



SCIENCEGRANTING COUNCILS INITIATIVE IN SUB-SAHARAN AFRICA STRENGTHENING PARTNERSHIPS AMONG AFRICA'S SCIENCE GRANTING COUNCILS AND THE PRIVATE SECTOR

A BASELINE ASSESSMENT OF PUBLIC – PRIVATE PARTNERSHIPS IN RESEARCH AND SCIENTIFIC
COOPERATION IN ETHIOPIA

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Contents

Executive summary	3
1. Introduction and objectives of the baseline survey.....	4
3. The National Science and Technology Research Council (NSTRC).....	5
4. State of collaborations in Ethiopia	7
4.1 State of PPP collaborations facilitated by NSTRC	7
4.2 State of collaboration with other SGCs and international actors	8
5. Factors enabling and constraining collaboration and knowledge transfer between NSTRC and other stakeholders in Ethiopia.....	8
5.1 NSTRC-related policy.....	9
5.2 NSTRC capacities and capabilities	9
5.3 External policy and legal frameworks	10
6. Factors enabling and constraining collaboration and knowledge transfer between NSTRC and other SGCs	11
7. Recommendations for NSTRC	11
References	12

Executive summary

The National Science and Technology Research Council (NSTRC) is a national public research granting organization within the Ethiopian Ministry of Science and Technology (MoST). Since 2015, NSTRC has funded 56 research projects in priority areas relevant to Ethiopia's national development. Despite this, NSTRC is at its infancy with limited autonomy in decision making and mandates, especially in establishing local and international collaborations. Theme 3 of the Science Granting Councils Initiative (SGCI) aims to strengthen the capacity of NSTRC and other 14 SGCs in sub-Saharan Africa, with a special focus on facilitating and managing public-private partnerships (PPPs) and cooperation between SGCs. The purpose of this study is to provide some baseline characteristics of PPPs and international collaborations of NSTRC with other SGCs.

With regard to the status of PPPs facilitated by NSTRC, interviewees from NSTRC indicated that facilitating knowledge transfer and collaboration are mainly the roles of other departments at MoST. It is reported that MoST has working relationships with other local Government ministries, such as the Ministry of Health, Ministry of Industry and Ministry of Agriculture. While the NSTRC's role in facilitating PPPs is limited, it is reported to have good relationships with public universities and research centers, which have hosted NSTRC-funded projects.

In addition to highlighting the status of PPPs facilitated by NSTRC, the factors that enable PPP efforts of NSTRC were examined from three overarching angles. (a) NSTRC-related policy: Whereas NSTRC has internal financial and grants management regulations, interviewees did not report any internal policy frameworks that may govern PPP engagements. (b) NSTRC capacities and capabilities: Whereas NSTRC has seven staff as of November 2017, none are viewed to possess significant expertise in private sector engagement, technology transfer, partnerships management and team building. (c) External policy and legal frameworks: Interviewees reported that the most important policy framework that encourages research collaboration is the Science, Technology and Innovation (STI) policy. This policy asserts that universities, research institutes, TVET institutions and industries are key actors in the national innovation system, and encouraging strong linkages and collaborations among them is crucial.

The major factors that constrain PPPs between NSTRC and other stakeholders in Ethiopia are reported to be: lack of sufficient funding, institutional capacity limitations and limited institutional mandate of NSTRC, as well as insufficient incentive mechanism for researchers. Other factors that hamper private sector participation in collaborative research include: under-developed research culture and limited awareness on the value of research.

On the other hand, the collaboration of NSTRC with other SGCs and international actors has been largely limited to informal experience-sharing engagements. This is largely due to issues related with limited mandates. Other departments within MoST are facilitating such collaboration initiatives.

Based on insights from this baseline study, it is recommended that NSTRC may increase its decision-making autonomy and organizational 'independence', strengthen organizational capacity, strive to build strategic international partnerships with other SGCs and donors and increase engagement with the private sector to achieve its objectives efficiently.

1. Introduction and objectives of the baseline survey

Research collaboration has historically been viewed as a key mechanism of scientific research capacity building in developing countries (Wagner et al., 2001). Besides, strategic and long-term collaborative research between universities, research organizations and the private sector/industry can play a significant role in economic growth and human welfare improvement (Edmondson et al., 2012). In the Ethiopian context, for example, Wakabi (2008) reported that local women benefited from research collaboration between Ethiopian healthcare service providers and international researchers. While international research collaboration in Africa has increased in recent years (Pouris & Ho, 2014), research collaboration and knowledge production within national borders and among researchers in sub-Saharan African countries remain limited (Onyanha and Maluleka, 2011).

African Governments have increasingly made efforts to create institutional mechanisms to facilitate national collaborative research and technology transfer. Ethiopia, for instance, has a newly organized Science Granting Council (SGC), which is recently referred as the 'National Science and Technology Research Council' (NSTRC)¹. Hosted by a Research and Research Ethics Directorate under the Ministry of Science and Technology (MoST), NSTRC facilitates scientific research in selected research priority areas. Since 2015, NSTRC has been supporting research mainly in agricultural and health fields. Despite this, NSTRC is at its infancy and lacks decision-making independence and clear institutional mandate to facilitate scientific public-private partnerships (PPP) among academia, policy and private actors in Ethiopia. Theme 3 of the Science Granting Councils Initiative (SGCI) aims to address some of these challenges in Ethiopia and other 14 SGCs in sub-Saharan Africa.

The purpose of this study is to provide some baseline characteristics of PPP and international collaborations of NSTRC with other SGCs, heavily relying on a case study report on the 'political economy of the Ethiopian Science Granting Council' (Tigabu, 2017) and insights from additional desk research and interview conducted in November 2017.

In particular, the survey was conducted to:

1. identify the factors that constrain or promote public-private partnerships (PPP), scientific collaboration and knowledge transfer in Ethiopia
2. take inventory of the SGC's capacity needs and skills gaps for collaboration with other organizations, especially the SGC; and supporting research - productive sectors linkages
3. review the legal and policy frameworks and environment under which SGCs operate (institutional and national) in so far as support to PPP and CP is concerned

In the context of this baseline study PPP refers to a publicly-funded research collaboration among research and higher education organizations, such as universities, public funding agencies, such as SGCs and industry or private sector actors within a particular national context. On the other hand international collaborations of an SGC refers to a research partnership agreement that an SGC under study has formally established or started negotiations with other SGCs or international actors at the time of this study.

¹ Note that MoST refers the Council as 'National Science and Technology Research Council' (NSTRC), including in its 'National Research Ethics Review Guideline' (MoST, 2014). However different interviewees reported alternative names for the same Council, suggesting that the Council is at its infancy and does not have a well-established name. As such, in an earlier report I referred it generically as the Ethiopian Science Granting Council (ESGC).

This report is structured as follows. The subsequent section briefly highlights the funding activities of NSTRC. Section 3 briefly presents the status of PPP and international collaborations facilitated or managed by NSTRC. Section 4 and 5 attempt to briefly provide an overview of the factors enabling and constraining collaboration and knowledge transfer between NSTRC and other stakeholders in Ethiopia and collaboration and knowledge transfer between NSTRC and other SGCs, respectively. Finally, Section 6 provides a brief recommendation for NSTRC based on insights from this baseline study.

2. Methodology

This study is based on a case study report on the ‘political economy of the Ethiopian Science Granting Council’, which was largely developed based on primary data collected in January 2017 by interviewing nine key informants from NSTRC, academia and other research organizations in Ethiopia. Table A1 in the Appendix gives the list of interviewees for the political economy study. It also utilizes additional interview with two key informants as well as desk reviews, conducted in November 2017.

3. The National Science and Technology Research Council (NSTRC)

NSTRC of Ethiopia was endorsed and established by the National Science, Technology and Innovation Council (NSTIC)² as proposed by the national Science, Technology and Innovation (STI) policy of Ethiopia. NSTRC is not an ‘independent’ organisation as of November 2017. Instead, it has a secretariat within the Research and Research Directorate of MoST. Since 2015, NSTRC has started funding and managing research projects—largely in agriculture and health—that are believed to contribute to the development of the country. Funded-researchers are exclusively from public research and higher education systems. It is reported that the Government is the principal source of research fund for the NSTRC, with an annual budget of about Ethiopian Birr (ETB) 20 to 30 million per year³. Each year, NSTRC earmarks a maximum of 5 Million ETB per project for a maximum research period of 3 years. The average research grant per project of the 56 projects supported over the last three years has been ETB 3,122,842.

The research agenda of the NSTRC is determined considering societal challenges. Evidence-based problem identification process is carried out in consultation with professionals in economic priority sectors, such as agriculture, agro-processing, bio-technology, construction, information technology & electronics, leather, metal and textile. The research priority areas should also be in line with the 11 critical areas and policy directions identified in the Science, Technology and Innovation (STI) policy and the national economic policy priority areas (FDRE, 2012). Depending on funding from the Ministry of Finance and Economic Development (MoFED), NSTRC calls for research proposals. Submissions are open to all local researchers.

Since funding is still inadequate (relative to demand), NSTRC has set a rigorous screening procedure based on predetermined evaluation criteria. Some of these criteria include: (a) The research should be applied. It should solve a real problem in the Ethiopian economy and/or result in tangible output or service that significantly contributes to Ethiopia’s development. (b) The research thematic area should fall within those identified by the NSTIC’s strategic directions as well as national research priority areas identified by key sectors. (c) The planned research should be cross-sectoral and multidisciplinary. (d) The

² NSTIC is a Council led by the Prime Minister and composed of key ministers, such as Minister of Finance and Economic Cooperation, Minister of Education, Minister of Industry, and Minister of Science and Technology. It monitors the overall implementation of the STI Policy including research and sets research agendas and oversees their implementation by the National Science and Technology Research Council (NSTRC).

³ 1 US Dollar equals 27.3 Ethiopian Birr (ETB) as of November 2017.

proposed research should be scientifically, methodologically, and logistically feasible. (e) The proposed research should be doable within the stated research period.

Submissions should be made under the auspices of a recognised research organisation in Ethiopia so that the host institute assumes the day-to-day activities and financial management of the project.

In 2015, about 202 proposals were submitted. From these, only 14 were funded. In 2016, about 288 proposals were submitted. After a lengthy evaluation and screening process, 21 proposals were funded. In 2017, 331 proposals were submitted, out of which 21 proposals were funded. Table 1 provides the key focus areas and implementing institutes of most recent projects funded by NSTRC. In all of the three funding windows, most proposals were on agriculture, industry, ICT and health areas, submitted largely by researchers from public universities. Despite the rigorous screening process, most winner proposals are not up to the (high) standard that NSTRC desires them to be. NSTRC therefore organises a methodology and project cycle management training every year for project grantees. Most of the funded projects are still in progress, with expected outputs ranging from integrated management platform to control lethal narcosis virus in maize production to development of ICT-based agricultural knowledge management systems to address knowledge gaps in agricultural information. So far however there have not been substantial socio-economic impacts from such outputs and the research investment. Nevertheless, a newly launched Research and Research Ethics Directorate within MoST aims to ensure that research outputs shall have positive social, economic, and environmental impact.

Table 1: Focus areas of projects commissioned by NSTRC in 2017.

Project focus	Host institution/s	Project duration
Preparation of monoclonal antibodies	Armauer Hansen Research Institute	3 years
Developing biosignature assays for diagnosis of extra-pulmonary TB	Armauer Hansen Research Institute	3 years
Developing simple mobile technologies for drug quality evaluation and counterfeit detection	Addis Ababa University	3 years
Producing nisin peptides with enhanced bioactivity against drug resistant microbes	Arsi University/ St. Paul's Hospital Millenium Medical College	3 years
Mobile phone based automated system for malaria diagnosis	Mekele University	3 years
Sustainable use of concrete for construction	Addis Ababa University /AAIT	3 years
Mass culturing of selected micro algae species for high value chemicals	Addis Ababa University	3 years
Developing of Integrated Pest Management (IPM) packages for the white mango scale insect pest	Ethiopia Institute Of Agricultural Research	3 years
Enhancing the quality and market share of the underutilized coffee grown in Amhara region of Ethiopia	Bahir Dar University	2 years
Screening and characterization of plant growth promoting microbes associated with teff plants.	Ethiopian Biodiversity Institute	3 years
Development of a Novle Immuno prophylaxis for Infectious Bursal Disease and fowl cholera from local isolates	National Veterinary institute/NVI	2 years

Development of Recombinant and Killed Multivalent Mannheimia Haemolytica Antigens for Novel Vaccine and Diagnosis of Circulating Biotypes of Ruminant Pneumonic Pasteurellosis In Ethiopia	Mekelle University	3 years
Applying embryo transfer and in vitro embryo production technologies to improve dairy cattle production in Ethiopia	Ethiopia Institute Of Agricultural Research/ Debrezeit	3 years
Adaptation of Brazilian dairy cattle technologies in arid and semi-arid agro-climatic zones of Ethiopia	Ethiopia Institute Of Agricultural Research / Debrezeit	3 years
Producing hyper-immune yolk and serum for passive immunization against Gumboro disease and developing of in house diagnostic assay	Mekelle University	2 years
Formulating optimized livestock feed from agricultural agro-processing by-products	Adama Science And Technology University	3 years
Synthesizing and Modifying ZnO NP's for Industrial and Medical Applications	Adama Science And Technology University	3 years
Optimizing and producing shelf-stable Liquid Coffee Concentrate and managing its waste	Wolega Univeristy	3 years
Developing permanent physical disability percentage-rating software & national guidebook	Addis Ababa University	3 years
Identification, Extraction, Characterization and Application of Selected Natural Plant and Regenerated Fibers in Ethiopia	Addis Ababa Science And Technology University	3 years
Multiplication of Automated Perennial Crops through Genetic Treatment	Re-nature Eternal Life Agro Processing Share Company	3 years

A technical committee disburses research funds in phases under careful monitoring and evaluation of progresses. According to interviewees, the progress of the earlier two phases of funding (year 2015 and year 2016) is satisfactory.

4. State of collaborations in Ethiopia

4.1 State of PPP collaborations facilitated by NSTRC

Interviewees from NSTRC indicated that facilitating knowledge transfer and collaboration are the roles of MoST. It is reported that MoST has working relationships with other local Government ministries, such as the Ministry of Health, Ministry of Industry and Ministry of Agriculture. In general, though NSTRC is reported to have good relationships with public universities and research centers that have hosted researchers who received research funding from NSTRC.

Public universities (e.g. Addis Ababa University and Mekele University), Science and technology universities (e.g. Adama Science and Technology University and Addis Ababa Science and Technology University) and agricultural research centers are viewed as major partners on human resource development and research activities. NSTRC also maintains a strong relationship with the Ministry of Finance and Economic Development (MoFED) since it annually obtains finances to fund its research projects and run the Secretariat. It also actively interacts with health research institutes on setting health research agendas. Partnerships with other stakeholders are largely on research capacity building and ensuring research projects are in line with the development priorities of the country. NSTRC also

considers industries and the private sector as key stakeholders although interactions among such institutions in Ethiopia has historically been ‘weak’ (IKED, 2006; Mouton et al., 2014). As part of its responsibilities, MoST facilitates the formation of professional academies and associations to increase interactions and collaborations among scientists. A recent example is the support provided to the formation of the Ethiopian Academy of Sciences (EAS). The most important reasons for collaboration are mentioned to be resource mobilization, experience sharing and joint research partnerships and management. Although the partnerships of NSTRC has largely been limited to public universities and government ministries, there is a sense that collaborative engagement with the private sector and industry will improve in the near future.

4.2 State of collaboration with other SGCs and international actors

According to interviewees at NSTRC, collaboration of NSTRC with international, regional and international research agencies has largely been limited to sharing experiences. This is indicated to be due to several reasons. First, NSTRC’s secretariat is not well established and does not have sufficient human resources managing international partnerships. NSTRC is still functioning as a ‘department’ within MoST, only with seven active staff, according to an interviewee. Second, international agencies often pursue direct bilateral linkages with either Ethiopian universities or research centers, without involving or informing NSTRC, mainly due to limited mandates of NSTRC. Third, political, security and economic interests and the degree of bilateral diplomatic relationships between Ethiopia and other governments are viewed to potentially limit NSTRC’s interactions with international actors. To this effect, an International Relation & Cooperation Directorate within MoST has been established, with a responsibility of forming and nurturing scientific and technological cooperation with countries and international organizations.

So far NSTRC has not entered into or initiated formal partnership negotiations with other SGCs independently. This is because of limited autonomy and mandates to pursue or make such decisions. Instead, interviewees reported that MoST is leading and managing all signed MoUs or ongoing partnership negotiations on research, science and technology. Under MoST a number of bilateral MoUs have been signed although their implementation has been limited. For example, MoST has developed a plan of action and a draft MoU with the South African Department of Science and Technology (DST) on joint research capacity building, and other collaborative areas. Other partnerships mentioned (by an interviewee) included: an MoU signed between MoST and China on quality assurance and centre of excellence, an MoU signed between MoST and India on capacity building and PhD scholarships, and another with Argentina on biotechnology.

5. Factors enabling and constraining collaboration and knowledge transfer between NSTRC and other stakeholders in Ethiopia

In the previous sections, the state of PPP collaborations managed by NSTRC have been briefly highlighted. This section highlights factors, which enable or hinder scientific PPP collaborations in Ethiopia, based on interviewees’ insights. The major factors that influence collaborative research engagement of NSTRC and other stakeholders are lack of sufficient funding, institutional capacity limitations and limited institutional mandate. On the other hand, weak interactive research, especially among universities, government ministries and industrial/private sector/farming communities and technology transfer, is considered to be resulted from insufficient incentive mechanism for researchers. Salaries and other monetary and non-monetary incentives of researchers are perceived to be

unsatisfactory since they do not reward their efforts. According to some interviewees, the problem is worse in the case of researchers with advanced degrees, such as PhD holders. Researchers often complain about research per diem rate and other incentives, and as a result often prefer to do consultancy and other activities than collaborative research. Some interviewees commented that the annual salary of a principal investigator of a relatively large collaborative research project is a fraction of the total project budget. In general insufficient human resources (and low human capability), weak research and communication infrastructure (e.g. lack of state of the art laboratories, low level of internet coverage and speed), and brain drain have been mentioned as key factors constraining science and technology research and collaboration in Ethiopia.

One of the key challenges that hampers private sector participation in research activities in Ethiopia is under-developed research culture of the private sector. Some interviewees indicated that limited understanding about the role of science and technology and innovation and research by the private sector is a significant challenge. They indicated that even many professionals are not familiar with the STI policy or its role in the economy. To address awareness problems, NSTRC has planned to do awareness creation activities. This includes creation of science clubs, science weeks, science parks, and national science academies. In Addis Ababa, MoST has launched 26 science cafes aimed at increasing awareness about the role of science and technology. MoST has also created Science and Technology Awareness Development and Capacity Building Directorate to mitigate lack of awareness about technology and innovation.

In the following the presence and strength of SGC-related policies, SGC capacities and capabilities as well as external policy frameworks that enable knowledge transfer between NSTRC and other stakeholders in Ethiopia is briefly assessed⁴.

5.1 NSTRC-related policy

Interviewees were asked to identify policy frameworks specific to NSTRC's operations e.g. HR policies, strategic plans etc., which enable how knowledge is transferred internally and priorities for collaboration are set. They reported that there are two major policy documents at NSTRC. These are (a) financial regulation, which specifies grant disbursement and utilization mechanisms and procedures. According to this regulation, research funding awarded to grant winners could not be used to buy fixed assets, employ permanent employees or used for foreign travel. (b) Grant management policy, which specifies the requirements and management procedures of research grant at NSTRC. This policy states that grantees should be affiliated with recognized institutions in Ethiopia; and these institutions should manage the entire research implementation process, including finances.

5.2 NSTRC capacities and capabilities

The key factor that was mentioned to affect the overall activities of NSTRC was its limited human and financial capacity. As of November 2017, NSTRC has only seven staff (One Directorate Director two team leaders, leading grant management and research ethics teams and four experts). Although four of the seven staff are considered as technical 'experts', none are viewed to possess significant expertise in private sector engagement, technology transfer, partnerships management and team building. Despite this, there is a feeling among NSTRC staff that the current size of the organization is sufficient for the

⁴ This is not a comprehensive and exhaustive assessment of all the policies and capabilities of NSTRC that enable (or constrain) its PPP engagements.

proper functioning of NSTRC at its current status. Other departments at MoST facilitate international collaborations. For example, MoST hosted a Memorandum of Understanding (MoU) signing event on 14th March 2016 between the University of Geneva and Addis Ababa Science and Technology University. Similarly university-industry linkages and technology transfer activities are handled by Technology Transfer and Development Directorate within MoST. NSTRC's activities have been restricted to funding research activities in nationally prioritised research themes. NSTRC neither has the power to coordinate research activities of higher education systems and research centres nor the mandate to influence research priority or collaboration efforts of such institutions. As a result, each research institute, university, or research centre often undertakes research in isolation, without coordination at the national level. One interviewee stated that there is “a report indicating that Ethiopia has spent about 0.6% of its GDP for research and development in 2014. Some of us do not have any idea of how, where, when and in which areas this funding was spent. We believe that NSTRC needs to play bigger role than what it is currently playing with regard to overseeing research activities of the country.”

Other capability issues identified by interviewees include: problems of awareness (e.g. in the case of biotechnology and genetically modified organisms GMOs), and unmanaged expectations of public officials from research outputs, leading to disappointments. Others mentioned that weak policy implementation is a concern in the overall policy cycle of the country. One interviewee stated that the “Government plans and says the right things but such policy directives and rhetoric are not matched up with concrete implementation on the ground.” Frequent restructuring and reshuffling of officials within MoST is also reported to limit the ‘institutional memory’ of the organization, hindering it from implementing its major objectives. This often has an effect on NSTRC since it is currently hosted within MoST.

A recent survey assessment by the Centre for Research on Evaluation, Science and Technology (CREST) (Mouton and Coates, 2016) shows that Ethiopian participants viewed competencies in a number of important functions very crucial for the performance of NSTRC. These among others included: competencies in the development of grant calls, management of call processes, management of application reviews and evaluations, management of contract agreements and management of intellectual property rights and licensing. The study in general concluded that for Ethiopia and other SGCs in Africa “there is clear evidence of the demand for general research management capacity building that will improve individual and organizational performance across all SGCs”.

5.3 External policy and legal frameworks

The most frequently suggested policy and legislative framework that governs Science, Technology and Innovation (STI) and research funding activities of NSTRC as well as its collaboration efforts is the STI Policy. The STI policy provides a policy direction on how Ethiopia can ‘search for, select, adapt and utilize appropriate and effective’ foreign technologies that are relevant to Ethiopia’s economic, social and environmental context (FDRE, 2012). The revised STI policy (ratified in 2012 by the Council of Ministries) sets out 11 critical policy issues, directions and strategies—of which research and research cooperation are key elements—through which the activities and agendas of MoST as well as its affiliated institutions, such as the NSTRC and other directorates, are set out. For example, within the policy, one of the key policy directions is establishing Intellectual Property Management system. The Ethiopian Intellectual Property Office (EIPO) has been established to enforce this strategy. EIPO facilitates the positive role of intellectual property for development, establish national system that is responsible for protecting intellectual property rights (IPR), and ensure that trademarks are sufficiently protected so that healthy competition and collaboration among businesses, academia and research organisations is maintained.

IPR system is believed to provide legal protection of innovations encourages and further creativity and collaboration among innovation actors, which catalyse economic growth through creation of innovative products and services. Similarly, one of the critical elements in the STI policy is disseminating science and technology information so that the private sector plays an active role in the Science and Technology landscape of Ethiopia. Science and Technology Information Center (STIC) is established and tasked to enforce this policy direction. Crucially however the STI policy asserts that universities, research institutes, TVET institutions and industries are key actors in the national innovation system, which play crucial role in technology importing, adapting and utilisation. It therefore encourages strong linkages and collaborations among universities, research institutes, technical and vocational training institutions and the industry

Another key policy document that enables PPP collaborations is the Industrial Development Strategy. The Industrial Development Strategy identifies major constraints of industrial growth in Ethiopia, which include inadequate human resource (both technical and managerial), lack of infrastructure, lack of efficient financial systems and weak university-industry linkages. Besides, the industrial policy puts a priority on labour-intensive industrial development strategic areas, such as agro-processing, textile, garment, leather, and metal engineering. It also focuses utilising cheap and abundantly available human resource in the country. All of these require the participation of the private sector. The policy also asserts that the state has the responsibility of creating an enabling environment for market-based industrial development through infrastructural development and provision of appropriate incentives.

6. Factors enabling and constraining collaboration and knowledge transfer between NSTRC and other SGCs

As noted earlier, desk research and interviews suggest that facilitating international science and technology research collaborations are presumed to be responsibilities of NSTRC's host organization, MoST. Therefore, as of November 2017, NSTRC does not have collaborative research agreements on its own. It also lacks internal policy frameworks, regulations and capabilities that can facilitate international collaborations with other SGCs and stakeholders. In contrast, an interviewee from NSTRC stated that the "Science and Technology Policy—in which the 11th key policy pillar is international cooperation on research, technology transfer and joint research and capacity development—is by far the most crucial policy framework for us". While there is an acknowledgement that research should be geared towards the development needs of the country and local researchers should play an important role in this process, at the same time the STI policy emphasises that international collaboration in science and technology initiatives is crucial for information sourcing, capacity building and technology transfer. It therefore advises science and technology organisations in the country to incorporate STI capacity building elements in bilateral and multilateral agreements. It also encourages experience-sharing and knowledge exchange through south-south and south-north cooperation initiatives and joint-research with international partners.

7. Recommendations for NSTRC

This baseline study and an earlier report on the political economy of the Ethiopian Science Granting Council suggest that there is a political will to support scientific research, which contributes to economic development, in Ethiopia. As a result, NSTRC has funded 56 research projects since 2015. Interviewees are optimistic that NSTRC will continue supporting scientific research at national level. However, this preliminary assessment suggests that several issues may need to be addressed for NSTRC to achieve its goals effectively and efficiently.

- **Increase decision-making autonomy and organizational ‘independence’ of NSTRC:** NSTRC staff have expressed desire for increased organizational autonomy to facilitate national research and collaboration. At the moment, there is some degree of confusion on whether NSTRC or MoST is the ‘formal’ SGC in Ethiopia. Giving autonomy to NSTRC with clear institutional mandates, responsibilities and internal checks and balances may allow it to perform its duties efficiently, especially in the areas of partnerships building and management. NSTRC may take the SGCI as an opportunity to actively share experiences with and learn from other SGCs in Africa and beyond. This may then allow for tabling a strong case for dialogue with relevant authorities towards its independent establishment.
- **Strengthen organizational capacity:** although there is a ‘feeling’ by NSTRC staff that the current size of the organization (in terms of staff number) is sufficient for the basic operation of NSTRC, this baseline study suggests that it may need to bring in additional experts, for example in private sector engagement, university-industry relations, technology transfer, partnerships management and team building, to increase its operational efficiency.
- **Strive to build strategic international partnerships with other SGCs and donors:** This baseline study reveals that NSTRC has not been able initiate international research collaborations independently. This is mainly due to lack of autonomy to make such decisions. It may be imperative for NSTRC to find a way of addressing this challenge and strive to build international partnerships with other SGCs and international partners and benefit from such engagements. Again, in this regard, NSTRC should take the SGCI as an opportunity to learn from the experiences of other SGCs.
- **Increase engagement with the private sector:** A close look at all of the funded research projects so far suggests that nearly all are conducted by researchers from public universities and research organizations. This was corroborated by interviewees who have indicated that although NSTRC mainly funds basic research that (it believes) is relevant for the private sector, the direct participation of the private sector in such research projects has been limited. NSTRC may therefore consider this and increase the engagement of private actors in its future initiatives. This may require creating incentives, awareness and platforms for private sector participation.

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Appendix

Table A1: List of interviewees for the 'Political Economy Study of the Ethiopian Science Granting Council' (Conducted in January 2016).

Name	Email
Dr. Eshetie Abebe	abenfebhen@gmail.com
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