consultancy firms are competent. MU would be transformed into more responsive, transparent and customer focused institutions. The number of entrants to higher education atmosphere with same objectives is increasing. Given these competitive

circumstances, there is no doubt that MU is up to the challenges. If not changed, the given mandates can be solely handled by others. Even though, MU still has potential to conduct quality research and provide good community service by its virtue, many of the competitors are becoming better in responsiveness, flexibility, customer/stakeholder focus, staff motivation and retention, income generation, outcome orientation in their efforts. Otherwise, MU might lose short- and long-term partners of the university. Hence, MU is not responsive and accountable to facilitate environment to practice research.

Chapter 6: ANALYSIS and DISCUSSION

6.1 Introduction

This chapter shows empirical evidence on how research is practiced in MU. The theories discussed in the conceptual framework (in chapter three) are used to analyze the data collected from the primary and secondary sources. It included primary data collected through interview and secondary data from documents of ESDP III-IV from MOE and manuals of MU. Moreover, internal reports, guidelines gathered from R&CS and personal communication via Skype, e-mails, telephone calls are used to support the analysis as presented below. For the purpose of maintaining anonymity, real names of the students, staff and officials that have participated in the interview are not mentioned in this discussion and analysis. For convenience, the individuals who participated in this study are assigned codes and the date of the interview is used in this discussion whenever a reference to them is necessary. For an ease of presentation, the primary data and secondary data are analyzed and discussed together.

6.2 Policy on Research practice

Here the researcher has attempted to answer the research question on how research is practiced in the Ethiopia universities by taking MU as a case study. In so doing a detailed analysis of the educational policy on research, a long with investigation of the Research Institue Center and Unit (RICU), and the procedures of research and research productivity of MU has been made. According to World bank (2009) in African countries very rapid increase in enrollments has happened in the recent years, this eroded quality and is undermining the contribution of tertiary education to economic development (World bank, 2009). In Ethiopia attention is given to make education and training responsive to the development. Hence, in the ESDP III, which is 2012/13, was realized both by expanding the existing eight universities and by establishing 13 additional new public university (MOE, 2010). Even though, at the end of ESDP III the Ethiopian higher education system faced many challenges.
Continued with ESDP IV which outlines strategic and key outcome targets for the period until 2014/2015 with the plan:
First the enrollment capacity will be further expanded; the aim is to improve student-staff ratios and to increase the share of qualified university teachers to have at least master's

degree. Hazelkorn (2005) stated HEIs are choosing to focus recruitment strategies or faculty development policy`s (Hazelkorn, 2005). In Ethiopian case faculty development policy has chosen. Though, it is possible to grow researcher from the existing faculty. But, the program focuses on increasing the ratio of master teachers by making 50% in the government universities, which is to fulfill the criteria of HEIQA (20%, 50%, 30%) bachelor, masters, PhD, respectively. However, less attention was given for research and quality of education. Instead of, promoting teaching and research parallelly. The program was started by focusing on the number of graduate. For example, at the beginning of implementation the budgeting system for universities from MOE became by the number of graduated students then universities focus on their number of grauates only and oldest universities like Addis Abeba university some of the departments started graduating masters degree in one year program which is, students graduated without conducting their master thesis.

Second in ESDP III universities has a serious problem of facilities (libraries, laboratories and ICT suppliers), experienced and qualified teachers. Instead of, focus to improve the quality of teaching and learning. ESDP IV was planning to increase the graduation rates from 79% to 93%. This lead universities face difficulty on their employee satisfaction and the professional competencies of graduates.

The ESDP IV stretched to satisfy two constraints: on the one hand, the government policies and the increasing number of enrollment from primary and secondary schools demand more extra universities, on the other hand the endeavors to fulfil the criteria of HEIQA which has focused in quality of education. The above challenge hinders the HEIQA full implementation on public universities and face difficulty to measure the quality of education.

Legislation manual of MU (2008) all newly hired graduate assistants in a college are by default teaching assistants and assistant researchers. Graduate assistants that are hired by a college shall devote 75% of their time in teaching and 25% of their time in research. On the other hand, graduate assistants that are hired by an institute or research center expected to devote 75% of their time researchers and 25% of their time as a teaching. Similarly, assistant lecturers and lectures of a given college are expected to devote 75% of their time in teaching and 25% of their time in research. An academic rank of Assistant professor and above are by default research staff who are expected to devote 75% of their time in research and 25% of their time for teaching. It is mandatory every staff to submit a month earlier than the execution of yearly budget in what way he/she intends to carry out his/her next fiscal year balanced university activity to their program. Though legislation of the University in research

and it is among the key mission of HE. However, nether the research staff and teaching staff is identified nor the academic staff is engaged in research his duty of 25%.

In 2013 there are 1456 academic staff in MU not more than 25 were published. However, 20% interviewees responded every year a lot of research were conducted in faculty and department level and MU Research Institute, Centres and Unit (RICU) was established, was a good start. Stafford (2005) argues research is not done until it is published and publication is becoming one of the most important requirements (Stafford, 2011:8-26). However, at MU from 73 departments there were not more than 250 research works in each year. For example, in three years 2010-2012 only 100 are published from the four journals of the university.

Research still is not understood by many of them as one of the basic activities of universities teachers (Bland and Ruffian, 1992). However, One of the interviewees from college dean described as follows

> *Every academic staff knows and signed on his/her contract conducting research is his/her duty, due to different reasons we didn't force them and the academic staff is also busy with teaching. Those who publish their works, we promote and certify them… however, there are PhDs we expect them to publish but for many years except a few… (AM1, 22.02.2014)*

All the interviewees knew conducting research was part of their job. Yet, due to complicated problems and unfavorable conditions in university, most of the academic staff was not engaged in research practices. However, Dufera (2000) the importance of conducting research of academic staff in HE summarized into three major ways.

First, conducting research is the basis for updating the content of lectures and practical work and it enhances the quality of instructions. An academic staff does little or no research, falls back on his or her old lecture notes year after year.

Second, engagement in research ensures that the teachers are able to supervise research by their students more effectively.

Third, Promotion in universities is largely based on contribution to knowledge through research and publications.

However, in MU research has been rather left to the discretion and self-service of the staff. During the implementation of BPR in MU there were policy and guidelines of research procedures to be followed were clearly framed in the university legislation. But from the board of the university to the individual staff no one acknowledges and there was no evaluation mechanism to cross check whether the academic staff was engaged in research or

not. However, “to move up the academic ladder, teachers must be engaged in productive research” (Dufera, 2004: 88).

6.2 Research Procedures and its Productivity

Different institutions and disciplines count different types of products, some value textbooks, peer-reviewed others value theoretical or conceptual articles, other department may also value peer-juried than invited presentations or editorial work these differences confuse both measurement and comparison across disciplines. Faculty members made it clear that they organized their research projects and types of publication targets based on what is valued in their current institutions and roles. According Hardre (2011) and Wong & Tierney, (2001) the research university faculty productivity is often assessed as scholarly publications and presentations, sometimes including grants, scholarly publications defined as peer-reviewed articles in recognized professional journals often function as the primary productivity measure in the granting of promotion and tenure (Hardre, 2011).

In MU there are around 20 long term project, in three year (2010-2012) not more than 100 publication. Research is conducted in group and on selected thematic areas. There is research review at the end of the project. All the research team presents its study and evaluated in the research review day which is two times a year, after the report is accepted. The accepted study is stored in the colleges and in the university database. Anyone who needed to publish can use and take from the colleges or the university. Though, in the world of scholarship, we are what we write (Kennedy, 2003:186). Yet, publication has been the individual’s effort, while there is no a habit of using the shelved documents for reference or publication. Except, a very few.

There are four publication journals in MU (Momona Ethiopian Journal of Science, Journal of the Dry Land, ITYOPIS and MU Law Journal) most of the interviewees pointed they were not functioning as needed due to two reasons, first they are not well organized and didn´t have enough budget. They publish a few and most of the time the abstract part only.

Second the academic staff prefers to publish their work in nationally known journals or if possible in international journals for its value of recognitions.

According Blackburn and Lawrence, (1995) faculty members participating in scholarship activities like participating in conference, presentation, seminar, in campus workshop, serve in radio, TV and media and visiting guest are component of research productivity. In the case

of MU there were workshops and presentation of research reviews; there were academic seminars, conferences serving in public media and visiting guests but not as needed.

6.2.1 Research procedure in MU

The other factors influencing research productivity were integrated effects of personal and institutional characteristics. The dissemination and utilization of research findings were seen as an important part of research and basic means of expanding the positive impact of research on development practice (Dufera, 2004). Hence, a number of institutional factors that affect faculty production.

Researchers have the right to decide on their own working hours, not to be subordinate to a structure predetermined by others but able to create the structure themselves (Bjorkman, 2007). However, the research process in MU having long sequential activities is one of the problems. As a result, the process outcome of research could rarely benefit research. The workflow diagram below In MU research is classified on to three phases: pre- and post-award and termination phases.

The pre-award phase starts from securing research fund, usually as a university research fund; through university wide calls for proposals and ends up on signing a contract for the researchers with the university. The post-award phase starts from execution of research activities and ends with documentation, while termination phase starts with internal evaluation and ends up with monitoring effectiveness.

In the pre-award process, level of administrators and offices handle the majority of the activity nodes and few are within the vicinity of the researcher. Therefore, this phase is dominated by the bureaucratic procedures that affect the research process.

Similarly the post award phase of the current research process has further surrounded by layers of financial, purchasing and administration procedures, which much activity nodes. To make things worse, responsibility is defused somewhere beyond the researcher on to five offices, namely: department, faculty, Research Directorate, Associate Vice President for Research and Graduate Program (AVPRGP), and the support system.

The third phase of research process surprisingly has minimal researcher involvement. The degree of research, extension is close to zero percent.

Table 2. Three phases of research processes in MU

	Researchers	Department/ Faculty	AVPRPG	Publication	Community
Pre-award Research process	-Proposal writing -Proposal submission	-Call for proposal -Proposal review -Proposal submission	-Fund allocation -Call for proposal -Proposal review -Continue agreement & registration -Execution of research		
Post-award Research process	-Scientific activities -Technical, financial & progress report -Terminal report -Hand over property -Documentation	-Entry workshop -Project review -Exit workshop	-Execution of research -Activity, technical & financial report -Handling over properties		
Termination	-Rewarding -Rectify		-Rewarding -Organization of national forum -Identifying future research priority -Documentation -Dissemination	-Publication	-External evaluation -Monitoring effectiveness

Source: Adopted from BPR manual of R&CS 2008 (MU, 2008).

In a nutshell, the current research process of MU seems to be handled by non-researchers that hampers and causes delay to the total processes. Other R&CS related processes also share the same or worse characteristics with the research process. Some of them have no defined procedures to depict the process.

6.3 Factors Affect Conducting Research

This section tries to answer what conditions research at MU was affected by. The education system does lack an environment that supports staffs to produce more and quality researches. Blackburn & Lawrence (1995) argues individual characteristics have been related to institutional location, including quality of graduate training, prestige of employing department, communication networks, and freedom in the workplace. Thus institutional resources will limit or enhance faculty productivity (Blackburn & Lawrence, 1995). In case of MU the academic staff and its working condition for research is: first, the staff lack adequate training on research method, absence of sufficient time to proposal development, absence of genuine peer review system, poor attitude of research to publication. Second, less competitive nature of research undertakings, insufficient amount of research fund, low empowerment of staffs in terms of resource and decision, and low organization endeavors.

Third, inability to give motivating incentives to staff based on research performance, long and extended review process, low team spirit, shortage of time for academic staff to conduct research, and inability to make academic promotion based on research publication. Above 90% of the interviewees responded that in such working environment, it is not easy to practice and expect to find qualified and committed staff in research. For example, one of the interviewees from the staff explained as follows:

> *Some time before we were trying our level best to be members of a research team; however, these days no one of us is interested to do research because we gain nothing but lose our time and money since the money is not enough. For example, the per diem is 70 birr ($3.7) per day which can only cover for a hotel room with nothing left for food. Moreover, the finance process is discouraging, and having access to field car is very bureaucratic (FF6, 07.03.2014)*

According to Dufera, (2000) research is mandatory for the staff of HEIs for increasing the quality of instruction. No research, no publication and promotion. However, academic staffs, who is entitled to carry out research, need to have a high quality of expertise and experiences; Teachers of the institutions are expected to publish in academic journals. Promotion is largely based publications. So to move up the academic promotion, teachers must be engaged in productive research. At MU the direction is changed. For example, for long term projects most of the academic staff in the interview explains:

> *If budget is allocated to faculty, the proposal including the names of big figures like department heads and college deans have relatively higher chance to win the fund (HT8, CG3, ES5, DS4, 2014)*

Department heads and college deans are PhDs and above, they are by default research staff and are forcing other to be included in research team not to provided mentorship in research rather, their interest was limited to its instrumentality for promotion and money.

6.3.1 Budgeting and research practice in MU

Graduating as many students as possible has been the priority. The number of enrollment is key for budgeting. HE budgeting divided in four categories: salaries account for 12.1% of the budget, other recurrent costs amount up to 43.0% of the total budget, 1.7% is spent on sector administration and support, and the largest part of the budget 43.2% is capital spending (buildings needed to realize further expansion and improvements). However, funding for

research activities are neglected and there is no identified source of funding for research (MOE, 2010).

The focus starts from financing almost half of fiscal year budget is for construction of classroom and dormitories. Howevere, fund for research is included in the recurrent costs. Hence, there has not been identified fund for research. For example, for short term research $ 1000-1500 and for long term research not more than $ 5000 which is insignificant to conduct research.

According Hazelkorn, (2005) processes to fund allocation to research are two ways centralized or top-down approach priorities and funding are determined primary by the province chancellor and decentralized or bottom-up approaches are set mainly by individual researcher or departments promoting the autonomy of an academic unit (Hazelkorn, 2005: 77). In the case of MU research projects awarded to individual staff members through open research calls and competitions. It seems decentralized or bottom-up approaches, the research office generally plays a key role. However, the source of fund of these projects can be the recurrent budget, internal revenue or institutional co-operation project or programs funded from federal government which is centralized or top-down. These research projects must not exceed one year in duration and should be a totally societal problem solvers.

The other is research projects sponsored by local funding organizations or regional agencies or national such as the Ethiopian Science and Technology Agency and Ethiopian Institute of Agricultural Research, MOE. The grant agreement of these projects is based on the signature of the project writer, the funding agency and the University and collaborative Research Projects, these are projects supported by international funding organizations or governments, either through institutional collaboration, direct funding or individual grants. As my interviewees from staff puts as:

> *In each college there existed three types of research based on duration (short, medium and long). For the short term research the budget is not more than $ 1000 and for long term research not more than $ 5000 which is very little money, sometimes we use from our pocket example for transport… this is for the thematic area research for the basic research have no or which is not identified (ES5, 01.03.2014).*

Budgeting is a key factor affecting the quantity and quality of research. For example, in 2012/2013 the budget for MU from the federal government not more $ 30000 was allocated for research from total recurent budget around $ 98 million, which is less than one percent. In addition, the scarcity of fund there were other factors which made practicing research more

serious: first, misdirection of research fund, exposing to corruption and misuse. Second, researchers lack of qualification, experience and commitment. Third, there were poor managing of research projects. For example, in departments there were a lot of projects started but not finished and unpublished works, which, research production is suffering.

6.3.2 Research experience and competence

Individual's self-knowledge, competence and its commitment is base for faculty research productivity (Stafford, 2011). However, the shortage of senior staff is very serious problem and the majority staff members are very young and most of the faculties do not have senior faculty members who mentor and guide for teaching and research. This seems to lead to gradual deterioration of quality of teaching and research.

Hazelkorn, (2005) stated having experienced researchers on the senior management team is proving essential to support and drive forward the necessary changes. It may also as information and experience-sharing process between colleagues (Hazelkorn, 2005). However, the few senior staffs of MU are overburdened by administrative works. The majority young staff have limited research experience and lack of early school habit in research. This interrupts engagement in scholarly and research activity.

According Nega (2012) academic staff of MU have less qualification, less professional competence and low experience for the level of the program appointed (Nega, 2012). Hence, large proportion of the academic staff is with qualification of bachelor degree and with less opportunity early school habit of research. This might degrade the competence of academic staff. Because, depth of knowledge in the field, research skill, personal motivation toward research are the indicators of research performance. Besides, Alemu & Schulz (2012) argues lack of time and resources to new forms of teaching, rigidity of timetables, negative lecture attitudes and lack of instructional materials and administrative support are the main challenges to conduct research. However, even if the above challenges are solved the working condition of staff to practice research is worsening as a result of continuously increasing the number enrollment of HE in Ethiopia.

6.3.3 Teaching load

Faculty members in managing their time face big challenge invests huge amounts of time on teaching or research based on the demands and its influential nature. However, they are

frustrated by the lack of time for research when they are fulfilling their teaching, other service and administrative responsibilities.

The research or teaching load of some members of the staff is not well balanced" (Bland and Ruffian, 1992). However, academic staffs are forced to teach more than the normal teaching load (12 credits). For example one staff interviewees put as:

> *I don't remember the time I have had below 18 credits, excluding evening, distance and summer programs, I have a makeup class every weekend and in the office up to midnight to prepare for the next class, we have no time to correct the written examinations, most of the time it is difficult to read students assignment, comment and give feedback because of the large size of the class and course load. so! When will I get time to think about a research? (ES5, 01.03.2014).*

Hazelkorn, (2005) states noticeable research time is considered the most important and effective incentive of researchers. However, the staff are busy in teaching load and other unacknowledged work like supervision, preparing for next class, personal readings, other instruction and extra-curricular activities. These constitute a very high number of additional teaching hours for some faculty, and they indicated that they do not always feel free to say no to such requests.

6.3.4 Facilities and support

Before asking about practicing research and its productivity there are other factors like what the internal and external orientation of academic staff and students. Besides, is research libraries, laboratories, resources are adequate, did the researchers have adequate research time, has the university multiple project, how situated research environment, how network of productive colleagues is built, how personal motivation towards research is, how peer support is made, and how commitment to organization, socialization and autonomy of the researcher should be answered. In a compromised teaching quality and in inadequate and lacked opportunity for research practice it is very difficult to analyze research productivity.

Facilities and conditions which universities have to acquire and which a conducive environment for researchers in practicing have a great role for efficiency in productivity (Stafford, 2011). Hence, it is also very difficult to teach without ensuring the availability of adequate resources such as accessibility of facilities such as libraries, laboratories, and teaching and research equipment, technology and student support services. For example, one interviewees from academic staff described as follows:

In practical learning due to insufficient teaching materials we use demonstration method instead of making each student test by himself, the same is true with the other facilities; for example, in my department the computers we use for teaching are those which I used when I was a student. I found them there; I learnt using them and still I am teaching employing these for teaching my students with the same number and no maintenance many of them are not functioning (DT4, 24.02.2014).

This working environment requires serious considerations. In the World Bank, (2009) states this would shift in higher education institutional culture, values and norms with regards to teaching. Without strong graduate programs, it is not easy to establish research environment and innovative capabilities. Participation of students in research at an early stage may have a positive effect on students learning and it will also draw students towards considering career in research.

Researches furnish a good learning environment for students who participate in research. In line with this, it is necessary to approach students as co-researchers in their educational practice. Instead of being just recipients of knowledge instructed by the teacher, the students become participants in research and lab assistants in the process of knowledge creation.

6.4 Integration of Research with Teaching and Society

In this section, the researcher attempts to study how research in Ethiopia is integrated with teaching and society. In order to do this, the case MU has been examined in detail.

The primary goals of MU is to strengthen its position as a research university of national stature, to provide the best possible education to its students and to all citizens (MU, 2013). To meet these objectives thereby exploit the fund and collaborative opportunities face the prevalent challenges and address the demands of government, community and research sponsoring organizations, MU aspire to facilitate the organization and establishment of research entities in the form RICU based on prioritized thematic areas of the nation (MU, 2008).

The RICUs of MU manual state that groups of researchers who share common research and professional interests for organized research entities that primarily work on applied research of national and international interests and may include basic researches. This will enhance the University's ability to carry out research at the highest levels, provide staff opportunities to interact across disciplines and guide to the dreamed Research University.

RICUs policy and guideline planning in areas of potential research strength can form a useful device to equally focus on teaching and research. However, as several of the interviewees stated in practice the government and universities focus on teaching. R&CS are secondary. RICUs in areas of potential research strength cannot form useful device for equally focus on three components.

The current practice in Ethiopia is top-down policy, where research priority is identified and directed at national level for individual institution to follow. The policy is solely devoted in defining areas of research priority and nothing else is said about its quality research.

World Bank argues, the challenges facing African universities are lack of faculty quality, well-prepared students and sufficient resources (World Bank, 2000). In spite, in knowledge transfer the students educational background and potential of knowledge acquisition is critical. However, after the introduction of cost sharing in 2003, followed the implementation mass higher education. The enrollment of HE changed, 70% of natural science and 30% of social science students are joining universities without having the basic knowledge and enough preparation. For example, there are students in university unable spelled their names.

6.4.1 University industry linkage

In line with the Ethiopian Development goal and MU's Strategy, the targets of University-Industry and Community -Linkage are to create a substantial connection. Primarily revolves around student curricular activities or practical Education and research Programs of University-Industry co-operation.

Universities play a more active role in their relationship with industry/ community in order to maximize the use of the research results. This role requires professional staff to identify and manage knowledge resources and to assess market. The proclamation 650/2009 encourages the universities to engage in the applied research and meaningful community Service. However, universities face challenges of engaging more closely with surrounding communities, developing an intellectual foundation integrating with the key aspects of universities' mission.

MU`s University- Industry/Community Linkage (UICL) is under Vice President for Research (VPR) which to create a substantial connection between university and industry/ Community that primarily revolves around student curricular activities linked with cooperative research programs. Curricular activities such as: community based education, internships, practice orientated study, projects, lectures and seminars with industry, etc. Cooperative research

programs that deal with Applied Research and Knowledge & Technology Transfer (KTT), which comprises demand driven research, market innovations through own research activities, further education and training**,** Repair and Structural projects, Technical support**,** etc**.** However, UICL face difficulty to facilitate the interactions between the university and external agencies and to promote the successful exploitation of innovation. Because it was established to manage the interface between MU researchers, funding agencies and industry or Community so as to bring the capabilities of staff and students to work collaboratively with community groups for mutual agreed goals that interest all the parties. Although it remains build technical and research capabilities for companies, and university-Industry cooperation. High-level of researchers and engineers in the country are not sufficiently available in industries.

Even if the demand from industries is minimal, MU take the lead in creating the link platform that could facilitate generating, transmitting, applying, and preserving knowledge for the direct benefit of external users in ways that are consistent with university missions (MU, 2008). For example, MU more than other universities has a high opportunity to form links with the Endowment Fund for Rehabilitation of Tigray (EFFORT) company and there is also demands of sector offices like office of agriculture, health, education, capacity building and other sector offices. Even if, MU has linkage with EFFORT. Yet, very limited only in relation with students' practical attachment and with sector offices in a limited part like internship, outreach and other related to extracurricular activities. Hence, the companies and sector offices are demanding the university consultancy, new skill, creative and innovative idea that maximizes their productivity.

According Altbach (2007) there are national variations, but the cooperative interaction of research and teaching is a hallmark. However, research is less integrated with teaching in MU. The research process is inconsistent until the results are validated and transmitted to an appropriate target audience. Hence, for many disciplines, the most common and effective means of disseminating results is through the publication. It is extremely essential to stimulate the culture of scientific research and build up a system of organized publications and prepared for documentation. According Dufera (2000) conducting research is the basis for updating the content of lectures and practical work and it enhances the quality of instructions (Dufera, 2000). However, the academic staff have less opportunity of conduct research. Besides, there is immense research potential on both undergraduate and postgraduate research. However, undergraduate and postgraduate students very limited involvement in a practical and community problem solving research.

Practicing research in university is nothing without connecting it to the society. Globally, research in universities played key roles in the educational system. Large amount of research is carried out in collaboration with funding and sponsorship from industries and other sources (Altbach, 2007). Hence, research is relevant to the society and university industry linkage takes a more active role, especially in fostering an innovation culture, practice and important role of universities in economy. However, there was a lack priori designing strategies to facilitate collaboration for an effective networking amongst the connection of the university and industry. In addition, there are challenges in the mechanisms to link university research to users, the lack of commitment by some actors, limited area coverage, and absence of accountability.

6.5 Summary

The Ethiopian government issued the ESDP in response to the realization of the country's demand for higher education, using aggressive expansion on the one hand, and recognition of research and innovation for sustainable economic development, on the other. It is obvious that quantity and quality are inversely related. The objective of the policy includes building capability, and improving the knowledge, culture and the scientific and technological awareness of the people. It is widely accepted that such analysis makes explicit many different kinds of necessary inputs and interactions to produce an innovative and competitive economy. However, to satisfy these, Ethiopian universities currently function in a very difficult situation, both in terms of the social, economic, and political problems the country is facing and in the context of research productivity. the road to future success will not be an easy one as the expansion.

In practical terms research practicing in Ethiopian universities is lagging behind. MU's research policy draws from the HEP no. 531/2003 that governs HEIs in the country (FDRE, 2003). A number of HEI intends to develop applied research and consultancy relevant to Ethiopia's development needs. However, in practical there is less appear at present to be any overall coordinating and overseeing body to ensure that the research undertaken meeting the country's developmental needs.

University teaching staff is minimal or not engaged in research, despite statements in university regulation mentioning that every teaching staff should devote 25% of working time to conducting research.

Research is still at an early stage of development and staff needs to further develop its research skills. there is little quality research being undertaken in Ethiopia's universities, and consultancy and income generation through knowledge creation and transfer are at a developmental stage although some have developed particular research strengths in areas such as agriculture, medical sciences and forestry.

Generally, the research activities carried out in universities are inadequate both in quantity and quality. Some of the challenges are: lack of research fund, fewer facilities, support system, teaching load, shortage of qualified and motivated staff. Besides, qualified staff not only moves to foreign institutions but also to better-established Ethiopian universities, and other organizations also experienced researchers are a relative distaste for practical application and are overburdened by repetitive and non-professional activity.

In the university industry linkage, the University remains insufficient in keeping the need of the society, preserve institutional freedom, honour to empower faculty and students to practice research freely.

Chapter 7: CONCLUSIONS and RECOMMENDATIONS

7.1 Conclusions

This study dealt with the conditions under which research is practice in MU. It mainly focused on showing the factors affect conduct research in detail. All of the factors comprising the result of this study were mainly based on the documents found from the university and MOE and the views given by respondents representing the university academic staff, administration, department/faculty and students.

Therefore, to achieve the purpose the following research questions guided the study:

1. How research is practiced in Ethiopian public universities?
2. What conditions affect research?
3. How is a research integrated with teaching and society?

The production of research in MU is far few by any standard. In three year from four journals totally less than 100 (abstracts, papers, articles and book reviews) were published. The major reasons for few research productions are lack of funding, little attention to research, heavy teaching load and low salary. Besides, some faculty members indicated they need training, guidance and mentorship from their seniors such as how to engage in research activities and how to write good proposals.

There have been limited number of senior and qualified academic staff in MU, from 1400 academic staff less than 10% are PhD holders, who could conduct research, publish and give mentorship for juniors. Even if, most of them were busy and interested in administration and related works of the university. The majority of the academic staff were very young and unexperienced. The young staff was trying to practice research in the selected thematic areas. However, the academic staffs in MU neither have had the qualification, experience and commitment nor budget, facilities and administrative support to practice research. These complicated individual and institutional challenges hindered research endeavors in the university.

The university expenditure for research is relatively very little, when allocated to the departments/faculty it became less than $ 1000 for a fiscal year (short term research) which is insufficient. Besides, every year in the departments there were new projects started but not completed. The fragmentation of research projects seems due to scarcity of budget and improper management.

Research need sustainable fund. The university less supported the research capacity through active researcher participation in the mobilization of internal and external funds. Besides, there seems to be poor mechanisms to acquire funding and high bureaucratic red tape to access and to use secured funding. It was very difficult purchasing what they need in a timely manner and most reported that they were discouraged by it.

Universities have not easy access to finance and have difficult way of handling the purchasing and financial transaction process. This makes both faculty and administrators dissatisfied with the over all financial transaction process. In addition, researchers are chasing after areas of research where funders are interested rather than the nation or institution areas of interest. This seems to lead to an extremely unequal level of research engagement across discipline and fields within institutions.

The multi-tiered inefficient systems affect the staff motivation. Yet, Student and staff demand better research environment and facilities. Government plans larger student enrollment, NGO's and other parties request more research collaboration. In addition, the MOE also expect the university to undertake research, consultancy and community services. On the other hand HERQA demands to meet its articulated performance measures for R&CS. However, MU is not responsive and accountable to facilitate environment to practice research.

Heavy teaching load, lack of experience, weak teaming-up between senior and junior staff, low salary, inadequate incentive mechanisms, as well as inefficiencies related to research administration and management seems to deters research productivity.

There is no clear guidelines for credit exemption for those that engage themselves actively in research proposal writing, investigation, and research coordinators. Credit allocation for research load is not given account according the role of the academic staff in the respective project, nature and time requirement of the research project.

Faculity have full load teaching responsibilities and overburden by repetitive non professional activities on top of that they teach extension and continuing students during the evening and weekends to earn more money.

Research projects are not clearly stipulate the research labor person-days requirements of various tasks during the implementation of the research project. For example, the load for research formulation and preparation like the fieldwork, preparation, organization and analysis, report writing and dissemination results are not properly calculated.

MU`s teaching mechanisms discourage staff in research and inquisitive inquiry. The academic staff is responsible for generating research ideas, and has the responsibility and

capability to administer research. However, there is weak motivation for research practice and less appropriate incentive mechanisms to encourage staff involvement in research. This might hinder improvement production of fundable research proposals, and might affect improvement of research quality.

It is the responsibility of the University to ensure that there are sufficient facilities for training and development research to enable the staff to achieve essential skills to support their future competency. However, particular less attention was given to train inexperienced researchers with all the necessary skills to practice research.

Connecting university`s knowledge out put to the society and the business is unavoidable task (Altbach, 2007). Hence, it is important promoting student's research in line with practical learning to produce students that are equipped with the knowledge and skills of practice research. Undergraduate student participation in final year projects and summer projects is an important first phase in research training and plays a major role in encouraging excellent students to pursue research careers.

7.2 Recommendations

Strengthening research at MU requires strengthening the administration and management capacity of the administrative staff. There is a need to increase staff capacity and enhance the awareness of the administrative staff on the importance of research in the University's academic. There is a need for improvements in the current financial and materials management, efficient and shorter purchasing and acquisition procedures and creating an administrative wing solely responsible to facilitate research. There seems to be preparing evaluation and controlling mechanism for research projects that could not satisfy any of the research performance auditing criteria.

Awarding best performing researchers could provide an important incentive for raising the research culture. Giving appropriate recognition and material rewards to researchers who manage to get their works published in scientific journals will also contribute positively to research culture. Quality of a university is measured not only by the number of graduates, but also by the quality of outputs of research undertakings. Devising mechanisms to recognize individuals or groups for extraordinary research performance could enhance the quality of research and raise research culture. The criteria for vertical promotion should give adequate attention to research and career structure should be flexible and to encourage staff participated in research and innovation and should be inclined to support women researchers.

The university should establish a research culture on a sustainable basis for solid commitment and quality of education. Conducive research environment requires various physical, managerial, monetary and other kinds of motivating setups. Hence, it is essential to establish motivating and enabling facilities for physical and psychological work environment and the academic freedom in universities should be the duty and right of every academic staff to participate in research that provide fertile ground for academic culture, exercise freedom of expression and raising staff research culture. Developing flexible modalities for research and granting of sabbatical leaves also encourage staff involvement in research.

The capacity of the university to engage in research in sustainable way both in the short-and - long run basis is highly dependent on the effectiveness with which it has organized its potential competency to support the innovation, knowledge production, technological transformation. Research is the core competency of the university upon which it addresses the governmental, societal and the university community need.

The university must systematically build a research system that enables to generate and market knowledge and technology to the community. The research competency building process provides a guideline how to establish the research capacity of the university. Hence systematically build research capacity and developing a comprehensive research theme that can engage all potential researchers should be given prime importance.

It should stimulate the culture of scientific research and build up a system of organized documentation of publications (Journals articles, Books, edited works and Proceedings), which emanate directly from the original research undertakings and innovations or development of technologies, new methodologies recognized at national or international levels. To encourage research activity, it is essential to reward quality research output. The ultimate goal of publication is its significance and use by other researchers and fitting target community.

Undergraduate and postgraduate students are provided with training in research and other skills. MU should support student research through its practical attachment programs, senior essays; discipline specific training opportunities, graduate student research and involvement of students in research projects. Moreover, in order to promote the involvement of students in research endeavors, the university should establish a student research fund. It is one aspect of student participation in problem solving research. Students should submit proposals and compete for a research grant. Therefore, Measures should be taken to put in place the necessary legal, organizational, operational and financial instruments to make research more relevant, effective, efficient and sustainable.

7.3 Limitations of the study and implications for further research

There are limitations to this study. This study is done at institutional level it may not be comprehensive enough to see the full picture of research practice of MU. Besides, the conceptual framework used the productivity of research was not comprehensive enough to show the full picture of research practice. First, the number of publications is according the four journals report and there is no way of verifying the number of publications other than these journals published. Second, the study looked at the practice of research and not the quality of the research works. Third, there was no longitudinal data that was available to compare research findings to previous studies. Do you to time shortage opinion of MOE officials and MU management body is not included. Therefore, so much has to be done to have full understanding of universities research practice in Ethiopia.

Data are collected from two source, document and interview. This resulted in lack of what is referred to as triangulation (Babbie, 2013). Triangulation is a method where several sources are used to collect data about the same phenomena Maximizing sources of data is likely to robust understanding theme (Babbie, 2013).

To make more comprehensive research, use multiple of research methods should be conducted to analyze deeply universities research practice in Ethiopia. For example, both quantitative and qualitative can be used to come up with more substantial data. Instead of interview, focus group discussions can be a helpful instrument to get more important information. In assessing the integration of research with society highly advisable to include MOE officials, the university management body and industry or company in such kind of study. Furthermore, different stakeholders who have the stake with university industry linkage should be involved to analyze it more comprehensively.

Moreover, it is also important to explore challenges of research practice in HEIs critically comparing various past research documents with the current one so as what changes are emerged in different point of time and what cause the changes. Last but not least, the impact of expansion of higher education of Ethiopia in quality research can be studied broadly. In this respect, this study would like to indicate multiple opportunities for further research.

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