



# SCIENCE GRANTING 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 ZIMBABWE

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## EXECUTIVE SUMMARY

This baseline study sought to examine the factors that either constrain or facilitate public-private sector partnerships (PPPs) and knowledge transfer and scientific cooperation; identify capacity and skill set gaps for designing, regulating, managing and providing quality assurance to PPP and cooperation projects; and examine the legal, legislative, policy and institutional frameworks that underpin PPP projects in Zimbabwe. The study adopted mixed-methodological approach in data collection and innovation systems framework for analyses.

The findings of this study have established that there is low uptake in PPPs in Zimbabwe, and this has been mainly caused by the failure of the existing PPPs policy framework to adequately incorporate collaborations regarding research and innovation. However, the study has also demonstrated (using the partnerships between University of Zimbabwe private sector) that such collaborations are feasible. Based on the findings, it has been recommended that there is need to review the PPP policy framework to include research and innovation; there is need to strengthen the capacities of the SGCs' personnel, especially on communication strategies commercialization of research output as well as framework for monitoring public-private sector linkages.

## 1. INTRODUCTION

Public private partnerships (PPP) project was conceived as part of the agenda to strengthen the capacity of the Africa's Science Granting Councils (SGCs) to enhance the quality of scientific research and the translation of research results into material products and services through learning by doing. The project is targeted at strengthening the capacity of the SGCs to enhance collaboration between researchers and industry among African SGCs. This baseline study sought to examine the factors that either constrain or facilitate public-private sector partnerships (PPPs) and knowledge transfer and scientific cooperation; identify capacity and skill set gaps for designing, regulating, managing and providing quality assurance to PPP and cooperation projects; and examine the legal, legislative, policy and institutional frameworks that underpin PPP projects in Zimbabwe.

## 2. Methodology

The study adopted the innovation systems framework for analyses and employed a mix of quantitative and qualitative methods in data collection. Key informant and in-depth interviews were conducted with various stakeholders including coordinators of the science granting councils' initiative (SGCI), who formed the primary respondents. The interviews were guided by an interview protocol/checklist, while additional interviews were conducted with the private sector and academics. Heads of departments or sections dealing with different issues relating to PPPs were targeted. In cases where such respondents were not accessed in time for the study, individual practitioners/private sector actors were interviewed. The third set of respondents composed of the researchers in universities and research institutes/organizations including private universities, colleges/technical institutes and consultancy firms. The respondents herein were conveniently sampled but only institutions that had engaged in PPP collaboration, whether contemporary or historical, were interviewed.

Besides the interviews, the study reviewed documents and policies for science, technology and innovation (STI), relevant publications and reports (both published and grey literature), websites and other electronic resources. A critical review was conducted to determine the extent to which existing policies support or constrain scientific collaborations and public private partnerships. In the documentary review, the study focused on "what are the SGCs saying about themselves" (their roles, mandates, performance) in relation to scientific collaborations and PPPs; and "what others are saying about them" (their roles and performance).

## 3. STATUS OF PARTNERSHIPS AND COLLABORATIONS

### 3.1 Public – Private Partnerships (PPPs)

A study conducted by Hodgkinson and Pasirayi (2010) titled "Zimbabwe's Research and Knowledge System: Literature Review and Analysis", asserted that whilst there is limited collaboration between the private sector and tertiary institutions in regard to research, manufacturing companies confirm that the

curricular offered by these institutions are moderately relevant for companies. In addition, the annual manufacturing sector surveys conducted by the Confederation of Zimbabwe Industries (CZI) between 2009 and 2013 also provides a unique insight into opinion among industrialists regarding collaboration with the university sector in Zimbabwe. The finding of this survey echoes the assertion made by Hodgkinson and Pasirayi (2010), since it revealed that there is low uptake of PPPs with most respondents indicating that they do not collaborate with tertiary institutions, but consider their curricular as important (UNESCO, 2014).

Even though there has been low uptake of PPPs in Zimbabwe, Hodgkinson and Pasirayi (2010) demonstrated that uptake of PPPs in Zimbabwe is feasible. A notable example is the partnership between the University of Zimbabwe, Kariba Research Station and UNESCO and private-sector fisheries. This long-standing partnership conducts small-scale research sub-projects on the biological conditions of Lake Kariba, in the north of Zimbabwe, with support from UNESCO and private-sector fisheries. The University of Zimbabwe has also engaged in broad based research partnerships with different organizations. Some of such cases are as outlined Table 1 below.

**Table 1: Joint Research Project with Private Sector/industry**

| <b>Project Title</b>                                                                                       | <b>Description of the projects</b>                                                                                                                                                                                                                                                                                                                                                                                     | <b>Names of Partners</b>                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signification of Cultural/ Religious Garb, Symbols, Vessels/Instruments and Artifacts for Wealth Creation. | The focus for this project is cultural wealth that is steeped in history and its human and material culture for example the invaluable Courtauld collection of coins. Some of the coins in the collection are extremely rare, which should make Zimbabwe a major stopover destination for academics and connoisseurs of art. The project shows the importance of tapping indigenous knowledge systems through research | University of Zimbabwe, Philosophical Society of Zimbabwe, World Council of Churches, Reserve Bank of Zimbabwe (Custodian of the Courtauld Coin Collection), Iranian Embassy, ZINATHA, Associate Colleges |
| Low Profile Wind Turbine Power Generator for Rural and Urban Use.                                          | The project is aimed at harnessing the wind to drive a permanent motor generator that would produce electrical power to charge deep cycle batteries. The challenge is to make the system use small vertical blades and at the same time to make it turn under Zimbabwe's low wind speeds.                                                                                                                              | University of Zimbabwe and Mechanical Workshop Artisans                                                                                                                                                   |
| Feed Quality and Performance of Broilers Fed Feeds from Different Suppliers in Zimbabwe.                   | The project focused on promoting uniformity in the feed manufacturing company as feed constitutes the greatest cost in broiler production                                                                                                                                                                                                                                                                              | University of Zimbabwe and Broiler Feed Manufacturing Companies                                                                                                                                           |

### 3.2 Regional and International Collaborations

An interview with the National Research Council of Zimbabwe has revealed that the council signed MOUs with Mozambique and Malawi in Livingstone. The council is, however, pursuing Namibia and Botswana for a bilateral agreement and as at the time of the interview, Namibia had expressed interest on signing a bilateral agreement with Zimbabwe. In addition to that, the Research Council of Zimbabwe (RCZ) signed an MOU with Midlands State University (MSU) on 24 October 2016. The MOU was signed at the MSU Main Campus in Gweru, and its main intent was to link RCZs' National Research Database of Zimbabwe (NRDZ) and MSU Institutional Repository (IR). Both RCZ and MSU stand to benefit from this relationship that seeks to increase visibility of research in Zimbabwe. It was also aimed at allowing data from MSU IR and all other research databases in Zimbabwe to be accessible from one portal and maximizes global presence of research results from Zimbabwe.

The Research Council of Zimbabwe (RCZ) also signed an MOU with Bindura University of Science Education (BUSE) on 23 March 2016. The intent of this MOU was to link the BUSE Institutional Repository to the National Research Database of Zimbabwe (NRDZ). The renewable five-year agreement which was signed at the BUSE Main Campus in Bindura was set to increase the visibility of research as the two institutions committed to cooperate more closely towards a common goal of increasing visibility of research undertaken by Zimbabwean researchers.

The Institute of Mining Research has linkages with many institutions within Zimbabwe and internationally. The Ministry of Mines and Mining Development provides funding by way of an annual grant to the institute which is supplemented by income from contract research and externally funded research projects. It is the policy of the institute to work in close liaison with the Chamber of Mines of Zimbabwe to ensure that problems being investigated are of a strong interest to the mining industry and the Executive Committee of the Chamber provides an important link with the institute (UNESCO, 2014). In addition to that, the institute has many informal links with universities internationally. For instance, it has participated in formal training programmes and projects with the Royal Institute of Technology and Lulea University in Sweden, the University of Guelph in Ontario, Canada, funded by SAREC and the Canadian International Development Research Centre respectively, and Arizona University in the USA. Further, the institute is currently demonstrating cleaner gold processing methods through the Global Mercury Project, funded by UNIDO. Worth noting is that in August 2012, the Chamber of Mines of Zimbabwe, Institute of Mining Research (University of Zimbabwe) and the Platinum Producers Committee signed a Memorandum of Agreement that gave rise to the establishment of collaborative research projects (UNESCO, 2014). The project's main aim was to provide factual information about Zimbabwe's platinum industry for policy formulation, to foster sustainable development of the platinum mining industry. Further, in the past decade, the Institute has been involved in a number of research projects, which include:

(a) **The Fogarty Project**- This project sought to develop research capacity in institutions related to the environment and mining occupational health and safety by running local and regional training workshops, funding research and the acquisition of analytical and other important equipment. The project was funded by Fogarty International at University of Arizona, but also involved collaboration

with the Zambia School of Mines at the University of Zambia (the Zimbabwean chapter ended officially in 2006, its activities were extended to 2008).

**(b) The Pelletised Phosphate Blends Project-** This project saw the production of an indigenous fertilizer technology that utilizes Dorowa phosphate rock and triple superphosphate to produce fertilizer pellets that are used to fortify cattle manure. The fortified manure improves soil fertility and strength and works for four years once applied to a piece of land. The Institute has already patented the pelletized phosphate blends technology and is now looking to commercializing the technology.

**(c)The Global Mercury Project-** This is an initiative of the United Nations to promote safer and cleaner practices in artisanal mining communities where mercury is used to process gold. At the Institute of Mining Research, the project sought to create awareness among artisanal miners in the Kadoma-Chakari area of the dangers of using mercury and introduce them to a cleaner, safer and more accessible technology in the form of retorts.

#### 4. FACTORS CONSTRAINING AND ENABLING COLLABORATION AND KNOWLEDGE TRANSFER

An interview with the stakeholders revealed that one of the main factors that constrain collaboration between the private sector and public sector is conflicts of interest, as sometimes institutions with potential for collaboration read from different scripts in terms of their policies. Other challenges mentioned during the interviews include problems in designing instruments that govern collaborations such as consortium agreements, contracts etc; lack policy guidelines on data protection/sharing; and challenges in facilitating commercialization/utilization of research products/outputs.

An interview with the National Research Council of Zimbabwe revealed that one of the main challenges that they have faced in signing bilateral agreement with other countries is time constraint, as it takes quite a lot of time to draft and get internal approval for a bilateral agreement. Another challenge faced in the process of signing bilateral agreement is language barrier, especially with the French speaking nations.

#### 4.2 POLICY AND LEGAL FRAMEWORKS

The main factor that inhibits research collaborations in Zimbabwe is inadequate policy and legal framework. A study by Massimo (2013) established that there has been low uptake and progress of PPPs from the private sector, a point that has also been echoed by Zinyama and Nhema (2015). According to Zinyama and Nhema (2015), the low uptake of PPPs can mainly be attributed to lack of legal and clearly defined institutional frameworks. However, the government has put some effort in an attempt to promote collaborations between different research and industry actors, but the policies enacted have not adequately addressed the issue of collaboration between the private sector and the public sector.

Zimbabwe's first Science and Technology Policy was launched on June 5<sup>th</sup>, 2002, following wide consultations with experts from all the key sectors of the economy – including government ministries, parastatals and the private sector (UNESCO, 2014). The ultimate objective of the policy was to provide a



comprehensive framework within which the country could promote S&T and harness it to economic development.

In 2004, the Government made the first attempt of a framework on PPP investment in the country, and this was in the form of the Public-Private Partnership in Zimbabwe Policy and Guidelines of 2004, which sought to provide the parameters for the development of an appropriate legal and regulatory framework to protect investors and consumers. In 2009, the government of Zimbabwe came up with a Short-Term Emergency Recovery Programme (STERP) with Bilateral Investments Protection and Promotion Agreements (BIPPAs). This programme promotes collaboration between private sector and public sector actors by recognizing the important role that the private sector plays in complementing the government efforts. However, the types of PPPs that this programme emphasizes are those which are regarding large infrastructural projects, but the programme fails to address PPP with regards to research and innovation. In 2012, however, a second STI policy was adopted, and it takes cognisance of the new technological developments available to address emerging national challenges. This policy also aims at developing a more effective innovative system of partnering all institutions involved in creating new knowledge, producing new innovations and diffusing them to the benefit of the people of Zimbabwe and our region at large' (UNESCO, 2014). The primary goals of this policy include strengthening capacity development in STI; learning and utilizing emerging technologies to accelerate development; accelerating commercialization of research results; searching for scientific solutions to global environmental challenges; mobilization of resources and popularization of science and technology; and fostering international collaboration in STI.

## 5 RECOMMENDATIONS

Based on the analysis presented herein, it is imperative to note that there has been limited collaboration between private sector and public-sector actors in Zimbabwe, particularly in STI-based research and industry, and this has mainly been occasioned by inadequate policy and legal framework. In fact, this can be argued to be among the factors that make management of conflict of interests to be a problem for different stakeholders. Thus, the following recommendations have been proffered:

- i. Need to review the PPP policy framework to include research and innovation. Even though there are policies that have been enacted to address the issue of collaboration between the private sector and the public sector, they fail to adequately address PPPs in STI, but rather focus on PPPs in infrastructural projects.
- ii. Need to strengthen the capacities of the SGCs' personnel, especially on communication strategies and developing instruments of partnership governance such as MOUs and consortium agreements.
- iii. Strengthen capacity for commercialization of research output as well as framework for monitoring public-private sector linkages.

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