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Challenges of Ethiopian Researchers and Potential Mitigation with Ethiopian Science, Technology and Innovation Policy

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Abstract

Most of the developed countries attain high-tech industry and economy by investing substantial amount of resources and by having a strong policy on research. The Government of Ethiopia established the Growth and Transformation Plan (GTP I) by as a strategic framework focusing on the agricultural sector from 2011 to 2015 with target growth value of 8.1%. In the second term of GTP II has given high priority for industrial development. To achieve the GTP II and to sustain the development mainly for future, research and development is a pillar for economic development and to innovate the nation.

However, in Ethiopia the activity in research is moving at a slow pace and is facing many challenges. The objective of this study is to identify the challenges of Ethiopian researchers, to carry out research into their institutions and/or universities from the perspective of the researchers and government strategies to support the GTP and realise the National Science, Technology and Innovation Policy published in 2012.

The challenges which are faced by the researchers have been investigated using primary data collected by structured questions from 200 researchers across Ethiopian universities and research institutes. The research identified and quantified the major challenges in human resources development, availability of research facilities, communication of research output, government strategies for research and the motivation for the research.

Furthermore, the paper analysed the identified challenges with respect to Ethiopia Science, Technology and Innovation Policy (ESTIP) which published in 2012. The paper has also reviewed the correlation between the identified challenges, GTP I and ESTIP.

Key words: Developing countries, Ethiopia, Research, Publication, human resources, research facilities, research strategy

1. Introduction

The key factors for developments are a well-functioning innovation system and good governance. Research and development is the motor for innovation[1]. There is a strong, significant and robust statistical relationship between GDP per capita on the one hand and changing the innovation system[1]. Currently, the term research and development (R & D) comprises all fields of Science & Technology (natural sciences, engineering, humanities and social sciences), and covers three main activities: basic research, applied

research and experimental development. R & D is the base for technological innovation and development for any nation [3], [4]. However, in some developed and the majority of developing world research is seen as a 'luxury', something that can be ordered only by those who are rich. But research and development is actually an important engine of development and it is not a free ride [5].

Currently, the developing world only shares 10 per cent of the global research [6]. This is mainly shared by emerging countries such as Brazil, Russia, India and China (BRIC). BRIC governments are increasingly focused on fostering research–industry interactions and developing high-technology sectors [7], [8]. Policy-makers in both developed economies and national innovation centres (NICs) have been concentrating on designing policies aimed at raising the quality of public research and education organizations (PREOs) research and training programmes, to make their role more entrepreneurial and of more benefit to national economic development, and to support the growth of high-technology activities. As this paper is mainly focus in research development in developing countries, in the next section the core challenges of developing countries researchers have been reviewed.

2. Challenges of Developing Countries Researchers

However, in the developing countries and Africa in particular, researcher and the development system are facing range of bottleneck. The major challenges of developing countries in development of research and innovation systems can be categorized as slow human resource development, limitation of research fund, scarcity of research facilities, difficulty in communication through publication, unsustainable research strategy and weak industrial linkage[2], [6], [9].

Developing a large number of world class scientists is not a one day job, it will take a long time to realise it in developing countries [10]. It needs strategy, resources and leadership. It is reported that limitation of adequate training and managing this limited abroad training for the young researchers is a problem. Currently, the developing countries pay large sums of money for their nationals to receive higher education abroad. However, most of the professionals do not return to their country after completing their study. This is a big challenge for Africa. The Northern countries have also established an immigration policy to poach executives and professionals from Africa [11]. Dr Lalla Ben Barka of the UN Economic Commission for Africa (ECA) said , “in 25 years, Africa will be empty of brains.” [12]. For example, it is reported that half of Ethiopians who went abroad for training did not return after completing their studies [13] and Ethiopia lost 75% of its skilled workforce between 1980- 91 [14]. The main reasons for the brain drain are many fold. Sometimes the academic salaries are low and career structures are poor, and many potential researchers may be chose to work in developed countries with a better life. In addition the graduate could not get adequate professional development in their previous organisation [10]. The social unrest, political conflicts and wars are also the factors for some countries. Due to the immature research culture in

developing countries, there are few mentors available for those who want to pursue research, and it can be hard to build their research career.

The second challenge of a researcher in a developing country is the availability of funds and a clear strategy. Developed countries on average spend 2.5% of their gross domestic product on R&D, while India allocates 1.2%; Brazil, 0.91%; China, 0.69 %, most developing nations devote less than 0.5% of gross domestic product (GDP) to research and development. The forecast of the budget allocation of developing world is also not promising [15]. Mostly the policy makers are non-scientists; they have limitation of understanding the bigger picture of research. Sometimes they regard research as waste of money without pay back. Research agenda, research investment and direction are shaped by some of the major policies and strategies in the country. In addition to the country's policy directions, funding sources and flow also play a key role in determining research agendas and direction [10].

Scarcity of research facilities is one of the key challenges which face the developing countries' research development. In most developing countries the importing process and cost of scientific equipment and spare parts is a principal limiting factor to scientific research but rarely recognized by governments. The cost of research equipment and its maintenance is getting expensive and complex globally [10]. The demand for resources far exceeds the funds available. The limitation of skill to maintain the research facilities is also another challenge. The collaboration of the researchers to use the research facilities in one institution by others is limited. There are also insufficient chemical and spare part suppliers. Due to the adoption of microprocessor control of so many instruments, the scientific equipment is easily damaged in a short span of time. Obtaining permission for the necessary foreign exchange can be also both difficult and time consuming.

Communicating of research output is the other challenge for researchers in developing countries. The research output should be communicated with other professionals at a regional and national level. That creates a chance to share knowledge and to materialize the research output. The research can be communicated through an international conference and journal publication. Currently the developing country researchers are facing the challenge of publishing their research output in the mainstream of ideas and developments with standards of international journals. They have difficulty of engaging with the new state of the art research in their research areas. The limitation of funds for publishing and attending international conferences is another bottleneck. The journal editor and reviewer can have a low regard for papers from developing countries. The journals might chose not to publish research from the developing world for two main reasons. First, most of their readers are in the developed world – and journals should try to publish studies relevant to their readers. Secondly, they may be taking research away from journals published in the developed world.

Developing countries share 13.7% and 20% of the 2001 and 2006 scientific publication output respectively. India, China and Brazil have increased their publication contribution alarmingly. However, the Africa contribution is stagnant at 1.2 % for both 2001 and 2006 [3] and it is improved to 2.3% in 2012 [33]. Worse, much of the research in Africa is not focused for the benefit of developing countries [6]. The researchers are facing limitation of guideline to publish papers. Academics lack secretarial resources, and for some it is a severe problem to have to publish in English. Sometimes there is also ignorance about journals and a fear of criticism. Getting the international research journals is also a serious problem. It is expensive for developing countries to subscribe higher quality papers [10]

The research institute and the industrial partnership is the other challenge for researchers in developing countries. As Oyelaran-Oyeyinka *et al* [16] reported links between firms and the research community happens mostly on an ad-hoc basis. Interaction between industry and the research community remains fairly weak but is slowly developing. Research can grow when it has a market. The research output is a product, it should have a market. The market is the industry and government mega projects [17]. The industry partnership helps to materialize the research output. In developed countries more than 70% of the funding is coming from an industrial sponsor [18]. However, in developing countries, the industries machinery and process are imported; therefore, there is limited involvement of research facilities [6]. The industries owners have limited knowledge in the importance of research. The industries keep secret their process and the challenges they face in their daily business. The researchers also have limited skills to communicate with them. The international companies instead of developing research and development in the host country prefer outsourcing from developed countries or their mother companies.

In Ethiopia, the Science and Technology Ministry (MoST) is a governmental institution that established for the first time in December 1975 as a commission. The commission was re-instituted in 1994 and 1995. Later, in 2008 the government upgraded the Agency as one of the Cabinet ministries accountable to the prime minister and the council of ministers by the proclamation No. 604/2008 and it was re-established in October 2010. MoST aimed to forward recommendations for government based on studies for adopting and revising policies, strategies, laws and directives for the development of science, technology and innovation activities that support the realization of the country's socio-economic development objectives. It is also set priorities for the country's research activities, and to ensure that they conform to the country's development strategies. Its annual budget is 4 million birr and it comprises of four directorates and two authorities, one enterprise, one institute, and two offices. MoST sets the policy of science and technology in the country. However, applying the concept in practice is a daunting task.

Currently, China, Brazil and India are building up their vast resources and potential in becoming significant players in the world economy. As their influence starts to be felt economically their impact will

also become apparent in research and innovation in the world. These countries got their development capability by arranging their institutions in their own way (different from the western way) [1]. As per aforementioned reviews, it can be seen that the main player for the development of research and development in the three countries is their respective governments. The government needs to have a strong and clear strategy, motivation for the nation and monitoring and evaluating system for the research. Slowly, the private industries will become vital in research development. Their experience and energy in research can be adapted specifically for Ethiopia and in general for Africa.

Five decades ago Alexander Gershenkon pointed out that technological catch up, although potentially highly lucrative is a challenging phenomenon. After reviewing a number of European countries with respect to Great Britain, he recommended that to succeed in technological catch-up the developing countries had to develop what he called “new institutional instruments” [27]. The new institutional instruments can be used as the capability building for economic development. One of the tools proposed to attain the Millennium Goals is innovation – applying scientific and technological innovations. It comes about through a process of institutional and organisational creation and modification [28]. In Ethiopia, there is a lack of institutional instruments which set the strategy and policy for technological catch up and facilitates research at national level. Even though, there are many activities in Ministry of Science and Technology, the mobilization of research and alleviating of the research problems mentioned by researchers at ground level are very limited. The ministry is mainly focussed on managerial and administrative activities [29]. The funds available for researchers through the ministry award are very limited (most of the time only up to 30 awardees per year). As it is mentioned by the respondents in section three, the universities and research centres carried out research and development in a decentralized manner. The horizontal link between the ministry of Education, Ministry of Science and Technology and the mega public services provider is weak.

Ethiopia has adopted a national economic policy that focuses mainly on implementing the Agricultural Development Led Industrialization (ADLI) strategy within five years (2010/11 – 2014/15) through the Growth and Transformation Plan (GTP) [31]. This policy is focusing on selection, adaption, and utilization of foreign technologies as well as the establishment of a national innovation system. However, in the past three years of GTP span time, the development in this regard is very weak. This plan may help the move from an agricultural to an industrial economy like for example Thailand. Even though, Thailand is booming in its industrial economy, it is a less-successful country in terms of technological catching up with its forerunners [5], [26]. It has also been a latecomer in trying to adopt and implement the innovating system approach, as it suffered from very clear systemic problems till 2001. Currently, in Ethiopia the economy is growing, however the technological catch up and indigenous innovation development is very slow.

However, the country is increasing its colleges and universities alarmingly. The agriculture and some humanities research centres have slow steady growth. However, the major tool for development, the research in science and engineering is moving very slow. Most of the universities are mainly focused on teaching with a higher intake of students. The quality and volume of its research activity and output are ineffective.

Therefore, the objective of this study is twofold; firstly to identify the challenges of Ethiopian researchers to carry on research in their institutes and/or universities. Furthermore, the paper analysed the identified challenges with respect to Ethiopia Science, Technology and Innovation Policy (ESTP) which published in 2012. The paper has also reviewed the correlation between the identified challenges, GTP I and ESTP.

3. The Research Methodology

Ethiopia has 31 public universities (21 of the universities are ‘old’ universities and 10 were established in the last 5 years). There are also 3 private university colleges. All regions also have a number of poly-technique colleges. There are 21 research institutes in the country which are only focused on agriculture, food, diseases, policies, economics and water research. The total numbers of staff in the public universities is estimated to be above 28,200. From the total staff 15% are female and 85% are male. The academic staffs of the universities have qualifications that range from Diploma to PhD. From the total academic staff 33% hold a Master’s Degree, 20% hold a Ph.D. degree and the rest have a first degree and diploma. The total staff of research institutes is estimated to be 2300 (the majority are in agricultural research). Most of the universities have schools of natural science, social science, engineering, medical, pharmacy, education and agriculture. The government is allocating 70% of the students for science and engineering and the rest to social science.

In this study, a structured questionnaire was prepared to survey the challenges of Ethiopian researchers in their research activities. The questionnaire was designed by the investigator after thorough review of the literature in challenges of developing countries researchers. The questionnaire link was sent by email at random to the staff at the research centres and universities. The questionnaire was completed by individual participants and submitted online.

4. Result and Discussion

This study is focusing on identifying the challenges of Ethiopian researchers to pursue research in their institutes and/or universities in perspective of the research and government strategies. For this study 200 responses were received from random distribution. The characteristics of the respondent are tabulated in Table 1. The majority of the respondents (62%) are in the age range of 26 – 35 years old followed by 36 – 45 years. These groups of people have work experience of between 2 to 9 years. The respondents’

profession's ranged from agriculture, medicine, engineering, business and economics, natural science, social science and journalism. Eighty five percent of the respondents were male. The female respondents accounted for only 15%. It shows that the majority of research in Ethiopia is carried out by males. The respondents were qualified to master's level (73%) and PhD (22%) respectively.

Table 1 Characteristics of the respondents

Characteristics parameters	Range	Value
Major duties	Lecturing/Teaching	76%
	Research & consultancy	57%
	Other	3%
Sex	Male	95%
	Female	5%
Qualification	1 st degree	3%
	Master	73%
	PhD	22%
	Other	3%
Age	<25 years	0%
	26 – 35 years	62%
	36 – 45 years	32%
	45 – 55 years	5%
	56 -65 years	0%

All the respondents replied that university and research staff faced a great difficulty in attending international conferences. The respondents listed the major reasons for not attending as lack of experience in-writing papers (73%), lack of funds (95%) and lack of information about the international conference (73%). The quality of data, visa processing and language problems have limited impact for the researcher to attend international conferences as per the respondents.

Fifty four percent the respondents agreed the major sources of fund for their research activities are the universities. Industry (with 27%) and international organisations (with 22%) are the second and third largest fund contributors. Thirty two percent of the respondents are supervising masters and PhD students in universities. Eighty four percent of the respondents thought the university/institute link with the industry is very weak. The respondents mentioned that they communicate their research output through workshops (49%), conferences (30%) and media (22%). Forty three percent of the respondents have not communicated their research output for communities or industries. The major challenges of the researchers were categorised in four major themes such as facilities and infrastructures shortage, lack of research management and administration, communication and outsourcing of research output and lack of national research strategy and policy. The responses of respondents in these regards are depicted from Figure 1 -4. Figure 1 shows the respondents percentage for the infrastructures and facilities shortage challenges. The

scarcity of laboratory facilities, chemicals, time and reference materials are the major problems for the researchers as rated 90%, 83%, 59% and 75% respectively in Figure 1.

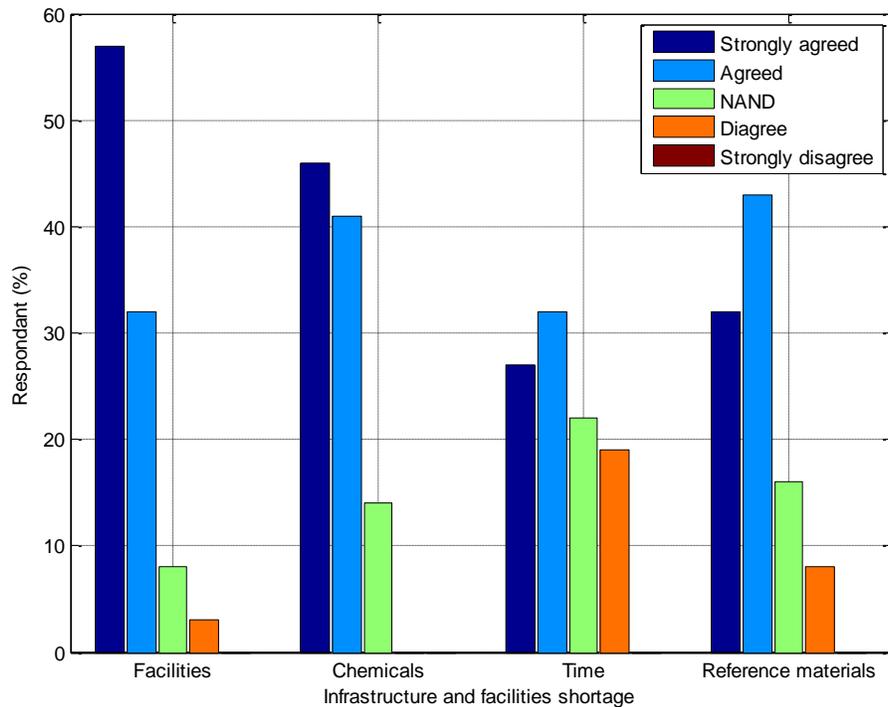


Figure 1 Infrastructures and facilities shortage

The challenges under the category of research management and administration in the perspective of the respondents are depicted in Figure 2. Eighty seven percent of the respondents agreed that the motivation to carry out research in the universities and in research centres is very limited. Insufficient salary is also categorised one of the major problems (with 95%) as well as poor management and research administration. Lack of team work and administration problems and political burden are also the challenges for the researchers with 83% and 79% respectively. The influences of the international donors on Ethiopian researchers are insignificant as only 11% of the respondents agreed that this was the challenge. The majority of the respondents (53%) said that they did not have the information about the influence of the international donors. Most of the respondents (74%) have agreed that the country lacks clear vision and strategy for research. Only 14% of the respondents are claiming that Ethiopia has a clear vision.

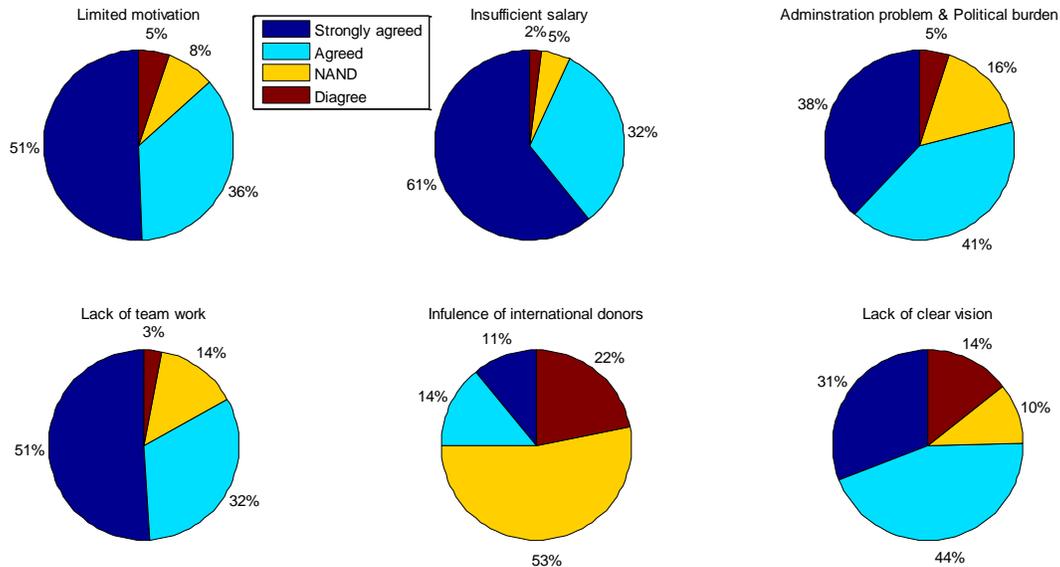


Figure 2 Research management and administration problem

Figure 3 shows the challenges of the Ethiopian researchers in the perspective of communication and outsourcing their research output. The major bottle necks for effective communication are lack of funds, lack of communication, low market for research, absence of partnership and lack of trained journalists in science and engineering with 70%, 62%, 70%, 35% and 70% respectively. Lack of experience sharing and language problem are also considered as researchers challenges with 35% and 30% respectively.

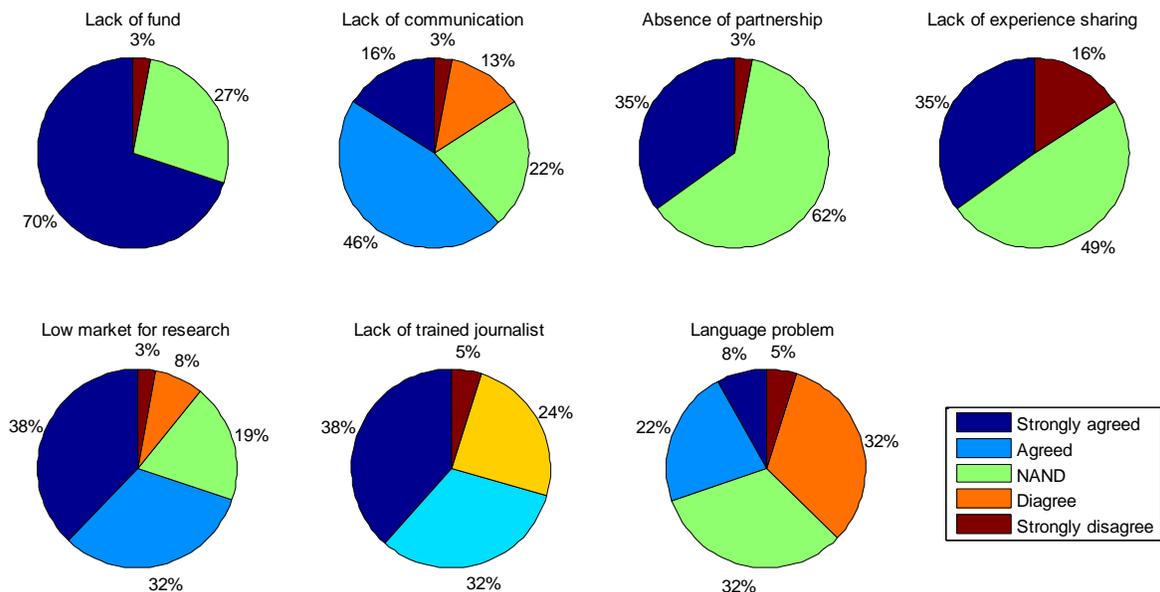


Figure 3 Communication and outsourcing of research output

Figure 4 depicts the challenges of the Ethiopian researchers in the perspective of national research strategy and policy. It can be seen that 97%, 84%, 72% and 70% of the respondents agreed that lack of a central

information centre, unavailability of a central fund for research, absence of team work and the lack of motivation are the main problems in the growth of research and development.

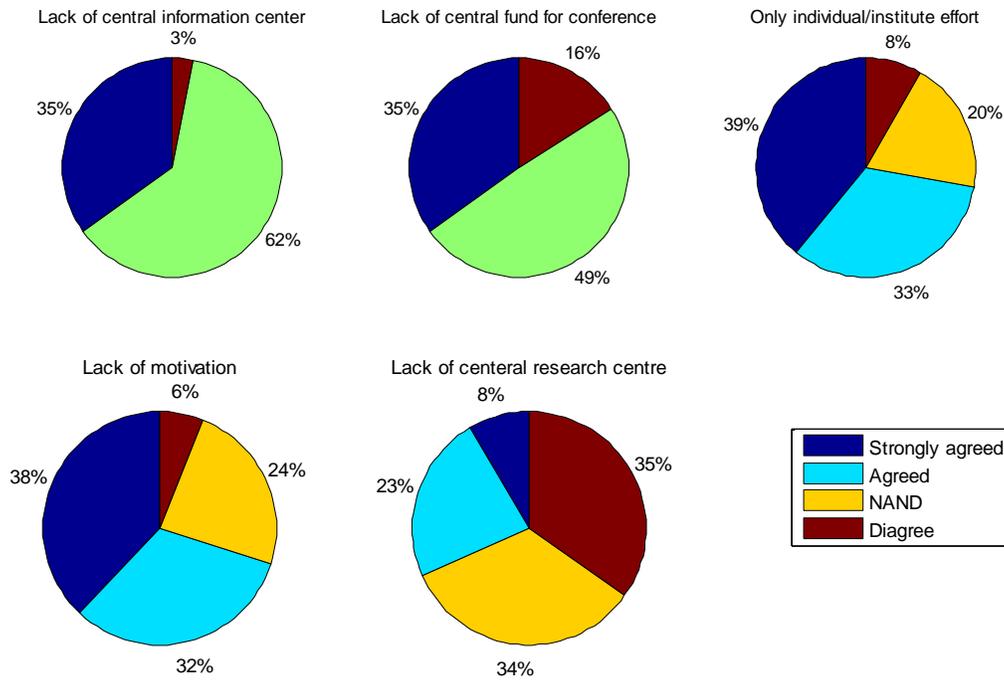


Figure 4 National strategy and policy

The valuable information which was gathered from the respondents through the questionnaire has shown that the researchers in Ethiopia have multi-fold challenges to conduct research in their perspective universities and institutes. All identified core challenges as important and the problems are interrelated. The author thinks that from the four challenges if the country develops a road map for the national research strategy and policy, the other aforementioned problems can be sorted out easily in this regard. In the next section after considering the detailed response of the respondents as well as other countries experience, the author is recommending the establishment of an Ethiopian National Research Centre (ENRC). In next section, the objective, the major tasks, the organisational structure and the financial sources of ENRC are briefed.

5. Researchers Challenges, ESTIP and GTP mitigation

The target of this paper is to identify the challenges of Ethiopian researchers and to show how the ESTIP and GTP are aligning with the identified challenges in Ethiopia. Table 1 summarised the Ethiopian researchers' challenges and ESTIP and GTP I mitigation.

Table 1 Researchers Challenges, ESTIP and GTP mitigation

Major challenges	ESTIP action	GTP I plan & effects
<p>Lack of research facilities & resources (Laboratories, Chemicals, reference materials, time)</p>	<p>The ESTIP has neither mentioned on building of selective laboratories or effective utilization of available laboratory. The national quality infrastructure (3.6) policy is mainly focused on quality and standards will not address the research facilities issues directly.</p>	<p>Adama Science and Technology University, Addis Ababa Science and Technology University and numbers of technology institutes were established. Strengthening of existing agricultural, health and information technology centres have been carried out. Establish new laboratories for water, medical science, and electromechanical, chemical, geochemical and material testing areas were planned, but not materialised.</p>
<p>Research leadership & administration (Motivation, team work, salary, external influence, political burden, lack of clear vision)</p>	<p>Strategy 3.5 – financing and incentive schemes will address the motivation and salary issues. The team work issues can be addressed by strategy 3.4 – Research and strategy, 3.7 – Universities, Research Institutes, TVET Institutions, and Industry Linkage. The ESTIP is a solid ground for setting of vision. Developing strategy for creating a research leader, creation of conducive environment for researchers are critical</p>	<p>National award was prepared to give recognition and honour for 432 outstanding achievements of researchers, innovators and institutions. The higher education strategy set to strength leadership and performance by providing the appropriate training. The science and technology strategy is also dealing with producing high quality research focused human resources. Networking of local universities, creating of easily available are required.</p>
<p>Communication & outsourcing of research (Lack of fund, lack of communication, lack of industrial linkage, absence of partnership, lack of trained journalist)</p>	<p>Strategy 3.5 financing & incentives schemes can address the funding problem. Strategy 3.9 - Science & Technology information will solve the communication challenge. Strategy 3.7 – Universities, Research Institutes, TVET Institutions, and Industry Linkage will address the industrial linkage challenge.</p>	<p>13.2 million Patent documents were collected and 4.3 million patent documents were distributed to the institutions as per their requirement. GTP I did not set strategy to set central fund for research. It did not also show how the industry and the research centres/universities can be linked and partnership.</p>
<p>Lack of national strategy & policy (lack of information center, lack of fund, lack of team work, lack of national research centre)</p>	<p>Strategy 3.9 Science & Technology Information, Strategy 3.7 – Universities, Research Institutes, TVET institutions, and Industry Linkage will address the industrial linkage challenge and Strategy 3.11 international Cooperation will help.</p>	<p>Science, Technology and Innovation policy was prepared and approved by the government. Science and technology innovation council has been established and detailed strategy was prepared. The linking of universities and creating of national research team for identified research center has not yet set. Two science and Technology universities are</p>

	The policy has not mentioned about selective national research center.	operational; however the intake volume is higher. It will take time minimum of 5-10 years to produce high calibre scientist and engineers from these universities.
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6. Recommendation

After evaluating the challenges, ESTIP and GTP the author is recommending to implement or/and strength the following four points.

6.1 Establish sustainable and large financial sources for researchers

One of the most surpassed challenges in above analysis is lack of fund for range of research activity in Ethiopia. Central fund is requires for building laboratories, to carry out experiments, to attend conference, to create linkage with international researchers as well as local industries. The availability of the fund can be the main catalyst to set up range of research groups in research centres and universities. MOST has sponsoring some of the research with very limited fund. However, that fund is considered as drop of water in ocean. It is recommended to establish central Ethiopian National Research Fund with range of contributors and depicted in figure 5. The beneficiary of the fund has been highlighted in Figure 6.



Fig 5 Sources of finance for research fund

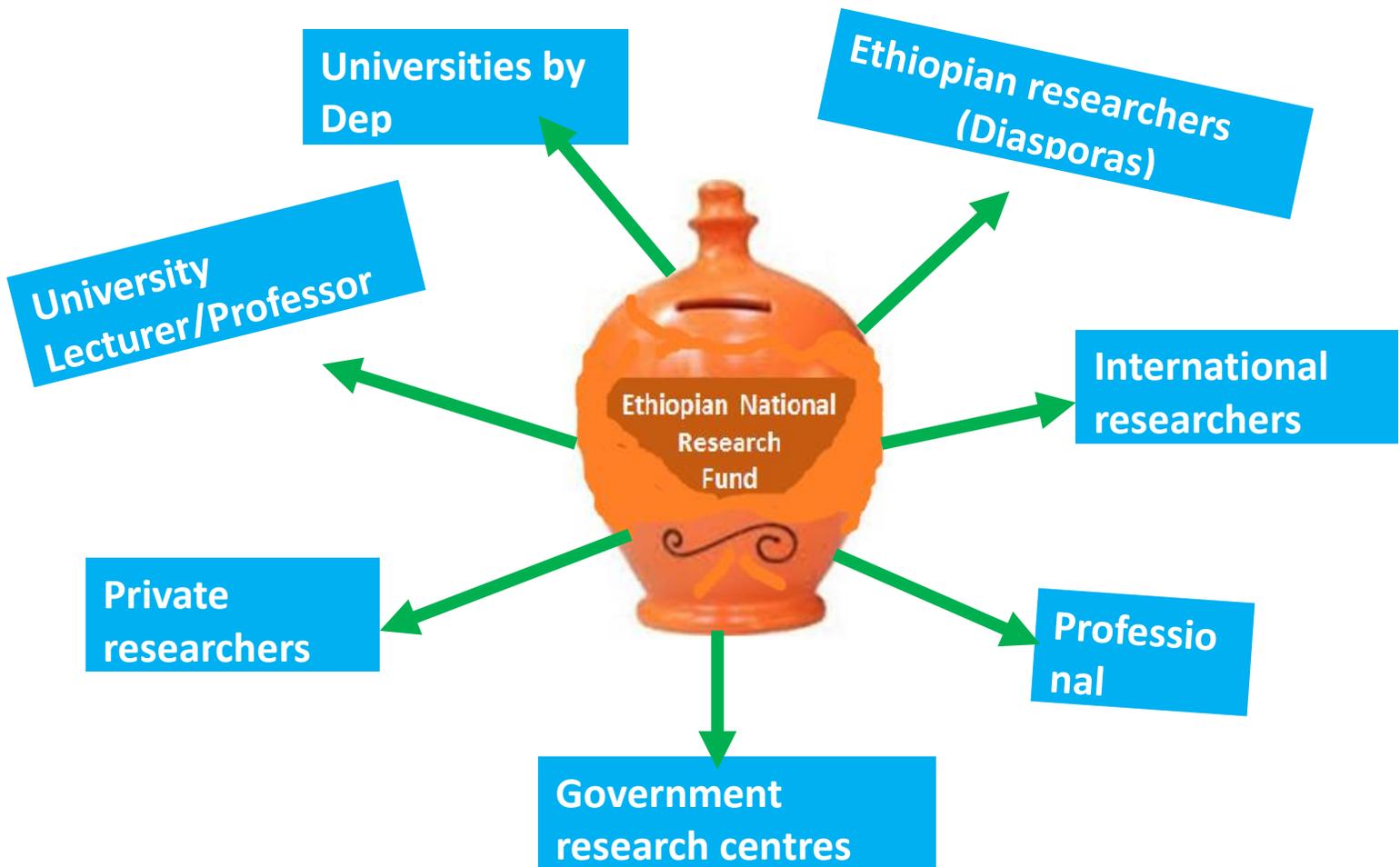


Figure 6 Distributing Ethiopian National Research Fund

6.2 Strength the national research council

To tackle the aforementioned challenges (which are mentioned by the researchers) and to benefit the lucrative innovation business, the new established research council needs to strengthen. This body is a National research body that set, monitor and evaluate the countries research strategies. This body needs to bring all science, engineering and humanities research together. The Centre will be an interactive system of existing institutions, private and public firms (either large or small), universities and government agencies, aiming at the production of science and technology (S&T). This body will set the funding area and research policy. It will create interaction among these units may be technical, commercial, legal, social and financial as much as the goal of the interaction may be development, protection, financing or regulation

of new innovation in between different bodies [26]. The body will be the heart for all research and development activities in Ethiopia. The universities and research centres will get clear strategy for their research. The body will be the master mind of the country. It will create opportunity for the researchers to access state of art facilities across the country [30]. The body will categories the beneficiaries and main research area into three levels such as the primary stakeholders, the secondary stakeholders and tertiary stakeholders. The stakeholders are from governmental organisation, private industries and non-governmental organisations. However, the lion's share will be taken by the governmental organisations.

The primary stakeholders will support and benefit the centre directly. They will bring their business/service challenges and the centre will find a solution. The primary stakeholders are active participants in the development and revision of the centre strategies. The second and tertiary stakeholders will benefit from the centre. They will be networked with the primary stakeholders. This is the experience of other emerging countries too. For example in Brazil, even though it is only focusing on agriculture, they have established complex technology technologies by having central study centre [31]. The body will also mastermind the expansion of the existing research centres and develop the new research centres throughout the countries. The research council can bring together key science and technology players to develop visions and reach consensus on specific actions by identifying the countries major research strategy and to distribute the research ideas for universities and research centres. It is a central hub to monitor and evaluate the research output of the universities and research centre at national level. As well as rank and award universities and researchers based on their research output. The council can also allocate the central funds in time interval based on scrutiny application and evaluation.

6.3 Support to strength professional association in Ethiopia

The UK Quality Assurance Agency for Higher Education (QAA) (2011) define professional association as organisations that set the benchmark standards for, and regulate the standards of entry into, particular profession(s) and are authorised to accredit, approve or recognise specific programmes leading to the relevant professional qualification(s) for which they may have a statutory or regulatory responsibility [32]. In Ethiopia, there are a numbers of professional associations; however, their power and contribution in education and research policy are limited. To develop an applied researcher and to link the research and industry, the professional bodies can play vital role. Many professional bodies can involve in the development and monitoring of professional educational programs, and the updating of skills, supporting for the research council to set strategy and policy. Since the professional associations are already established in some capacity, MOST and MOE needs only to recognise, support and empower the

professional bodies. MOST and MOE can support financially to link the professional bodies with the international professional association bodies.

6.4 Finding a way to utilize the diaspora resources

Ethiopia is one of the African countries who have highest number of intellectuals abroad. It estimated more than 2 million Ethiopian are living abroad. There are a numbers of scientists, academician and professional who are working globally in range of capacity. A second generation of Ethiopian are also emerging with high energy and enthusiasm. However, the political environment of Ethiopia created big barrier to bring the intellectual together and support the research in Ethiopia. The government need to find a way to fetch these resources in the national interest for all Ethiopian by creating a conducive environment for the diaspora professional. That will create a huge momentum to use our diaspora experience and linkage. This needs a further research by taking the experience of the existing groups /individuals who delivered outstanding projects in different areas.

Conclusion

Research and Development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge to devise new applications. In this study the challenges of Ethiopian researchers to pursue research in their institutes and/or universities in perspective of the researchers and government strategies have been investigated. The primary data have been collected by structured questionnaires from 200 researchers across the country. The research identified the major challenges in human resources development, availability of research facilities, communication of research output, government strategies for research and the motivation for the research.

Furthermore, the paper analysed the identified challenges with respect to Ethiopia Science, Technology and Innovation Policy (ESTIP) which published in 2012. The ESTIP can address most of the challenges addressed by the researchers if it is fully implemented as outlined. GTP I has started the implementation of some of the strategies in the policy. To strength the research in Ethiopia and benefited, establishment of a sustainable and large financial sources for research, strengthen of the new established research council, supporting of the professional association and finding a way to fetch the abundant experience of Ethiopian diaspora professionals are the key for the successes of ESTIP and GTP II.

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