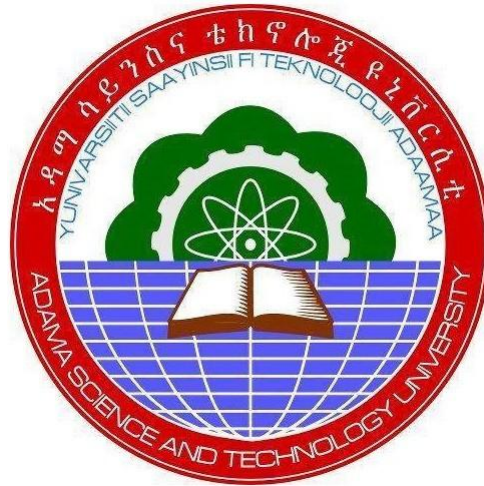


Challenges and Prospects of the Doctoral Researchers in Ethiopian Higher Education: the Case of Selected University



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ACRONYMS

AAU: Addis Ababa University

FGD: Focus Group Discussion

IAU: International Association of Universities

ICT: Information Communication and Technology

MoE: Ministry of Education

MoFED: Ministry of Finance and Economic Development

ABSTRACT

The main objective of this study is to investigate the existing challenges and possible opportunities of doctoral researchers in Ethiopian universities. In this study, a qualitative study design with descriptive cross-sectional approach was employed. Both primary data and secondary data were under use in this study. The primary data were collected from doctoral researchers and their supervisors. Purposive sampling was the main sampling approach identified in this study. From different qualitative data collection tools, interview and focused-group discussion were instruments employed in this research. Thematic approach and narration were methods of data analysis selected by the researchers. Accordingly, based on the analyzed and interpreted data, the following findings were identified. In the first place, the findings of this study confirmed that there has been inadequacy of both facilities and financial resources to smoothly run doctoral program in Ethiopian universities. Moreover, the degree of smooth relationships between doctoral researchers and their counter supervisors has been found poor. The psychological feelings of researchers were full of dissatisfaction and distress. On the other hand, even though there have been different challenges that the doctoral students were facing during their study, still they are optimistic about their future particularly in relation to the advanced knowledge and skills they have gained from the program and strong self-esteem and high social status that they will obtain when graduating from the program. Therefore, based on the aforementioned findings of the study, it is possible to conclude that currently, the basic preconditions for conducting doctoral research were not fulfilled for doctoral researchers particularly those factors related to facilities, fund, supervisory support and encouraging psychological setup. And yet many of the doctoral researchers have strong hope as the program will have irreplaceable contributions in their future lives. To alleviate the above problems of the doctoral researchers, four different bodies: Ethiopian Federal Government, Ministry of Education, Ethiopian Universities and Stakeholders should rethink on the existing status of the doctoral program and devise mechanisms on how to alleviate the existing challenges of doctoral education in Ethiopian Universities.

Key Words: *Doctoral researchers, Challenges of Doctoral Researchers, Prospects of*

Doctoral Researchers

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CHAPTER ONE: INTRODUCTION

This chapter deals with introducing of background of the study, statement of the problem, objectives and significances of the study. It also presents scope the study, limitations of the study and operational definitions of key terms.

1.1. Background of the Study

Today, more than ever, there is high expansion of doctoral programs both nationally and globally on one hand and there is also a multidimensional challenge in maintaining the quality of the programs on the other hand (Herman, 2015). This reminds Ethiopian universities to rethink and check the status of their core educational and research functions to creatively meet the global, national and local changes in the area of postgraduate studies. As pushing factor, higher education institutions have pivotal importance and irreplaceable roles to play in the generation and utilization of locally relevant knowledge and skills. This necessitates continuously revisiting the way higher education quality issues in the postgraduate programs are treated and how their standards are maintained (Belachew, 2015).

In the 21st century, as one area of emphasis in higher education institutions, doctoral program is at the core of academic practices and the candidates of the program are top talent groups that need continuous support and follow-up. Different studies on the doctoral programs disclosed that doctoral students have been facing a variety of difficulties when pursuing their studies (Appeal and Dahlgren, 2003; Wright, 2003). These challenges include the supervisory relationship and beliefs (Hasrati, 2005; Murphy et.al. 2007; Sambrook, et.al 2008, Beauchamp, et.al 2009; Brew, 2001; Kiley and Mullins, 2005; and Åkerlind, 2008). Similarly other studies stressed on the psychological problems of PhD students particularly the problem of distress experienced by doctoral students (McCallin and Nayar, 2012, Pyhalto et al., 2009, McAlpine and Wiss, 2000; and Zhao et al., 2007).

Sometimes the supervisors and instructors practices may fail to provide PhD students with adequate support and this may lead to continuous destructive friction between students and the learning environment, which in turn, may lead to problems in their adjustment (Kukatlapalli, 2016).For instance mental distress may have a negative impact and lead to withdrawal. In this connection Lonka.et.al (2008) found a dysfunctional study orientation among university students, where stress, exhaustion, anxiety, and lack of interest were typical. Thus it is important to know whether or not the same variables would be related to the study progress of PhD

students. This means such signs of dysfunction may lead to frustration and sometimes forcing them to withdraw from the PhD study. Recently, Stubb et al (2011) discovered that students' socio-psychological conditions greatly affect the effectiveness of their PhD dissertation. On the other hand, other research found out that PhD students feelings of empowerment were positively related to their study engagement and negatively related to their high level of stress, exhaustion, and anxiety (Golde, 2000, McAlpine and Norton, 2006).

During PhD studies, stress may result from various problems like one's own learning, workload, frequent evaluation, competitive atmosphere, and supervisory roles (Wright, 2003). Lack of adequate resources, imbalance between research work and private life and lack of adequate academic writing skills are other causes of socio-psychological maladjustments (Lonka, 2003). As Appel and Dahlgren (2003) showed, in addition to the content of supervisors' feedback, PhD students frequently considered the tone of feedback which is highly important in terms of their willingness to learn. Hence, destructive feedback received from the supervisor and other members of the scholarly community is likely to contribute to negative emotions that students experience during their studies.

Therefore, in spite of the fact that there are promising dramatic changes in availing the opportunities of doctoral studies in Ethiopia, there are also immense challenges that attendants of the program are currently facing. In comparison to other educational programs, doctoral program is highly in need of qualified human power, huge financial resource and very expensive material supply and infrastructural facilities. To sum up, the study focuses on the current state of doctoral researchers with emphasis on how they are pursuing it and what difficulties and challenges the candidates are facing.

1.2 Statement of the Problem

Today, particularly in Sub-Saharan countries, only few portion of the society would get the chance of studying at postgraduate levels. On top of such low access to top level education that lead to high level professionalism for leadership, expertise and research endeavor, those lucky groups for whom the gate of the program is open are heard complaining the PhD program. In this regard, among the main reasons that necessitate conducting this research, the researchers of this study assume that: there might be underestimations of doctoral researchers' challenges in the Ethiopian universities; particularly, the way those doctoral researchers and their supervisors understand the existing challenges need attention of researchers. It is evidenced that globally,

smoothly pursuing and timely completing the doctoral programs is becoming serious problem, particularly in Western countries like USA where nearly fifty percentage of students who enroll in American higher education for doctoral programs do not complete their degrees (Lovitts, 2005). These doctoral researchers face a variety of challenges which have led to extended time to completion and high attrition rates in sever instances (Gardner & Barnes, 2007). According to Golde(1998), the specific attrition rates of that fifty percentage further reveals that about one-third of the drop-out is during their first year, another one-third of the drop-out is before their candidacy, and the remaining one-third at the time of their post-candidacy, which may vary based on the disciplines and specific departments.

The advisor/advisee relationship plays a critical role in relation to doctoral program completion and success (Barnes & Austin, 2009). These authors further state that, clearly defining the role of a doctoral advisor/supervisor has been challenging and they found that university advisors and doctoral students may have different perspectives on the roles and characteristics of the advisor-advisee relationship. According to Harding-DeKam et al., (2012) the concept of advising is even difficult to understand because there are numerous roles and responsibilities of an advisor, especially in advising doctoral students. The characteristics of what is considered as a good advisor-advisee relationship also varies across disciplines (Barnes & Austin, 2009, Fullick, 2013), and can change as a student progresses through their program (Tinto, 1993). In this regard, advisors in some disciplines value collegiality and accessibility, whereas advisors from other disciplines focus more on developing a supportive/caring relationship. Thus the issues have created a need to examine advisor-advisee relationship in the doctoral program across disciplines.

According to the argument of the researchers, among reasons that necessitate this research, there are long-held underestimations of doctoral researchers' challenges that they face during their study. A key finding in this regard is that often staff attributions of student challenges have looked at very differently from either the students' understanding of their experiences or from the reality of their challenges that may lead to even leaving the study. While there is no single reason why students could not complete the program tends to leave, a major take-away from the scholarship on this topic is that the supervisory relationship is crucial not only whether or not students graduate, but also in their subsequent academic careers (Lovitt, 2005). This study

confirms that supervisors who have helped PhD students to complete their study are the ones most likely to continue doing so.

Also the challenges may include personal problems of the candidates themselves which are more of psychological in nature such as students stress and frustration. According to Conceição (2011) the doctoral students do not exactly know their role and as a result become stressful because to enter doctoral program, the applicants must master certain high level academic competencies.

Anyway, this study is based on the premise that doctoral students' success is based on the healthy and smooth relationship they have with their advisers and their psychological readiness to pursue the program. The PhD advisors need to be aware of the degree of the commitment and the time required to advise doctoral students and be prepared to adapt their role within the context of their students needs. In principle, a supervisor has three roles in the dissertation process, namely advising, coaching, and mentoring. If supervisors limit themselves to one of these roles, they are not meeting students' needs, which then can lead to student's major challenge that even lead to leaving the program. In this connection, Paglis et al. (2006) clearly describe the differences between advising, coaching and mentoring of doctoral students. First as a university adviser one is expected to make clear about institutional and program requirements as well as informing duties and rights of doctoral researchers. As a coach on the other he/she is expected to set timeline for accomplishing the work of the candidate and have conversations to brainstorm on the whole duties of the candidate relating to course work and writing proposal. Lastly, as a mentor he/she has to give timely feedback on the whole works of dissertation including issues related to PhD article publications and final research presentations.

To sum up, as to the main gaps identified in this study, although investigations have been undertaken on problems of doctoral study by other researchers so far; the previous researches were not comprehensive in their scope, because main attention was given to the limited areas of the problem and in a fragmented manner. Therefore, unlike the previous studies, this study was investigating the comprehensive challenges of doctoral researchers such as physical challenges, financial challenges, human challenges and psychological challenges. Specifically, it focusses on the challenges of infrastructural facilities, financial resources, supervisory role of supervisors and, psychological state of doctoral students. Besides those challenges, this study also compared those challenges of doctoral researchers to the prospects of doctoral researchers.

Research Questions:

This study focuses on answering the following basic research questions.

1. What are the prominent problems related to infrastructural facilities that faced by doctoral researchers in the selected senior universities of Ethiopia?
2. What are the prominent problems related to financial resources faced by doctoral researchers in the selected senior universities of Ethiopia?
3. What are the prominent hindering factors related to supervisors that influence the effectiveness of doctoral researchers in the target universities?
4. What does the psychological feelings of the target doctoral researchers look like?
5. What are the possible prospects that those doctoral researchers aspire for?

1.3. Objectives of the Study

General Objective: The general objective of the study was to identify the prominent challenges to and possible prospects of doctoral researchers in selected Ethiopian universities.

Specific Objectives: The specific objectives of the study include the following. The study was intended to:

1. Assess the major hindering factors related to infrastructure facilities that affect doctoral researchers in selected senior universities of Ethiopia.
2. Investigate the prominent challenges related to financial resources that affect doctoral researchers in selected senior universities of Ethiopia.
3. Identify prominent problems related to supervisory services of doctoral researchers in some selected senior universities of Ethiopia.
4. Assess the main psychological problems that doctoral researchers experience during their dissertation in some selected universities of Ethiopia.
5. Identify the prospects of doctoral researchers from pursuing of doctoral study in some selected Ethiopian universities.

1.4. Significances of the Study

The results of this study will benefit the responsible police-makers in charge of directing and monitoring doctoral study in Ethiopia like Ethiopian Education and Training Agency . Particularly it serves as inputs for officials in the federal ministry of education in charge of expanding PhD programs and maintaining its quality for realization of producing competent doctoral graduates. It is also useful to other stakeholders in the education sector to clearly

comprehend the current problems of doctoral study and then come-up with effective strategies used to tackle the problem.

It may also be beneficial to PhD coordinators in Ethiopian universities and those institutions running doctoral programs to collaborate in tackling identified problems. Finally the results of the study may also help other researchers interested to conduct similar researches on doctoral study by serving as a reference material.

1.5 Delimitations of the Study

This study is carried out in four Ethiopian universities that run doctoral programs, namely Addis Ababa University, Haromaya University, Jima University and Hawasa University. Also the study was restricted to doctoral researchers' dissertation challenges and its prospects by excluding other issues within the program like teaching-learning process, the effectiveness of postgraduate leadership or assessment of existing policies and strategies on doctoral studies. Moreover the study was focussing on the areas of Natural Science and Engineering fields by excluding other diversified fields of studies, particularly by assuming the challenges are relatively more serious in those identified of study.

1.6. Limitations of the Study

The main limitation of this study was that this research was conducted only in the selected senior universities of Ethiopia by excluding many others and thus it was difficult to generalize the results of this study to all other universities in the country. Also this study used only qualitative research design by excluding quantitative approach which might has impact on its output. Never the less, to bridge possible drawbacks, in-depth investigations have been carried out in those identified Ethiopian universities so that their cases will be used as lessons for remaining other universities. Similarly, through comprehensive qualitative data, rich evidences were obtained on issues related to the challenges of doctoral researchers by asking their deep feelings, attitudes, preferences and opinions through probing mechanism during both interview and focus group discussions.

1.7. Operational Definitions of Key Terms

Challenges: are difficult circumstances or problems encountered by doctoral researchers which seem hard or threatening to smoothly pursue doctoral research in those Ethiopian universities.

Doctoral Research: in Ethiopian context, doctoral research is an academic research carried out in Ethiopian universities that must be published in reputable journal ultimately leading to the highest academic qualification of a Doctor of Philosophy.

Doctoral Researchers: In this study, doctoral researchers are, full-time and government sponsored PhD student engaged in a program of doctoral studies through course work and PhD dissertation.

Doctoral Study: In Ethiopian instance, doctoral study is a period of course works and independent research at the doctoral level which is based on the successful completion of masters program from recognized higher education.

Infrastructural Facilities: are physical and digital facilities of education ranging from buildings and civil works to furniture and equipment that enable doctoral researchers to study in a conducive learning environment like buildings, telecom utilities, libraries, laboratories, and other similar facilities.

Prospect: situation or opportunities that would benefit the doctoral researchers during their study or in the future after completion of the program.

1.8. Organization of the Study

The study is organized into five chapters. Chapter one deals with introducing background of the study, statement of the problem, objectives of the study and significance of the study. It also incorporates scope and limitations of the study as well as operational definitions of key terms. Chapter two presents review of related literature and chapter three discusses about research design, research methods, sources of data, tools of data collection, method of data analysis and research ethics. Chapter four involves data analysis and interpretation. Lastly, chapter five presents summary of findings, conclusions and recommendations.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

In this chapter of the study, some fundamental conceptual, theoretical and empirical literatures in the area are briefly reviewed.

2.1. Historical Background of Doctoral Philosophy

Doctorate is the highest academic degree that a university can award to a PhD student, usually known as doctoral researcher. In order to be awarded doctorate he/she has to successfully complete a defined program of work in a particular field of study as prerequisite. With regard to educational levels, a doctorate degree is the highest and most prestigious research based degree offered by universities (Green and Powell, 2005). Doctoral study is a mechanism devised to create knowledge society through advancement of need-driven knowledge (Park, 2005a). Although there are different forms of doctoral degrees, the most common form of doctorate in many countries as the only recognized form of doctorate, is the Doctor of Philosophy, a postgraduate research-based degree.

As to its emergence, the doctorate degree has a long history (Park 2005a), as key landmarks which had its birth in medieval Europe to serve as a license to teach in universities, whereas its rebirth as research degree was in Germany in the early 1900s, its redefinition in the USA from the 1860s, and its subsequent diffusion to Europe and elsewhere. So, over the last few centuries the PhD has established itself as a qualification recognized internationally, as the set standard of qualification for entry into the research, academic professions, and other advanced labor markets. This reveals that doctorate as a degree has certainly come of age, and it sits proudly at the top of the ladder of academic qualifications in most countries of the world (Green and Powell, 2005).

As to its types, there is little doubt that the doctorate degree is the research degree of choice (Park 2005a). This means, the doctorate degree takes a number of different forms in different countries (Noble, 1994). In the US, a doctorate program usually includes both taking advanced-level taught courses and undertaking academic research, with access to a range of academic advisors and supervisors along the way. In Europe and Australia, the doctorate degree is typically based largely or exclusively on research, where the student effectively serving an apprenticeship under the guidance of a principal supervisor. Largely, in most countries, the primary emphasis within the doctorate program is on developing disciplinary knowledge, in preference to applied research and knowledge transfer. In the history of doctoral program, for longer time, strong emphasis has been given to preparing doctoral researchers for the academy as

academician serving in higher education than for research purpose that contribute beyond the arena of the academy.

As a result, nowadays, there are tensions into the purposes of doctoral research. This tension is created between product of doctorate (producing a dissertation of adequate quality) and process of doctorate (developing the researcher). Similarly, there is tension between timely completions of doctoral program on the one hand and high quality research result on the other. Therefore, the concern of government to focus on sustainable investment in expanding research-based doctorate degree has purpose. Primarily, research has great impact on economic advancement, societal development, and quality of life, and therefore helpful to maintain the country's global competitive position in goods, services and knowledge (Diamond, 2006).

As wider scientific communities in higher education agree, the main roles of doctoral graduates are developing human knowledge and skills that will enhance quality of life by improving human environment, social cohesion and health by providing evidence-based options for societal problems. Today, even the results of doctoral researches are considered as ready source of labor and commodities for the new knowledge-based economy (Barnacle, 2005). The society thus should know and exploit these knowledge and skills of doctoral graduates for bringing social justice and boosting the economic and financial growth of countries. Also passing of doctoral researchers through such rigorous doctoral research works greatly contribute for development of doctoral students' good personal attributes like resilience, creativity, determination and problem-solving qualities (Halse and Levy, 2014).

Unlike in previous days, currently rapid change has become a defining feature of the doctoral study. In this regard, first, there has been a dramatic global increase in the number of doctoral students and those who graduates. In many countries, governments continually increase their investment in producing the number of doctoral graduates so as to establish globally competitive knowledge economies. Second, today in an era of mass higher education, there has been a change in the types of people doing their doctorates. For instance, more women than men are enrolled and complete from doctoral degrees; more students study doctoral degree in part-time than full-time; and there have been significant increases in the number of graduates from disadvantaged backgrounds. Third, there has been a major expansion in kind of doctoral degrees available. In other words, such dynamism shows that undertaking a doctorate is not simply an extension of undergraduate/Masters 'studies (Denicolo and Reeves, 2013). The transition

between these previous education levels and the later doctorate program represents fundamental change. In this process, there is transformation from student to fully recognized researcher. It is due to this fact that many formal documents in universities use the term ‘doctoral researcher’ rather than doctoral student. The title for the main instructors who guide that process remains as supervisor which is a UK style in many countries though it might be more accurate and more transparent, if it were changed to ‘advisor which is a US style.

2.2. The Current Status of Doctoral Education

2.2.1. The Global Context of Doctoral Education

Today, generally the conditions necessitate shifting the landscape of doctoral education in its basic features and its forces of change. In this regard, owing to its role in the production of a highly trained workforce critical to knowledge production and innovation, policy directions in many countries of the world focus on strengthening the nexus between doctoral outcomes and the initiatives in economic growth that are targeted at enhancing sustainable competitiveness (Jorgenson, 2012; Manidis & Goldsmith, 2017; Sabic, 2014). For instance in Europe, initiatives like the Bologna Declaration (1999) and the Lisbon Strategy (2000) were said to have been influenced by the need to make the continent more competitive through the training of high-level human power (Cloete et al., 2015; Jorgenson, 2012). The quest for improvement in the provision of doctoral education in North America has been attributed to a similar need (Cloete et al., 2015). As a result, governments in Brazil, Russia, India, China and South Africa (BRICS), are currently deploying huge resources and formulating targeted policies to augment their doctoral output as part of their effort to improve their positions in the current global dynamism led by knowledge economy (Cloete et al., 2015). Consequently, doctoral program continues to assume an important dimension across the globe in terms of its size, relevance and policy formulations that influence its nature and structure. In addition to the increasing number of doctoral graduates, postgraduate program is becoming multi-polar with its center of gravity gradually moving away from the North Atlantic’ (Jorgenson, 2012). The author further disclosed that significant changes have also been observed in gender composition, diversity and employment patterns of doctoral graduates. Lastly, studies confirmed that owing to various challenges, there is high attrition rates in different parts of the world; for instance in the US, national attrition rate for PhD candidates ranges from 30 to 70% (Pyhältö et al., 2012), in Europe the attrition rate 50% (Sabic, 2014), and in South Africa completion rate for doctoral students is 45% (Cloete et al., 2015). Therefore, as a

complex environment that demands students' varied forms of engagement, doctoral studies call for a variety of support schemes that should be availed by concerned institutions which includes conducting need-driven high standard research(Johnston et al., 2016).

2.2.2. The Context of Doctoral Education in Africa

Despite the scarcity of data regarding its development and current landscape, the crucial importance of PhD programs in improving research output productivity and quality of education in the African university systems is well, because Africa has not been altogether left out of the global landscape of doctoral education recognized (Cloete et al., 2015; IAU, 2012; Khodabocus, 2016). Studies indicate that PhD provision in Africa has been mainly driven by the need to upgrade the qualifications of higher education staff, to facilitate the growth of quality undergraduate education, and to ensure a vibrant research community that would play a pivotal role in addressing societal challenges and economic transformation (British Council, 2018; IAU, 2012; Nega & Kassaye, 2018). This need is also related to the re-imagining of Africa as a knowledge economy by global agents like the World Bank, placing higher education systems at the center of national economic plans (Molla & Cuthbert, 2016). While the basic assumption of economic transformation and development through doctoral education appears to be shared across the continent (Molla & Cuthbert, 2016) rightly contend that the promise for economic transformation is often held without a critical examination of how it can be achieved. In fact, in the context of developing countries, there could be observable misalignments between PhD studies and economic transformation as manifested in the weak link between PhD training and national development requirements and the limited impact of research outputs in areas such as technological changes and productivity (Nega and Kassaye, 2018). Thus, influenced by the aforementioned rationales and needs, African countries are trying to respond to the increasing demands for doctoral education (IAU, 2012; Khodabocus, 2016). However, efforts and achievements still remain far behind current needs. In this regard, the majority of countries in the continent lack strategic policies and spend less on research, innovation and development (British Council, 2018; IAU, 2012). Most institutions are seriously challenged by poor quality of supervision, lack of academic freedom, poor links with industry, insufficient PhD programs, poor physical infrastructures, brain drain, lack of supportive teaching and research environments, and dependence on foreign sources for funding (British Council, 2018; Cloete et al., 2015; IAU, 2012; Molla & Cuthbert, 2016). Therefore the challenges of the African PhD education become

more apparent when the actual experiences of doctoral students are closely examined. Due to this fact, the need to monitor the experience of doctoral students has grown over the years. The driving force here is the critical role of doctoral students in the discovery and implementation of new knowledge (Jorgenson, 2012). On the other hand, in the African continent, any misfit between expectations and the norms and practices of an institution can affect doctoral students' persistence and success (Pyhälto et al., 2012).

2.2.3. The Status of Doctoral Education in Ethiopia

As different evidences witnessed, higher education in Ethiopia is seventy years old, having commenced in 1950 with the founding of the University College of Addis Ababa-now Addis Ababa University (Wondosen and Getinet, 2021). The beginning of postgraduate studies dates back to 1978, which marks the establishment of the School of Graduate Studies at the Addis Ababa University with the first 40 students enrolled in the departments of Literature, TEFL, Anatomy, Biology, Chemistry, History and Animal Production (Yigezu, 2013). In 2000, other public universities have been additionally involved in the provision of postgraduate programs, which has prompted a significant increase in postgraduate enrolment across the country. The first PhD programs in Ethiopia were initiated by Addis Ababa University in 1987 (AAU, 1980). The number of public universities offering PhD programs reached ten in 2016; and their programs augmented from only three in two subject areas in 2006 to 138 offered in six subject areas in 2015 (Nega & Kassaye, 2018). From only 31 students in 2006/07, more than 3,000 students were pursuing doctoral studies at local universities in 2016; local universities also award more than 500 PhDs every year up, from a low of 21 in 2010/11 (MoE, 2018). Currently, there are 76,795 postgraduate students enrolled in public and private institutions of higher learning in Ethiopia (MoE, 2018). However, the PhD share still remains at 3,994 (5.2%) (MoE, 2018).

In Ethiopia, the share of PhD enrolment started increasing at around 2008/09, especially during the academic year of 2011/12. Basically, the rapid growth of doctoral program after 2011/12 may be attributed to government efforts toward the expansion of PhD programs in order to meet the growing local demands. While the growth of postgraduate programs in Ethiopian universities is encouraging, the past achievements in the areas have been miserably low. As Yigezu (2013) noted during the entire past twentieth century, Ethiopia has managed to graduate only 4,000 PhD students trained both within and outside of the country. This appears to be meagre even by African standards. In this regard, even South Africa, the best performer in the continent, has

managed to graduate 30,000 PhDs from 1898 to 2010 (Herman, 2015). And yet, doctoral studies have been given high emphasis in many countries including Ethiopia, because of their potential contribution to economic and scientific innovation, improved teaching, and research output. It is because the demands of knowledge production and innovation can be attained only through the active participation of a highly trained labor force, the need for doctoral graduates remains incontestable (Cloete et al., 2015; Herman, 2011).

In Ethiopia, the critical human resource required to catalyze its economic development and institutional needs created the rapid expansion of higher education sector in the country. As a result, Ethiopia has increased the production of PhD holders over the last three decades. In addition to the human power need highlighted in its Growth and Transformation Plan II (MoFED, 2015), specific plans were also set in the 2008 by the ministry of education (MoE, 2008). Also the Ethiopian Education Sector Development Program, ESDP V clearly outlines the need for the expansion of postgraduate programs with the major goal of improving the academic qualification of university staff (MoE, 2015).

These policies continue to serve as a major impetus to the continued introduction of new PhD programs in Ethiopian universities and increasing number of candidates both within and outside Ethiopia. However, despite the surge of PhD education, little empirical evidences exist as to challenges of doctoral students, with the exception of few studies conducted in fragmented issues of postgraduate studies by different domestic researchers (Gebremariam, 2009; Lemma, 2014; Nega and Kassaye, 2018; Tadesse, 2014; Tefera & Dessie, 2014; Yigezu, 2013).

2.3. The Challenges of Doctoral Researchers

2.3.1. Resource Constraints for Doctoral Researchers

In many developing countries, including Ethiopia, there is acute shortage of resources to run their higher educations. In line with provision of doctoral programs, the first resource constraints for doctoral researchers are mainly related to infractural facilities. To effectively pursue their studies, doctoral researchers badly need educational infrastructures particularly ICT resources, libraries, laboratories and conference facilities. The provision of such facilities in both quantity and quality is decisive for successful completion of the doctoral programs (IAU, 2011). It was pinpointed that ICT network connectivity and speed of internet services as well as availability of well-equipped Labs and workshop facilities are the backbone of doctoral researches. Besides,

inadequacy of infrastructural facilities in many Sub-Saharan universities, disruptions due to power failure and national fiber-optic network cuts are other common problems.

Similarly, in Ethiopian universities, the issue of facilities came out as the most critical factor hindering the progress and success of doctoral studies (Wondosen and Getinet, 2021). This shows that in senior Ethiopian universities, the expansion of doctoral program has not been accompanied by a matching improvement in providing facilities that are critical for doctoral programs in general and conducting of doctoral research in particular.

Among the challenges to doctoral researchers, their access to financial support is another area of emphasis. The sources of fund for doctoral researchers could be from government, from bank loan, scholarships, grants or employment opportunities within the university as research or teaching assistants (Barnes & Randell, 2012). Another research revealed that greater access to funding found to correspond with higher levels of doctoral students' overall satisfaction with their doctoral experience and their lower attrition (Leijen et al., 2016). On the other hand, many doctoral students do not understand the financial implications of studying doctoral program, so they do not take into consideration the financial issues at the time of enrollment, selection of doctoral program and recommending their supervisors. Practically, financial opportunities in higher education have impact on doctoral student's achievement, lifestyle and well-being for years to come (Golde and Dore, 2001).

Many African higher learning institutions fail to provide adequate research fund for their doctoral researchers because of inherent institutional set-ups that do not promote attraction of research funding (Wondosen and Getinet, 2021). Likewise, in Ethiopian universities the financial challenges faced by doctoral researchers appear to have been a common and outstanding feature of the system. In Ethiopia, the current research budget is 45,000 ETH birr for doctoral students in social studies and humanities and 60,000 Birr for students of science and technology, which is still regarded as unsatisfactory. Thus, in this country, neither the process of doctoral education nor the quality of the research output will be satisfactory, unless significant improvements are made in terms of financial support. These all reveals that access to financial resources greatly affect PhD students' satisfaction and perseverance.

2.3.2. Human Relation Constraints Affecting Doctoral Researchers

As human relation, the process of doctoral supervision is central to the success of doctoral programs because doctoral supervisors are expected to possess a broader range of knowledge and

skills to support these researchers throughout their doctoral study and into the next stages of their career (Denicolo, Duke and Reeves, 2016). Today, in dynamic and diversified research context, supervising doctoral researchers is becoming of the most challenging responsibility.

Therefore, to be effective, PhD supervisors need to properly manage research project deadlines and empathetically approach the researchers to enable them produce innovative and boundary-crossing research outputs. Supervisors should also be open to updating their professional skill including skill of social relationships with their students (Denicolo, 2016). Experience on social relationships will allow supervisors to better balance these new requirements and demands at the same time to enhance student experience; understand their students during supervisory practice so as to provide better support to them.

On the other hand, when practically seen, many doctoral researchers are reporting as their relationship with their respective supervisors is poor, and such poor relationship could be attributed to problems of either the supervisors or doctoral researchers. The increased diversity of doctoral researchers that join the program from a range of cultural and international backgrounds could be one source of such poor relationships. In this connection, studies found that more diverse doctoral students have a broader range of assumptions and expectations of the doctorate program and about its effectiveness of supervision (Parker-Jenkins, 2016). The doctoral researchers and supervisors were most often misaligned which leads them to disagreements and negative perceptions about supervisory roles by the doctoral students (Gunnarsson, Jonasson and Billhult, 2013). Therefore, supervisors need to know their students expectations, and ensure whether or not their students have understood and correctly interpreted their supervisory discussions (Parker-Jenkins, 2016). The above discussions revealed that in principle, there need to be positive matching between doctoral researcher's specific research interests and potential supervisor's expertise on supervision (Denicolo, Duke and Reeves, 2017). Besides that good communication skill and guidance from supervisors is critical in helping doctoral researchers to properly navigate in their research endeavor (Petre and Rugg, 2010).

Also the doctoral researchers must fulfill their own unique needs and goals so that their supervisors provide them effective support with no difficulties. They should become aware of the skills needed to become successful researcher which will be realized through participation in training, whether they are offered within the home university or beyond (Denicolo and Reeves, 2013). This implies supervisors and doctoral researchers should openly discuss their

expectations and negotiating on the common issues to create good working relationships. Such supportive environment in the supervisory activity again will enhance confidence, independence and research knowledge and skills of doctoral researchers (Gurr, 2001).

In addition to supervisor-supervisee relationship, there is other human factor influencing the effectiveness of doctoral program; which is psychological in nature. In this regard, various psychological factors are encountering doctoral researchers which include conditions of stress, frustration, loneliness and frightening (Hadjiioannou, et al., 2007). These negative psychological factors can be enhanced by poor family support and doctoral student's poor relationships with other students (Lee, 2009). As researchers evidenced, doctoral students who got more social support will face less emotional problems and tend to complete their study more effectively and quickly (Wao and Onwuegbuzie, 2011).

Moreover, doctoral students' lack of motivation is another underlying reason for ineffectiveness of PhD students and their premature departure from doctoral studies (Lovitts, 2001). Similarly, it was found that doctoral students' expectations, self-reliance, self-regulation and sense of achievement have been considered as other most prominent factor that determine the psychological state of doctoral students which in turn necessitate devising of working strategies to resolve the problem. (Geraniou, 2010).

Similarly, doctoral researchers who valued the doctoral process (both academic and research work) rather than its product (receiving a doctorate) possess better well-being (Stubb et al., 2012). The above finding disclosed that those self-motivated doctoral students who focus on the value of the doctoral process enjoy higher satisfaction, better well-being, and more academic success during doctoral study than those who give values to the doctorate itself. On the other hand, the potential sources of Psychological stress among doctoral students include various factors like lack of family support (Myers et al. 2012), personal isolation (Hopwood and Paulson 2012); lack of adequate funding (Myers et al. 2012), problems of course work (Nelson et al. 2001), issues related to PhD dissertation (Nelson et al. 2001), sleep deprivation and lack of free time (Nelson et al. 2001). Also, other researcher, Hockey (1994), investigated the following sources of stress in early-stage of doctoral students journey: 1) vague ways of task completing doctoral study, 2) students intellectual isolation, 3) students social isolation, 4) lack of proper program structuring 5) critical time pressures, 6) lack of confidence among PhD students, 7) lack of smooth supervisory relationships, and 8) feelings of uncertainty.

In short, all the above discussions pointed out that both supervisory and psychological problems of doctoral researchers are wider and complicated in their characteristics.

2.4. Prospects of Doctoral Study

Although the doctoral researchers are facing many challenges, there are also prospects that could initiate the doctoral researchers. In this regard, it was found out that a number of doctoral researchers have been motivated by their opportunities of enhancing their thinking about social justice and sense of identity. According to Leonard, Becker and Coate (2005), there are generic motives of PhD students for joining doctoral program which include motive for career development; lack of satisfaction in their current job, their motive to engage in research-based politics and finally to put oneself at the highest level of academic ladder.

Also other study disclosed five motivational profiles that lead a person to study doctoral program. These include: traditional motivation which involves entry in to the academia, advanced motivation which refers to entry to professional development; continuing motivation which refers to entry to professional advancement; transitional motivation which implies entry to intermediate motivation and personal fulfillment motivation which involves entry to self-enhancement of the doctoral graduates (Gill and Hoppe, 2009). Moreover, there has been a rhetoric used to describe the doctorate as the pinnacle of academic success (Nyquist, 2002) as the zenith of learning (Lovat, Monfries and Morrison, 2004), and the peak of university scholarship (Gilbert, 2004) which are really colorful and rewarding. Such highly demanding and recognized doctorate degree is assumed to qualify its prospective graduates to top level job positions and academics, who are perceived as valuable human capital used to foster productivity and creativity (Park, 2007).

There are also other rationales behind the journey of doctoral program.

According to Tarvid (2014), there are two main reasons that motivate those candidates pursuing doctoral study which include personal and labor-market goals. Doctoral graduates personally want to gain personal material accomplishment in addition to attaining higher social status. However, whatever the reason for holding a doctoral award, it seems wrathful. Importantly, it is because doctorate is not just a piece of paper but one that opens doors of many possibilities.

Therefore, even though pursuing a doctoral study is full of challenges that have been explained in the previous section, it is an amazing time for personal growth and advancing ones critical thinking ability that would enhance the motives and aspirations of doctoral students through

extrinsic and particularly intrinsic rewards in their social lives and long years of professional services(Guccione, 2022).

2.5. Conclusions on Literature Review

The purpose of this literature review is to assess what have been dealt by other scholars in line with factors hindering the effectiveness of doctoral researchers in some selected Ethiopian universities. Accordingly, issues related to emergence and development of doctoral degree in global, continental and national levels have been embraced in this review. The review also disclosed different researches conducted by other researchers on Ethiopian doctoral program which employed the quantitative design that could not fully address the inner feelings, likes and dislikes of the doctoral researchers by carrying out comprehensive interview and focus group discussion. Particularly, those human factors dealing with advisor-advisee relationship and psychological factors dealing with stressful moments that PhD students face during doctoral study can only be fully investigated through qualitative research design. Other researchers are also focusing only on the problems that doctoral researchers had encountered, whereas this study unlike the previous ones, attempted to compare the challenges with prospects of the doctoral program. Therefore, both the conceptual and methodological gaps in the area were identified and bridged through this study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

This chapter is focusing on the discussions of basic research design, research methods, and the sources of data, target population, sampling techniques employed, tools of data collection and the procedures of data collection. It also further discusses about the methods of data analysis and research ethics considered in the study.

3.1. Research Design

This study used a qualitative design involving PhD researchers and supervisors in the fields of Natural Science and Engineering. This is because, from the actual experience, in comparison to other fields of studies, doctoral researchers joining natural science and engineering have widely been seen when the duration of their program completion is unnecessarily elongated. In this design, therefore primary qualitative data were obtained through in-depth investigation on issues of infrastructural facilities, supervisory-relations, financial resource and psychological problems that the doctoral researchers faced during their studies as well as some possible prospects that the doctoral researchers were aspiring when they would culminate their studies.

3.2. Research Method

The approach used in this study was descriptive cross-sectional study. This method is appropriate for the study because it allows the participants to disclose their real life experiences at the present time that greatly contribute to the quality of the research output. Through this research method, the study investigated the current real challenges and prospects of doctoral researchers in four selected universities of Ethiopia. It is also appropriate to use such research method because it is helpful to concentrate on the real experiential knowledge, attitudes, preferences and feelings of both supervisors and supervisees as research participants.

3.3. Sources of Data

This study mainly focused on primary sources of data which were directly obtained from research participants that has a paramount importance for respondents to reflect on their perceptions of the problems that they have encountered while pursuing their doctoral studies, particularly in their doctoral research engagement. In this study, the PhD students' perceptions of typical challenges and possible prospects of the program were deeply explored assuming that doctoral students usually face many problematic situations on the one hand and they also possess some hopes in the future, after completion of their study. Thus, in this study, mainly primary sources of information were used that have been obtained from doctoral students who had direct

connection with doctoral research. These primary data were also collected from doctoral students' supervisors. In this study, particularly, to get quality data universities of Addis Ababa, Jima, Hawasa and Haromaya were identified. These universities were purposely selected by considering their long years' experience in running doctoral programs and their intake capacity of doctoral students. Doctoral students at various years (beginners, juniors or seniors) and senior PhD supervisors in those senior universities were embraced in the study. Besides that secondary sources of data were included that reviewed documents related to policies and proclamations of doctoral program in Ethiopia including plan and actual graduates of doctoral programs.

3.4. Tools of Data Collection

The main instruments of data collection used in this study were interview and focus group discussion (FGD).

1. Interview: The main reason that the interview method used in this study was with the intention to collect detailed feelings and impressions that were not easily addressed through questionnaire or quantitative design. In this study, semi structured interview was used. Procedurally, first, for quality purpose, pilot interview was conducted based on the prepared interview guide, with those doctoral researchers and supervisors from Adama Science and Technology University, which greatly contributed to improvement of the interview guide.

Accordingly, 12 participants were purposely selected. These participants included 8 doctoral researchers (two from each university and one from each field) and 4 supervisors (one from each university; at least one from each field). Selections of research participants were made with maximum heterogeneity by using purposive sampling that considered diversities like gender, department and experiences. .

2) Focus Group Discussion (FGD): Similarly, this FGD was initially conducted with one discussion group from Adama Science and Technology University. Then the actual discussions were made by creating conducive environment that encouraged the participants to share their perceptions and points of views based on the principles of Breen (2006), who capitalizes on free expressions. So, in this FGD, the challenges faced in relation to facility, financial resources, the quality of supervision and doctoral students' psychological feelings were discussed. To this end, four focus group discussions, one from each university were conducted among the selected doctoral researchers by combing from the two fields.

3) Document Analysis: According to Bowen (2009), documentary analysis is a systematic procedure for reviewing or evaluating relevant documents, both printed and electronic material. Like other analytical methods in qualitative research design, document analysis requires data to be examined for purpose of triangulation (Babbie, 2010). Therefore, relevant documents from ministry of education and ministry of finance and economic development were referred.

3.5 Methods of Data Analysis

The data collected through interview and FGD were qualitatively narrated and thematically organized as per the objectives of the study. In this regard, Hsieh and Shannon (2005), pointed out that codes need to be classified in categories based on their similarities. The views of research participants were transcribed in the form of verbatim. The bulky data obtained from respondents were refined and reduced to fit the purpose.

3.6. Ethical Considerations

Initially, to build trust, the official letter was produced for respective universities. After obtaining permission from the management bodies and research participants, the interviews were conducted. These interviews were conducted in a private and quiet place and in a suitable time; when the participants felt comfortable. The participants' demographic data were also recorded and kept confidential. The names of participants were avoided and instead coding was used. After the completion of the interview the manuscripts were read for the interviewees and discussants.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

This chapter mainly deals with presentation of research participants' profiles and the main data. It focusses on the analysis and interpretation of data. Also some discussions were made by comparing this research results with the evidences of other researchers in the areas related challenges and prospects of doctoral program.

4.1. Demographic Data

The average ages of instructors who participated in this study were 40-60 years and unfortunately all of them were males and married. Whereas the average ages of doctoral students participated in this study were 25-40 years and all of them were married. As to their gender, except one supervisor and three doctoral researchers, all the participants were males. Almost all of them do have adequate work experiences to provide the necessary information on the issue. Therefore, the above profiles of research participants revealed that the experiences and diversity of research participants were contributing to the quality of data obtained.

Accordingly, for interview protocol, 12 participants were purposely selected. These included 8 PhD students (two students from each university) and 4 supervisors (one supervisor from each university). The selection of the participants was made with possible maximum heterogeneity (where available); by considering diversities like gender, disciplines, and the varying work experiences of the participants. Four FGDs (one from each university) consisting more than five members were also conducted. Based on the data obtained, the main data were analysed as follows.

4.2. Main Data of the Study

In accordance with the data obtained from the participants of this study, the major challenges and prospects of doctoral researchers in those identified universities were presented hereunder. These data were thematically grouped into five parts as per the objectives of the study and then carefully narrated.

4.2.1. Adequacy of Infrastructural Facilities for Doctoral Researchers

As evidenced by the participants of the study, both availability and accessibility of research facilities in those target universities were among the areas of importance in conducting doctoral research. In this regard, the participants disclosed that particularly laboratory facilities (like apparatus and chemicals) and library facilities including desk top commuturs which would play significant roles in their doctoral studies were among areas of challenge. As they witnessed,

these resources are available in some of the universities but not easily accessible when requested. For instance, with regard to the provision of internet services, there could be availability of connected or wireless internet infrastructure in almost all universities but they are not accessible when the researchers are badly in need of the services. As to library facilities, there have been separate library for postgraduate programs with fairly good online reading resources (e-resources like e-journals and e-books) and availability of some hard copies in the libraries. However, the soft copies are not easily accessible owing to low internet capacity and due to continuous power interruption. This implies that the availability of facilities in those universities does not necessary mean important reading materials are readily accessible by users. In this connection, one interviewee(R-3) viewed:

“You know, as a PhD student, I have been informed as I would be fully capacitated through provision of adequate research facilities like internet services, e-learning and well-equipped lab. Even initially I had a feeling that I would be compensating the scarcity of resources I have been encountering so far. Practically, however, these things were missing in the university I joined and the service providers are raising couples of reasons which have no contributions to me.”

In connection to this, similarly the other participant from doctoral researchers (R-7) posed the following views:

“To be frank, in the university where I am pursuing my doctoral study, it is difficult to get up-to-date research papers from online journals owing to unavailability of fast speed internet. So I have been wasting my precious time for only few piece of information, which used to made me anxious.”

On the other hand, other doctoral researcher (R-1) has commented on the existing facility services as follow:

“Except on few occasions, I can easily find e-journals and e-books. Some of these materials were even unavailable elsewhere. But it was lately that I found such important electronic services because I have not been informed where to search. In principle, at the beginning, there should be induction for PhD candidates. It was my supervisor who directed me to access and use such important websites that are available in the library.”

On the part of university supervisors, owing to availability of different private and office access to the above facilities, they did not badly complain about the services they have been obtaining, however they witnessed the complains of their supervisees in different occasions. In this regard, one participant from supervisors (S-3) commented as follows:

“From my observation, rather than unavailability of internet services and online e-journals, the problem of low capacity of the internet and frequent power interruption are the major obstacles frequently complained by staff members. Surprisingly, the PhD students are not fully supported even by the available research facilities of the university.”

By strengthening the views of the interviewees in the study, the discussants of FGD (FGD-3) posed that:

“The existing inadequate institutional infrastructure and facilities of the university are occasionally hindering doctoral students’ research endeavor, especially due to poorly constructed and equipped laboratories and lack of necessary research tools such as functional laboratory or equipment, adequate consumable materials, advanced software and hardware particularly for computational research. Besides that, power cuts and power interruptions are the serious problems in line with the provision of online services”.

As to the services that the doctoral researchers have been obtaining from the facilities of their respective universities, almost all the participants both the interviewees and discussants were boldly pinpointing the existing heightened problems, although those problems are not as serious as other challenges encountering the doctoral researchers. Lastly, as other research findings confirmed, in order to effectively pursue their studies, doctoral researchers badly need infrastructural facilities in both quantity and quality because they are decisive for successful completion of the doctoral programs (IAU, 2011).

4.2.2. Adequacy of Financial Resources for Doctoral Researchers

Obviously, to pursue doctoral study, the research fund is the most decisive factor which either facilitates or debilitates the process. This means, if the PhD researchers have easy access to research funding, this automatically will result in high level doctoral researchers’ overall satisfaction to carry out their doctoral studies. In different countries and different universities, the sources of fund for doctoral researchers vary. It could be government-sponsored, scholarships or self-sponsored. In this regard, this study was limited to those government-sponsored PhD

students assuming many doctoral students in Ethiopia are government-sponsored. To this end, government-sponsored PhD researchers have been widely heard when aggressively complaining about the acute shortage of research fund allotted to them to carry out their PhD dissertations. As we observed during both interviews and FGDs, almost all participants of the research were aggressively complaining about research fund and boldly shown their dissatisfaction with existing research budget allocated by government to them. In line with this issue, one of the PhD candidates (R-7) reflected his feeling as follow:

“It is better to be silent than talking about the budget allowed to government sponsored PhD researchers. It is because even when I am thinking about the problem, even I lose confidence and become hopeless which even forced me to hesitate the continuation of my study. Why I am suffering from shortage of financial support? Shall I worry about scarcity of finance? or think about the quality of my research project? Really, if I have been informed about it before joining the program I would never join it. Currently, because of such shortage of research fund, I am covering various expenses from my pocket. On the other hand, my colleague who is pursuing his PhD program abroad telling me his experience as his hosting university is even organizing different training to enhance PhD students research skill in various areas like proposal writing, reviewing literature, analysis of data and procedures of publishing articles.”

The above view of the interviewee in line with foreign experience was helpful to get knowledge on the experience of other abroad universities. It is because the above informant is not only disclosing the severity of research fund scarcity in his university, but also trying to compare the situation inside Ethiopia and abroad. This means, when PhD researchers are thinking about the favorable conditions in abroad, they regret and fall in full of frustration which has negative impact on their study.

Similarly, another doctoral researcher(R-5) described about such inadequacy of finance for PhD dissertation as follows:

“The issue of research budget for doctoral students is central problem that needs due attention. Here, the budget currently allocated for doctoral researchers in real sense, even does not cover my transport cost because in some cases, there are occasions when such transport problems are resolved outside regular transport

tariff, for instance through contractual agreement, which is very expensive. Therefore, if the government is expecting the success of the program and the PhD students are conducting researches that are coming-up with meaningful outcome that would bring difference in the overall development of the country, it has to allocate adequate budget to doctoral researchers.”

As to the influence of research fund shortage on doctoral program, the participants commented that due to financial strain they have faced was even forcing them to misdirect their research focus towards possible financial sources than actually existing problem. In other words, owing to financial constraints, they are compromising the relevance of their research work. Concerning this, a doctoral researcher (R-4) passionately viewed that:

“You see, now days, shortage of research fund is diverting the attention of researchers towards searching for donors. Owing to the limited resource obtained from the government or their respective university, doctoral students try to adjust their dissertation title to the objectives of local and international NGOs, so as to secure some financial grant that will enable them to carry out their research.”

This implies that PhD students are not doing research on real problems that come out of their interest nor on those aimed at resolving national or local problems. On the contrary, they do research on areas that enable them to get some money/research grant by linking their topic to the interest of sponsoring organizations to easily secure fund both nationally and internationally. Similarly, the views of other research participants in this study like university supervisors and discussants of FGD have almost similar views regarding the acute shortage of research fund for doctoral researchers and its direct impact on the motivation of doctoral researchers and the quality of their research output.

In other words, these evidences revealed that the prevalence of budget constraint in those universities made doctoral researchers to think and spend little time on research endeavor, which has negative impact on both attracting new PhD candidates to join the program and discouraging those active doctoral researchers in pipeline to complete their study as per the planned schedule. Therefore, the financial challenges of those identified Ethiopian universities currently running PhD programs were frightening the goals of increasing research productivity and enhancing economic development through positive impacts of doctoral education.

To sum up, like the above findings, the impacts of financial constraints on the effectiveness of doctoral study has been also identified by other researchers; for instance (Kibaliwandu et al, 2020) stated that the financial constraints in financing PhD researches remain a drawback in many African universities, which resulted in delay in program completion and low qualities of research outputs.

4.2.3. Supervisory Factors Influencing Doctoral Researchers

In doctoral study, effective communication among different parties is vital. As evidenced by various scholars, (Emke-Francis and Paula, 2010) interactions during PhD research may be three folds namely: supervisee-supervisee, supervisor-supervisor and supervisor-supervisee. Among them, this study was focusing on the last one (the relationship between supervisor and supervisee). In this regard, the supervisory activity carried out between doctoral candidates and their supervisors is very important. The positive relationship established between doctoral student and his/her respective supervisor similarly has a positive impact on the quality of doctoral research output. So, this thematic area of the research discusses communication made between supervisor and supervisee that might facilitate/debilitate the supervision of doctoral research in those universities.

Here, by considering supervisor-supervisee relationship among the challenge of PhD researchers; we posed many related questions for the interviewees and the discussants during FGD. Accordingly, the participants were requested to comment on their both positive and negative interactions with their supervisors. Then, a significant number of interviewees and discussants aggressively criticized the existing discouraging relationships widely seen between them and their supervisors; particularly during perusing their dissertations. Some of these negative views have been briefly presented hereunder. Accordingly, in the interview session, one of the student interviewees (R-6) disclosed that:

“Really, to be frank, the relationship between me and my supervisor during my study is very discouraging. Among the problems I have been facing so far, his continuous underestimating and intimidating me is the worst one. From the initial day, he started by giving me a warning : “You better stop this program unless you have the capacity to manage it; no one is supporting you because you are assumed to be a PhD student. Then after beginning my research work, I have been trying to submit the necessary documents as per the schedule of the department. Never the

less, I could not get feedback on time and I am fearful to ask him why the feedback is delayed. From my experience, when the department is requesting him the progress report of his advisees, he would remember the documents submitted to him and he quickly rushes through it and informs me to get it from secretary of the department. Most often, this is a usual happening.”

The above witness of the research participant was repeatedly reported by other interviewees and discussants. In principle, supervisors of doctoral students as academician are expected to guide and encourage them to move along a path towards increasing their self-confidence and independent works, which will be realized through transparent and collaborative relationships. In this connection, Wiscer (2005) identified three duties of university research supervisors that are performed at three stages of supervisory process: 1) The starting stage of guidance process-the stage at which detail orientation is given to prepare the proposal based on the already identified research problem, 2) Maintaining supervision- a continuous and wider relationships after the acceptance of the proposal, 3) Building self-esteem of the candidate- it is relationship that enables the candidate to properly defend the final research work by developing ones higher order thinking. In other words, such good interaction between a supervisor and supervisee can easily remove various possible barriers of communication by clearly orienting the roles/tasks of both the supervisor and supervisee which would clarify and avoid any possible role ambiguities.

In connection to the issue, another doctoral researcher (R-5) expressed his views as follow:

“Commenting on the existing relationship between me and my supervisor, is really hard to me. It is because; theoretically, my supervisor looks humble and cooperative to help me. For instance, during online communication and phone call, he is polite enough to listen to me. Whereas, practically he is not providing me the necessary guidance in person or through email. He is telling me as he is over-loaded by many tight programs both institutionally and personally. Therefore, he used to apologize to me for the inconveniences created to support me and for delay of the feedback. At end of the day, he is advising me to submit to the department without putting his remarks on my paper which will continue until completion of my dissertation. So, I dare to say, I am doing my dissertation lonely, with almost no advisory support.”

As to the reasons for the above supervisory problem, scholars are attributing the problem to supervisors' reluctance and the absence of close control or follow-up from respective office or

department of the student. In this connection, Kumar Gudep (2007) stated that the university professors supervising PhD students might assume as if no one can order, criticize or take action in line with the stated rules and regulation of the university which might adversely affect the process and results of doctoral supervision.

In the same token, during FGD, one the discussants (FGD-2) argued regarding his research supervisor as follows:

“Among all problems that I encounter, as doctoral researcher, problem of supervisors with whom I have been assigned to conduct my research is the decisive one. In line with the problem, in order to effectively communicate with my supervisor and attend the program without doubt and dilemma, I have to be given the right to choose my supervisor as it has widely been practiced in many oversea universities. So, in the extreme conditions when bad relationship created between me and my supervisor, immediate actions need to be taken by allowing me change my supervisor to another one who would fulfill at least some needs of the student.”

Another fact we have found out in this research regarding the relationship between supervisors and supervisees was that they have been externalizing the problem instead of at least partially accepting their limitations. In this connection, one research supervisor(S-1) reported his advisory experiences with his students as follows:

“Usually, I found many of my doctoral advisees below the level of my expectations regarding their competence to properly manage what have been required by the level and the program. I could not find the expected high levels of commitment and independent effort from most of them except few. And yet, they are ready for spoon-feeding like undergraduate students. Such incompetence of my advisees have created dissatisfaction to me to guide them. This is among the reasons that lead them to face a delay in their completion of the program or to even terminate the program.”

Therefore, as seen from the above views of both supervisees and supervisors about the effectiveness of supervisory process, both sides were reflecting their views by capitalizing their strengths than shortcomings. In principle, the initial initiative is expected from the supervisor. He/she should inform the schedule and being available to the student.

Here, availability does not only refer to frequent physical presence of the supervisor, but also to make frequent conversation with the doctoral student and providing timely answer to questions online and feedback on the student's written work. Supervisor-supervisee's good relationship and their frequent physical and online communication will build strong confidence in students and also contribute to the success of the program by moving in line with planned schedule. This might decrease PhD candidates' delay in completion of the program or could significantly minimize the rate of attrition. It reveals that, in the above discussions, the negative aspects of their communication are out weighting than the expected positive relationships.

On the other hand, still there are few interviewees and discussants that appreciate their good relationships with their research supervisors and also the supports that they have been getting. For instance, one participant (R-8) viewed that.

“As to me, starting from the outset, my supervisor welcomed me warmly and friendly. Of course, he used our first meeting for orienting me on how I can exert all my efforts and successfully complete the program, particularly by focusing on the importance of perseverance and independent works expected of me and the supports provided by him. This first day approach of my supervisor has been maintained throughout my study. Thus, really I respect him and considering as my father. Even my appreciation will be doubled when I hear complain of other candidates about their supervisors.”

Thus, according to the view of the above interviewee, his supervisor is not directly moving to telling him his duties and responsibilities; but he began with provision of the necessary guidance and counselling on how to proceed in the whole process of the dissertation, even by providing orientation which is commonly expected from dept head or postgraduate office.

As to FGDs, when three FGD (FGD 1, 2 and 4) were mainly complaining about the existing condition of communication, the members of one FGD (FGD-3) were appreciating the support of their supervisor, as follows:

“At moderate level, my supervisor has been providing me valuable advices with friendly relationship and humane approach full of encouragements and sympathies. However, still my advisor could not provide me timely feedbacks and even the comments provided in the feedback are not well-organized and presented in responsible manner which could be due to lack of attention or being overloaded by various tight schedules.”

To sum up, this thematic area informed that in such very long and tedious journey of PhD study, doctoral researchers could not become successful without positive approach, constructive advice and guidance from their supervisors. It is because such services would play the central role from both academic point of view as well as social affairs among scientific communities in those universities.

Therefore, the majority of research participants were capitalizing on the negative aspects of supervisor-supervisee relationships, although there have been few research participants who acknowledged the existing relationships and the supports they obtained.

In this connection, the study conducted by Andrew (2020) disclosed that in the advisorship of doctoral study, there are three types of supervisor-supervisee relationships. These involve 1) the cordial relationship- a type of supervisor-supervisee relationship with maximum freedom and friendship; 2) conflictual relationship- a type of supervisor-supervisee relationship with no harmony and 3) sandwich type of supervisor-supervisee relationship which conditionally consists of the characteristics of above two relationships based on the circumstances. Thus, the witnesses of research participants, in this study pointed that in those selected Ethiopian universities most likely, conflictual and/or the sandwich type of relationship was predominant. To alleviate such problems of advisorship other researchers (Lynch et al, 2018, Juniper et al, 2012) recommend the importance of availing clear guideline on doctoral advisorship and provision of training for both supervisors and PhD students before program kickoff.

4.2.4. Psychological Feelings of Doctoral Researchers

In principle, among the main roles of PhD supervisors, enhancing self-concepts of PhD candidates through proper guidance and provision of necessary research skill is the significant one. This helps them to easily carry out their responsibility with high integrity and confidence. In this regard, as the participants of this study viewed, there are only a few supervisors who are properly shouldering their responsibilities by providing both academic and psychological supports to their supervisees. Regarding the negative psychological challenges of doctoral researchers, one of the student interviewee(R-8) commented:

“During my doctoral study, often, I have been under low morale and psychological discouragements. I was in depression, anxiety and stress that I never faced in the time before joining the program. All these have led me to emotional exhaustion which even occasionally forcing me to leave the study. Particularly, emotional

exhaustion which will be seen in the form of emotional exhaust and physical fatigue.. Such situations sometimes deteriorate my patience and lead to general hopelessness. The main causes of the problem was inadequate supervisory support including disappointing feedbacks from supervisors. Indeed, there could be other discouraging situations such as the inadequacy of research budget and unavailability of other research facilities.’’

In this regard, Elsevier B.V (2017) presented that more than other higher education students; doctoral students most often encounter psychological problems, specifically doctoral students’ used to experience psychological distress. Such problems usually influence doctoral researchers’ motivation and academic concentration. This implies that such negative psychological influences have direct impact on students’ quality of work and their completion of the program on time.

On the contrary, still there are few doctoral students who openly expressed their positive psychological feelings that they have experienced during their study. In this connection, one research participant (R-2) passionately expressed irreplaceable appreciation and psychological support he obtained from his supervisor as follows:

“My supervisor is usually boosting up my self-esteem. Unlike the supervisors of other doctoral students, my supervisor can easily understand my feeling and show friendly approach to me. So I can say ‘I am lucky in this regard’. Always whenever we discuss about the challenges I have been facing during my dissertation, my supervisor encouraged me by saying “I trust you, you can do it! Even I am expecting from you more and more! So, let you keep going forward, you are on the right track and in the stage of turning point. You know, when I was hearing such inspirational voices from my supervisor, my morale will be enhanced and I got stronger and stronger.”

This shows that there are still some professional and responsible PhD supervisors who could be best models in fully capacitating academically and motivating the candidates psychologically. Moreover, besides the above arguments, there are psychological problems that doctoral researchers may encounter from the wider community that has impacts on their study. In this regard, another doctoral researcher(R-5) argued:

“Actually, from my observation, being a doctoral student has its own negative psychological impacts. It is because, publicly, some people are assuming doctoral

students as if they are very knowledgeable and as they need no any support particularly in academic affairs. It is the problem of labelling the doctoral researchers as highly educated with high status. However, in real sense the doctoral researchers do not know everything. Instead they know very well only their areas of specialization.”

Therefore, psychologically, some PhD students felt as being excluded and unnecessarily isolated from the society and develop feeling of unworthy. Indeed, there are few doctoral students who are proud of the title itself even before owning the real award of doctoral philosophy.

From supervisors view point, most of them were criticizing the low motivation and low confidence of their supervisees. In this regard, one of the interviewee from PhD supervisors(S-2) contends that:

“Many of my advisees are over busy being engaged in various income generating duties either to cover some of their financial deficits or for additional income. Such activities are making them overburdened and feel frustrated when unable to manage the duties of their doctoral studies. Sometimes they are totally disappearing even stop any communication both online and through phone.” Others may lose confidence because they have no the necessary ability to do so; of course there are few PhD candidates who are competent and timely fulfilling their responsibilities.”

During FGDs, the discussants were almost unanimously raising the negative psychological feelings they have been encountering even though their reasons for the problem may vary. The discussants witnessed that even they personally have experienced negative psychological feelings including their inability to ask and understand from others in the areas. It is because the doctoral researchers feel such experience as shameful in that it is those incompetent doctoral students who need the support of others.

Generally, as evidenced from the above views of research participants, both the interviewees and, FGD discussants witnessed that different psychological challenges have been encountering them in the process of their doctoral studies which mainly arise from themselves, from their supervisors, and sometimes from the wider community which ultimately negatively affected the effectiveness of their studies.

As to the paramount impacts of psychosocial factors on the success of PhD students, other researchers (Rooij, et al, 2021) stressed that doctoral student's level of integration to supervisors, their home and their individual self-awareness matter to successfully manage the program.

4.2.5. Prospects of Doctoral Researchers

When the doctoral researchers were asked about the possible benefits and opportunities that they are likely obtain as a result being PhD holders in the future, one of the PhD students(R-5), stated that:

“The title of ‘doctorate’ increases self-confidence because it equips with research skill and higher order thinking. As a prospective doctoral graduate, I feel as I am better equipped with and empowered with necessary knowledge and skill that enable me to help the wider community in my areas of specialization. Thus, I can develop a hope to solve the problems of the society. “

In the same token, by strengthening the above positions of research participants, one doctoral researcher(R-7), also explained about opportunities that he will obtain in the future as follows:

“I hope, if there will be peace and good governance, in Ethiopia, where there is scarcity of well-educated scholars, the availability of doctoral graduates will solve the acute shortages of university instructors, boost the quality of research outputs, promote partnerships between universities and industries and consequently enhance the prominence and prestige of universities.”

In economically advanced countries that need top level human capital, doctoral education has become very important. These developed countries use the knowledge of doctoral graduates as development engine, as source of renewable economy which is highly contributing to economic growth based on knowledge-based economic decisions (Stephan, et al, 2004). In fact, there have been direct relationships between the status of nation's human capital and their respective economic growth, which ultimately determined by highly educated and innovative groups including PhD holders.

With respect to the opportunities of doctoral study, similarly, another doctoral researcher (R-6) commented that:

“From my observation, the benefits that I expect from attaining doctoral degree is intrinsic than extrinsic. The program would mainly provide added value due to the fact that their advanced abilities will be recognized and appreciated

particularly in non- academic workplaces. In other words, pursuing doctoral program has social impacts through graduates' advanced professional skills in areas of training, communication and also in building social relationships and societal recognition, which ultimately enhances one's social status too."

These all reveals that access to financial opportunities greatly affects doctoral students' satisfaction and persistence. By strengthening the above views of interviewees, a discussant in their FGD (FGD-4) highlighted as follows:

"Irrespective of all its challenges, the doctoral program contributes to personal development such as intellectual maturity and feelings of independence, the development of perseverance and skills of time management which are very valuable in my everyday lives. Definitely I get personal satisfaction in attaining doctoral degree, because holding the title itself enhances my self-awareness and self-actualization."

On the other hand, other than the benefits of doctoral study, other research participant also posed the disadvantages of doctoral position(R-3) as follows:

"In poor countries like Ethiopia, doctoral graduates are considered in the market as over-qualified except in Ethiopian universities. Also if the doctoral graduates are not easily employed in the world of work, the program would be considered as the wastage of time and economy. "

From the above evidences, it is clearly seen that in the current conditions of those identified Ethiopian universities, the challenges of doctoral researchers were more visible than the opportunities. Indeed, almost all of doctoral researchers, directly or indirectly, have developed some positive prospects that they will attain in the future.

In relation to prospects of doctoral degree, other researchers (Fraguas-Sánchez, et al, 2023) confirmed that holding doctoral degree positively impacted graduates' soft skills and their capability for constant learning but it has minimal impact on their employability and other material rewards. They also informed that for effective utilization of doctoral graduates, those PhD hosting universities and the government should devise policies and strategies.

CHAPTER FIVE: SUMMARY OF MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This last chapter deals with presentation of major findings, conclusions of the study and fundamental recommendations based on the forwarded evidences.

5.1. Summary of Major Findings

The main objective of this study was to investigate the major challenges and possible prospects of doctoral researchers in selected Ethiopian universities and to forward possible solutions based on the findings of the study. To address the aforementioned objective, the following basic research questions were formulated.

1. What are the prominent problems related to infrastructural facilities faced by doctoral researchers in the selected senior universities of Ethiopia?
2. What are the prominent problems related to financial resources faced by doctoral researchers in the selected senior universities of Ethiopia?
3. What are the prominent hindering factors related to supervisors that influence the effectiveness of doctoral researchers in the target universities?
4. What does the psychological feelings of the target doctoral researchers look like?
5. What are the possible prospects that the doctoral researchers aspire for?

Accordingly, based on the data obtained through interview and FGD and supported by different documents consulted by the researchers, the following findings were found out and presented thematically as follows.

1. Regarding Adequacy of Infrastructure Facilities

Ideally, the universities ought to support PhD students by availing the necessary facilities which basically begin with building of basic educational and research infrastructure. As the findings of this study clearly disclosed, the majority of doctoral students participated in this study were dissatisfied with the existing university infrastructural facilities, particularly with the existing laboratories, libraries, electric power and ICT services.

Adequacies of infrastructural facilities were witnessed from two angles. The first is on the availability of those facilities and the second on their accessibility. Data gathered from research participants disclosed that the most important university facilities like separate and adequate libraries, laboratories, power supplies and ICT services were among the major problems of

doctoral researchers. Even those facilities which were available in these universities have not been easily accessible when urgently requested by users.

Specifically, as to the availability of infrastructural facilities for doctoral researchers, the following findings were identified:

Absence of technologically well-equipped libraries which have multi-faceted roles during doctoral research, because they are serving as silent and safe place that enhance concentration and idea generating abilities of the researchers. They are also sources of latest books and e-journals.

Unavailability of modern laboratories was other irreplaceable and basic facilities where various experimentations have been carried out during doctoral dissertation. In principle, at least a modern library with adequate computers and internet services should have been considered as prerequisites for launching new PhD program. Research participants criticized as most of them were not well-equipped and well-organized laboratories because they have been initially established for undergraduate program than running the doctoral program in most departments hosting doctoral students. As a result, doctoral researchers have been forced to visit lab facilities of other universities from abroad.

Disruption of electric power is other area of interest in connection to facility supports for doctoral researchers which have commonly been complained by the research participants.

Low internet capacity is the last infrastructural facility that the research participants aggressively condemned. Doctoral researchers widely witnessed as they have been facing problems of getting online access to the latest documents owing to low capacities of internet services which were even became serious problem by unpredicted power interruption.

Lastly, accessibility of the facilities is other focus areas of this research. This study also disclosed that even those available facilities in the studied universities were not consistently accessible due to various reasons. Low capacity internet services were usually available in almost all universities but frequently they were not accessible when the researchers were badly in need of them. In the same token, there were separate libraries for postgraduate programs with fairly good online reading resources. However, soft copies of different documents were not easily accessible due to low internet capacity and continuous power interruption. Therefore, this implies that availability of facilities does not necessary mean services are readily accessible by users, including the doctoral researchers.

2. Financial Constraints

The findings of this study found out that the financial support provided to doctoral researchers was insignificant and even sometimes shocking for those candidates carrying out rigorous laboratory experimentation. Of course, at present, the amount of research fund allocated to doctoral students at all government universities of Ethiopia in the fields of Natural Science and Technology is 60,000 Eth. Birr per student. Accordingly, this study clearly disclosed as there was lack of adequate research fund in those studied Ethiopian universities which in turn had brought the following adverse effects.

Firstly, the scarcity of research fund deteriorates motivation and research skills of doctoral researchers. The individuals have the drive to do things which greatly influence interest of doctoral researchers in developing either optimistic/pessimistic attitude in their daily endeavors.

Secondly, inadequacy of research fund negatively affects the quality of doctoral research: this implies that if there is no adequate research fund for top level research scholars like doctoral researchers, it leads to the decision of compromising quality of research output.

Thirdly, meager research fund greatly affects timely completion of doctoral study: Today, almost throughout the world, doctoral researchers are not seen when completing in the planned schedule, which is also true in Ethiopian universities.

The study disclosed that the financial constraints were considered as the most challenging bottleneck for PhD students pursuing their doctoral research. In both interview and FGD, almost all participants unanimously witnessed that they had been dissatisfied with research budget allocated to them. Basically finance is the most decisive resource in research endeavor which is used to cover various research expenditures. If there were adequate financial resources allocated for the program by the government, automatically it had boosted the confidences of researchers by covering all the necessary research costs like costs of transport, accommodation cost, costs of laboratory apparatus, chemicals and so on.

Therefore, all the above evidences revealed that the financial challenges of doctoral researchers in those identified Ethiopian universities were discouraging and frightening. Also, this problem would have other adverse effects in relation to attracting new PhD candidates to the program.

3. Supervisors-Supervisees Relationships

In this study, supervisee-supervisor relationship was identified among the major challenges that doctoral researchers faced during their research. Basically, advisorship is vital in doctoral

research because PhD students get the necessary guidance from supervisors starting from the stage of proposal writing to culmination of the whole research project. In this regard, this finding revealed that supervisory support provided by a number of university supervisors, in those identified institutions had the following features:

There have been unfriendly and frightening relationships. According to the views of many research participants, many supervisors were not easily available to their advisees. In some extreme cases, even disagreement could be created that lead to change of research supervisor.

Supervisors lack the required commitment and feelings of responsiveness. Even though the students badly need the guidance and timely feedback to their project, the supervisors were not ready to friendly communicate and timely give feedback to their students. In this regard, the participants strongly commented that sometimes even strong conflicts were created between the two which was known to the public or kept secret.

Doctoral researchers were incapable and ready for spoon-feeding. The supervisors also criticized as most of their advisees were below the level of their expectations in both competence and commitment fully engage in their research.

Indeed, there were few research participants that acknowledged their smooth relationships with their supervisors by witnessing their professional supports and good approaches.

To sum up, as seen from the above views of supervisors and supervisees about the effectiveness of doctoral supervisory work, both groups were complaining each other rather accepting the problem to improve it. In principle, the initial initiative was expected from the supervisor because the supervisors should have set meeting schedule and available to the PhD student. Availability does not only refer to frequent physical presence of the supervisor, but also to make discussions with the doctoral student, and providing timely feedback. In other words, supervisor-supervisee's good relationship and their frequent physical and online communication would build strong confidence within students. Lastly, in the above discussions about supervisor-supervisee relationships, the negative aspects of the relationship were outweighing, where the causes of the problem were mainly attributed to the supervisors.

4. Psychological Feelings

In the same token, the findings of the study identified that the doctoral researchers also have been facing many psychological problems. These psychological problems involved different

feelings like doctoral researchers stress, dissatisfaction and isolation. To this end, the main psychological problems of doctoral researchers found out were summarized as follows:

There was strong dissatisfaction and low morale among doctoral researchers. The sources of those psychological problems were the supervisors, the government and student themselves.

From supervisors' angle, lack of adequate supervisory supports and disappointing feedback were the causes of psychological problems. Inadequate research budget and unavailability of other research facilities were attributed to the government. Some psychological problems were emanated from doctoral researchers' personal problems.

Stress and frustration greatly affected doctoral researchers. The study found out that the doctoral researchers were stressful and frustrated due to lack of capacity, lack of research experience and due to tight work schedule.

Wrong public understanding and the self-perception of doctoral researchers. The study revealed that there were wrong perception of the public about doctoral researchers which assumed them as already reached top level in their intellect by ignoring as still they have been learning. Also some PhD students felt as being excluded and unnecessarily isolated from the society that made them think shameful to ask the support of others.

Prolong nature of doctoral programs was other source of dissatisfaction. In Ethiopian universities, the duration of doctoral studies have taken a minimum three to five years. As adult learners, this seems difficult for PhD candidates to maintain their strong motivation throughout the whole program. So, gradually the doctoral researchers developed the feelings of boredom

Few doctoral researchers felt satisfaction about their doctoral program. The study also disclosed that there were few doctoral researchers who have developed positive feelings as a result of valuable academic and counselling support they were obtained from their supervisors.

5) Prospects of Doctoral Researchers:

In spite of its challenges, the results of this study disclosed that pursuing PhD program was also rewarding. In this regard, the findings of this study found out the following positive prospects forwarded by doctoral researchers:

The doctoral graduates develop sense of self-esteem and self-worth. The study disclosed that many PhD students were satisfied with their decision of joining doctoral program. They witnessed that the program has enhanced their self-confidence because they are aspiring to become doctors.

The program has the potential of advancing competencies of doctoral researchers. It was witnessed that if properly managed, doctoral program has the potential of empowering prospective doctors to gain advanced knowledge and skills which enable them to become top professionals who can provide high class training and consultancy services.

Doctoral program is boosting academic freedom and professionalism: The study disclosed that pursuing doctoral program enhance confidence of the graduates that enable them to protect any prejudices from various pressure groups based on their expertise through evidence-based critiques.

Doctoral graduates could significantly contribute for national economic growth. The study found out that advanced knowledge of doctoral graduates was used as development engines that greatly backup knowledge-based economy. It was witnessed that PhD holders are identified as the main development actors boldly seen behind any fast and sustainable socio-economic and technological advancements of the nation. Therefore, due attention should be given to minimize the aggravated trends of brain-drain from underdeveloped countries.

Holding doctoral level also scale-ups individual's social Statisquo. The finding of the study revealed that holding doctoral level is not only enhancing the status of human capital but also the level of social capital. Here, it was investigated that even the actual rewards of doctorate was more of intrinsic than extrinsic in nature.

Holding a doctorate degree increases individual's social recognition and acceptance within the society. It adds morale values of an individual than material values.

On the contrary, other than the benefits or positive prospects of doctoral program that was widely discussed above, the study also identified its disadvantages as follows:

Doctoral graduates may be considered in the labor market as over-qualified. The study found out that in developing countries like Ethiopia, doctoral graduates might be considered as overqualified. Practically, in Ethiopia, doctoral graduates are needed in higher learning institutions, research centers, industries and few federal offices.

Holding doctoral degree could be considered as wastage of time and economy. This study also revealed that some doctoral researchers were not happy with economic benefits of doctoral degree. They argued the program was demanding huge finance and long years of study that would not be easily compensated afterward. They argued as those people who were not joining the doctoral program relatively making better business in comparison them.

To sum up, from the above discussions of both the challenges and prospects of doctoral researchers by organizing the results in five main thematic areas, it was adequately addressed that in the current conditions of those studied Ethiopian universities, the challenges of doctoral researchers were more visible than the opportunities.

5.2. Conclusions

Based on the findings of the study in those target universities, it is possible to conclude that in those Ethiopian universities infrastructural facilities were far below the needs of doctoral researchers. There have been no diverse system of support and availability of enough resources, which were very critical to the quality of research output and the timely completion of the studies. On the other hand, in Ethiopia, doctoral education will continue to play a pivotal role in the higher education system and in socio-economic development of the country.

Despite many encouraging efforts that were made to expand doctoral program in those Ethiopia universities, still there have been numerous challenges to successfully run PhD programs. On the other hand, inability to properly identify and timely alleviate such constraints of doctoral researchers was considered as compromising the quality of doctoral education and the competences of doctoral graduates.

To this end, based on the above findings of the study, the following specific conclusions have been drawn.

- In those Ethiopian universities, there were poor infrastructural and educational facilities universities. This eventually requires governmental commitment to invest in those universities to make available the necessary physical infrastructure for running the doctoral programs.
- At least, the minimum sum of research fund required for running the doctoral programs were not assigned for doctoral researchers, in those universities. Therefore, it is possible to conclude that either there have been less attention given to severe shortage of budget for doctoral program or there is acute shortage of government budget that will resolve the problem and contribute for provision of quality doctoral education. Also, from the findings, it is possible to infer that most doctoral programs in Ethiopian universities have been opened without adequate feasibility studies particularly with respect to availability of adequate and sustainable financial resources.

- The findings disclosed that in those universities, most of doctoral researchers were not getting the necessary support from their supervisors. This implies that they were forced to manage their dissertation through individual effort without obtaining adequate supervisory support from their supervisors; a result of poor supervision. This implies that there have been no positive supervisor-supervisee relationships.
- It could be concluded that owing to various pushing factors, the majority of doctoral researchers encountered negative psychological feelings which were reflected through stress, low work motivation and low morale.
- On the other hand, although the program was full of various challenges, in those universities still the doctoral researchers were not completely hopeless. Instead, they felt proud of being the doctoral candidates and also aspiring for bright future after completion of the program. They were hopeful to take top level responsibility in the future and felt happy assuming it will enhance their social status quo.

5.3. Recommendations

To specifically resolve the challenges that doctoral researchers were encountering in target universities, the following recommendations were provided. Accordingly:

- The Ethiopian federal government should allocate adequate budget for those identified Ethiopian universities currently running the doctoral programs. Thus, first there should be a minimum increment of research fund that triples the current one for every doctoral researcher. Second, the government needs to make cautions when opening new doctoral program in those universities. Particularly, it is necessary to rethink about issues of forcing universities to launch new doctoral programs without confirming the provision of adequate and sustainable budget for fulfilling infrastructure and availing the necessary facilities that enable smoothly running doctoral programs preferably in separate buildings and in well-equipped infrastructural facilities. Besides that the federal government should make these universities autonomous so that they will be mandated to generate their own budget and decide on its utilization without external interference which has already been started in Addis Ababa University.
- The Ethiopian ministry of education and Ethiopian education and training agency should devise different means to financially support those identified universities to properly run the doctoral programs. It ought to make great effort to get financial and technological aid

from international universities, research centers and other foundations. Therefore, the ministry of education should take the initiative to strengthen international collaboration.

- The managements of those target Ethiopian universities included in this study ought to carefully prepare and officially endorse document of doctoral education in line with policies and strategies contributing to effective doctoral advisorship and also generating research fund. This is helpful to clearly identify the roles, rights and responsibilities of both doctoral researchers and supervisors in the process of working PhD dissertation. Particularly, the departments and offices in charge of coordinating and regulating doctoral programs are expected to closely support doctoral candidates and follow-up the activities of supervisors who are assigned as university supervisors. When necessary, they need to take action if supervisors are not fulfilling their duties and responsibilities by focusing on the establishment of proper relationships and communications between doctoral supervisors and respective supervisees. They need to provide academic and counselling support to their doctoral researchers.
- Doctoral researchers in those Ethiopian universities should critically think ahead of time to tackle the possible academic, social and psychological challenges that they are facing while pursuing their doctoral studies. They should determine as they will never terminate their programs before beginning it.
- Educational stakeholders working with those universities need to cooperate with the universities opening doctoral program for realizing their common goals in line with availing competent workforce on the market on the one hand and employing them for their respective institutions on the other. Particularly, those private institutions and non-governmental organizations that ultimately employ the doctoral graduates must be informed the acute shortage of resources in those universities running doctoral programs.

In short, to alleviate the critical challenges of PhD students in those universities, it is mandatory to fulfill educational facilities and financial resources on the one hand and create effective advisory support and worthy psychological environment to enhance confidence and motivation of doctoral candidates.

For Further Researches

This study focused only in four senior universities of Ethiopia. Therefore, in order to get a wider understanding of the challenges and prospects of doctoral researchers, it is recommended to conduct similar research in other Ethiopian universities for comprehensiveness of the study.

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APPENDICES

I. Guiding Interview Questions

A. Guiding Interview Questions for Doctoral Researchers

The purpose of this study is to investigate the major challenges and prospects of doctoral researchers in Ethiopian higher educations. Accordingly, the participants of this research, particularly the interviewees are politely requested to provide the reliable data with the ground that the information obtained from the study will be used for academic purpose only. All the information including the identity of the participants will be kept confidential. Hence this interview is conducted with the consent of the participant, in case, with any possible reason, if the interviewee decides to do so, he or she could withdraw from his/her participation. Lastly, we, the researchers will extend our heartily felt gratitude for your cooperation.

Researchers!

I. Personal Data: Would you provide us your personal information, thinking that all information will be kept confidential? If okay, what is your:
a)Name:.....b)Sex.....c)Age.....)Qualification.....e)Field of study..... f)Years of work experience.....g) Date of entry to PhD program.....

II. Main Data: Are you a volunteer to share us your experience on the following issue?

1. How do you observe/perceive the condition of PhD program in your university in general and in your respective department/program in particular? For instance, is it encouraging or discouraging you? Why?
2. What do institutional facilities look like in your respective university in supporting PhD researchers while perusing their dissertation?
3. To what extent the existing fund for PhD researchers is adequate in enabling them to pursue their study in EHLIs?)
- 4) What does supervisors and doctoral researchers' relationships look like? To what extent PhD supervisors create friendly relationships so as to fully support their students
- 5) To what extent doctoral researchers psychologically feel comfortable when conducting their doctoral research? If they are not comfortable, what negative psychological feelings are observed on doctoral researchers?

- 6) What good opportunities or prospects are there for doctoral researchers that they can enjoy now or in the near future?
7. Would you have any additional comments on the challenges or prospects of doctoral researchers in this university or in this department?
8. What possible solutions would you propose for the above challenges of doctoral researchers?

Thank you for your cooperation!

B. Guiding Interview Questions for Supervisors

Dear instructors! The purpose of this study is to investigate the major challenges and prospects of doctoral researchers in Ethiopian higher educations. Accordingly, the participants of this research, particularly the interviewees are politely requested to provide the reliable data with the ground that the information obtained from this study will be very important and used only for academic purpose. All the information including the identity of the participants will be kept confidential. The interview will be conducted with the consent of the participant and in case, with any possible reasons; if the interviewee decides to withdraw from his/her participation he/she can do so. Lastly, we will extend our heartily felt gratitude for your cooperation.

Researchers!

I. Personal Data:

a)Name:.....b)Sex.....c)Age.....)Qualification.....e)Field of study..... f)Years of work experience as supervisors

II. Main Data:

II. Main Data: Would you volunteer to share us your experience on the following issue? If okay... then

1. How do you observe/perceive the condition of PhD program in your university in general and in your respective department/program in particular? For instance, is it encouraging or discouraging you? Why?
- 2.What do institutional facilities look like in your respective university in supporting PhD researchers while perusing their dissertation?
3. To what extent the existing fund for PhD researchers is adequate in enabling them to pursue their study in EHLIs?)
- 4) What does supervisors and doctoral researchers' relationships look like? To what extent PhD supervisors create friendly relationships so as to fully support their students

- 5) To what extent doctoral researchers psychologically feel comfortable when conducting their doctoral research? If they are not comfortable, what negative psychological feelings are observed on doctoral researchers?
- 6) What good opportunities or prospects are there for doctoral researchers which they can enjoy now or in the near future?
7. Would you have any additional comments on the challenges or prospects of doctoral researchers in this university or in this department?
8. What possible solutions would you propose for the above challenges of doctoral researchers?

Thank you for your cooperation!

II. Guiding Questions for Focussed Group Discussion

Guiding FGD Questions for Doctoral Researchers

Dear Doctoral students! The purpose of this study is to investigate the major challenges and prospects of doctoral researchers in Ethiopian higher educations. Accordingly, the participants of this research, particularly the discussants are politely requested to actively participate in the group discussion and provide reliable data. Note that the information obtained from this study will be very important and used only for academic purposes. All the information including the identity of the participants will be kept confidential. The discussion will be conducted with the consent of the participant and in case, with any possible reasons; if the discussant decides to withdraw from his/her participation he/she can do so. Lastly, we will extend our heartily felt gratitude for your cooperation.

Researchers!

I. Personal Data:

a)Name:.....b)Sex.....c)Age.....)Qualification.....e)Field of study..... f)Years of work experience as Dept Head or Postgraduate programs Dean

II. Main Data:

II. Main Data: Would you volunteer to share us your experience on the following issue? If okay... then

- 1) How do you observe/perceive the condition of PhD program in your university in general and in your respective department/program in particular? For instance, is it encouraging or discouraging you? Why?
- 2) What do institutional facilities look like in your respective university in supporting PhD researchers while perusing their dissertation?
- 3) To what extent the existing fund for PhD researchers is adequate in enabling them to pursue their study in EHLIs?)
- 4) What does supervisors and doctoral researchers' relationships look like? To what extent PhD supervisors create friendly relationships so as to fully support their students
- 5) To what extent doctoral researchers psychologically feel comfortable when conducting their doctoral research? If they are not comfortable, what negative psychological feelings are observed on doctoral researchers?

- 6) What good opportunities or prospects are there for doctoral researchers which they can enjoy now or in the near future?
- 7) Would you have any additional comments on the challenges or prospects of doctoral researchers in this university or in this department?
- 8) What possible solutions would you propose for the above challenges of doctoral researchers?

Thank you for your cooperation!

Approval of Investigators

We hereby declare that the research report entitled “CHALLENGES AND PROSPECTS OF DOCTORAL RESEARCHERS IN SELECTED ETHIOPIAN UNIVERSITIES” is our original work; all sources are duly acknowledged and the report is compiled by incorporating the necessary comments and suggestions given by the reviewers.

	Name	Signature	Date
Principal Investigator	Amenu Oljirra		
Co- Investigator:	Sintayehu Haile		

Approval of Reviewers

I hereby confirm that (PI)Dr./Amenu Oljirra has accomplished his/her work as per the approved proposal and incorporated all the comments given by the reviewers in his/her terminal report of the project entitled “CHALLENGES AND PROSPECTS OF DOCTORAL RESEARCHERS IN SELECTED ETHIOPIAN UNIVERSITIES” and hence the report qualifies for submission as standard research output.

Name	Signature	Date
Reviewer 1. _____	_____	_____
Reviewer 2. _____	_____	_____

Approval: School Ethical Review Board (School Scientific Committee)

Name	Signature	Date
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

