

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL

STRENGTHENING RESEARCH - INDUSTRY

COLLABORATIONS IN AFRICA

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IDRC Grant / Subvention du CRDI: 109426-001-Strengthening research and industry collaborations in Africa: scoping study and workshop



**Scoping Study and Virtual Workshop Technical Reports:
Strengthening Research and Industry Collaborations in Africa**

September, 2020

This is the final technical report of the project number 109426-001 - Research commercialization and technology transfer in Africa. The report is divided into two main sections that defined the project: Scoping/landscaping study and a validation workshop. Each of the sections outlines the rationale, objectives, activities and key outputs. The outputs (reports) are attached as annexes

Part 1: Scoping study

Context

The demand on universities and public research institutes to become more innovative and build linkages with industry has been on the increase since the early 1990s (Caulfield et al., 2012). This demand behoves universities and public research institutes to produce research that responds to both social and economic development needs and to interact more closely with the intended beneficiaries of their research, including the private sector and the wider research and innovation system (Goransson and Brundenius, 2011; Goransson et al., 2009; Chataway et al., 2019). At the same time, industry is moving away from internal research and development (R&D) towards novel forms of collaboration and interaction with universities and research institutions (Coombs, Harvey and Tether, 2003; Perkmann et al., 2013).

This has led to increased demand for more research-industry collaboration e.g. in the form of public-private partnerships, spin-offs, research commercialisation, open innovation initiatives among others. Several universities and research institutions have reorganised or created new structures such as technology transfer offices (TTOs)/ intellectual property management offices (IPMOs); new offices in the university management structures e.g. the office of Deputy Vice Chancellor (Research and Innovation) and new companies attached to universities.

At the national level, there's renewed emphasis on innovation (application of knowledge) both in national policies¹ as well as in government funding instruments². Outside government, new intermediary organizations dedicated to enhancing academia – industry linkages have emerged³.

Similarly, interventions supported by developing partners such as the knowledge transfer partnerships (KTP) in Kenya and Rwanda supported through DFID/UK have resulted in technologies/innovations licensed to the private sector. These developments at the national

¹ Most countries have forward-looking development blue prints e.g. the Vision 2030 in Kenya. Almost all of these are anchored on science, technology and innovation (STI).

² that now place emphasis on multi-disciplinary, multi-institutional collaborations and demonstrated partnerships with the private sector (STI grants scheme).

³ Examples such as LIWA (Linking Industry with Academia) in Kenya could be found elsewhere in the study countries.

(policy); organizational, institutional and partnership (operational) levels have effects on the opportunities for follow-on innovation and participation in new collaborations.

In these new forms of collaboration, there are benefits to both research and industry. For instance it ensures that there is uptake of research products that enable evidence-based policies and decisions, increased research and development (R&D) including new technology and innovation, transfer/exchange of skills and knowledge from academia to the private sector and vice-versa; easier transition of students and researchers into the working world and overall allows universities and research institutes to have more direct impact on the lives of its beneficiaries.

On the other hand, there are challenges such as: ensuring the close associations with the private sector does not erode universities' focus on broader social goals by prioritising on a more entrepreneurial culture, and (ii) potential over-emphasis on research that lends itself to commercially viable innovations in the short to medium term, a situation that may disadvantage basic research (Kumar, 2010).

Overall, these considerations have an immediate influence on the conduct of scientific research and how the findings of such research are made available to stakeholders, particularly the private sector.

Why the scoping study?

1. Flowing from the above, the overall objective of this study is to increase the understanding of partnerships between research players (universities, research organisations, science councils) and industry (state-owned enterprises, businesses and the wider community) in promoting research commercialisation and knowledge/skills transfer in Africa – specifically by identifying the models that have been implemented in Africa, lessons learnt and the key issues, gaps and key considerations (including but not limited to policies and regulations, actors, roles and institutions).

The specific objectives of this project are to:

2. Summarise key models that have been implemented in different countries to strengthen research and industry collaboration especially between the private and public sectors in Africa. This will be drawn from the SGCI case studies on public-private partnerships (PPPs), other country experiences and existing literature (as outlined in the methodology below).
3. Based on these case studies, provide an assessment of what has worked (and what has not worked) in the different contexts (countries, sectors) through the different models for strengthening research and industry collaborations, exploring the extent to which these models could be applied in different contexts

Study Outputs.

One final consolidated technical report (attached)

Summary/synthesis report (attached)

PowerPoint presentations (attached)

Part 2: Virtual Workshop

In many African countries, the emphasis towards commercialisation of research has resulted in realignments and reorganisation in the universities and public research institutes as well as in national policies⁴ and government funding instruments⁵. Outside government, new intermediary organizations dedicated to enhancing academia – industry linkages have emerged⁶. These developments at the national (policy); organizational (institutional) and partnership (operational) levels have effects on the opportunities for follow-on innovation and participation in new collaborations.

The UK Department for International Development (DFID) Africa Technology and Innovation Partnerships (ATIP) programme seeks to create mutually beneficial and sustainable partnerships to accelerate the growth of promising technologies and innovation in Nigeria, South Africa, Kenya and adjacent countries. As part of its objective of addressing barriers to commercial scaling of new technologies and innovation, DFID/ATIP in collaboration with the Science Granting Councils Initiative (SGCI) is organising a workshop on Strengthening Research and Industry Collaborations.

The workshop brought together public and private sector, development partners and other stakeholders to understand the best practice promoting partnerships between research players (universities, research organisations, science councils) and industry (state-owned enterprises, businesses and the wider community) in promoting research commercialisation and knowledge/skills transfer in Africa. The workshop elucidated new ideas and proposals for creating partnerships that enhance research and innovation based on a scoping study on research-industry collaborations in Africa.

Workshop Objectives

1. Share initial findings of a study on best practice for strengthening research and industry collaborations (including commercialisation and knowledge transfer) and approaches/models that have been implemented among the SGC countries.

2. Convene a mix of key stakeholders in research and industry to discuss the findings in 1 above, share and learn from their experiences.
3. Identify ideas and opportunities for enhancing research-industry partnerships in Africa (effective approaches, actors and roles etc).

Workshop Participants

- The workshop will involve attendees from DFID representatives in East, West, South Africa and the UK working on science, technology and innovation, Science Granting Councils (SGCs), private sector actors that have established research partnerships with the public sector (academia, SGCs etc); academia including universities and other research institutions, other funding partners working on promoting research-industry collaborations and; other relevant experts in Africa.

Expected Outcomes

1. A clearer understanding of research-industry collaborations, including research commercialisation and knowledge transfer.
2. Best practice approaches including case study examples and analysis of what has worked/not worked in Africa.
3. A set of key recommendations for establishing effective and sustainable research-industry partnerships in Africa, particularly for SGCs.
4. Proposals and ideas for how the different actors (academia, SGCs and national research institutions, private sector, funding institutions and development partners) can work together to promote successful research-industry partnerships.

Workshop outputs

Workshop report (attached)

Power-point presentations (attached)

Workshop recording and transcripts (attached)