

ENHANCING INTELLECTUAL PROPERTY MANAGEMENT, TECHNOLOGY TRANSFER AND RESEARCH COMMERCIALISATION

The Scinnovent Center;

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IDRC Grant/ Subvention du CRDI: 108349-003-Strengthening partnerships among Africa's science granting councils and with the private sector

Enhancing intellectual property management, technology transfer and research commercialisation

*Tools and strategies for
science granting councils*

Training module
and curriculum



Tools and strategies for science granting councils

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Background and Context: Why this Training and why now?

Weak intellectual property regimes undermine knowledge and technology transfer between universities and research institutes with the private sector. To address this, most universities and public research institutes have established institutional intellectual property (IP) policies; created technology transfer offices (TTOs), intellectual property management offices (IPMOs) and commercialization divisions to facilitate knowledge and technology exchange. While the IP policies exist in some universities and research

institutes and non-existent in others, the TTOs and IPMOs are mostly under-resourced and under-staffed. The levels of IP awareness and support to researchers are equally weak.

In a Needs Assessment Exercise in Maputo (November 2016) and a validation/prioritization workshop in Pretoria (July 2017), the SGCs prioritized training in “Commercialization /utilization of research products” as a key intervention in building their capacity to broker collaborative partnerships.

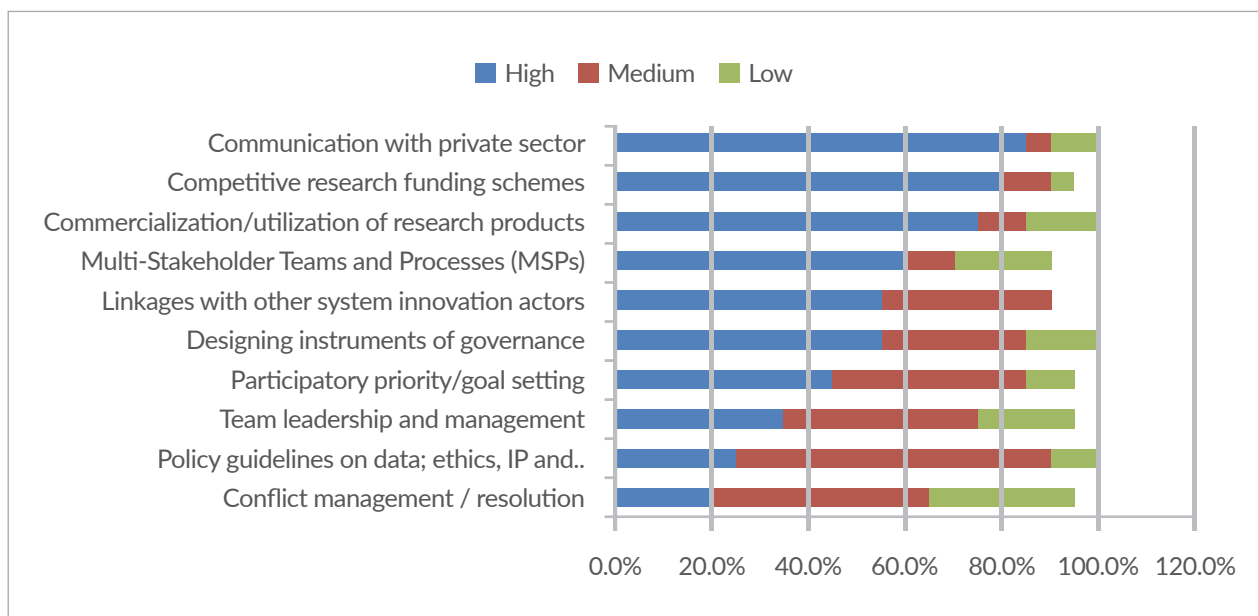


Figure 1: Importance and urgency of capacity strengthening needs

As part of its approach to promote public – private partnerships (PPPs) for research and innovation and support the science granting councils in their facilitating role in promoting knowledge exchange with the private sector, the Scinnovent Centre offers this specialized training to the Councils on “Intellectual Property, Technology Transfer and

Commercialization.” The inaugural course was held in Addis Ababa, Ethiopia in June 2019. The focus of the training centres primarily on enhancing the capacity of Councils to broker and support collaborative partnerships and technology transfer between the research institutions with the private sector

The Maputo Needs Assessment as a Basis



The Maputo Needs Assessment provides key highlights of the IP-related capacity strengthening needs of the Councils. It shows both the successes (what the Councils were doing very well) and the challenges (areas where they indicated they needed SGCI support). It not only helps to show where the specific gaps are but also how the demands/needs of the Councils are being translated to targeted interventions.

The Successes....

Designing instruments of governing collaborations e.g. consortium agreements, contracts etc

Kenya has developed memoranda of understanding (MOUs) with partners to facilitate collaborations and partnerships; Uganda has put in place grants management and collaboration offices; whereas Zambia has experience in designing and operating cooperation agreements – e.g. NRF (South Africa) & NSTC, NSTC & FNI (Mozambique).

Developing policy guidelines on data protection/sharing; ethics, intellectual property and publications

Botswana has been collaborating with WIPO on IPR and with UNESCO on ethics policies; Ethiopia has designed the necessary frameworks for data protection; Kenya has developed MOUs with partners and has initiated the drafting of its research policy; In Tanzania, institutional IP policies are partially available; Uganda has STI policy in place; Zambia drafts policy briefs /advisory notes for GIZ.

Facilitating linkages with other innovation system actors

Kenya has identified and mapped out possible actors and players in fostering the linkages; Tanzania has done well in incubations; Uganda has put in place a new Ministry of STI in place; while Zambia works closely with the technology business centre and TTOs in Universities.

Source: Training Needs and Research priorities of the Science Granting Councils – the Maputo Needs Assessment Report (2018).

The Challenges...

Designing instruments of governing collaborations

e.g. consortium agreements, contracts etc

Botswana needed assistance on designing governance instruments e.g. contracts; Ivory Coast needed help in designing model contracts; Ethiopia needed help with establishment of think tank group; Ghana needed help in designing agreements and contracts; Kenya needed help with development of legal frameworks for collaborations; Malawi needed help in developing skills and knowledge in negotiating and developing agreements, contract, and reconciling each priority needs and policies on a common project; Zambia needed help in developing instruments that serve interests of various actors e.g. tourists, NGOs, private sector; Cote d'Ivoire needed help in designing consortium agreements.

Developing policy guidelines on data protection/sharing; ethics, intellectual property and publications

Ghana needed help in research ethics, intellectual property and publications; Kenya needed help in capacity building on developing guidelines; Malawi needed help in reducing conflict of interest; developing a national IP policy development and guideline; Uganda needed help in developing specific guidelines; whereas Zambia needed help with implementation of IPR regimes that capture interests of private sector.

Facilitating linkages with other innovation system actors

Ivory Coast needed help in coming up with methodology for facilitating the linkages; Ethiopia needed help with effective mechanisms of monitoring university-industry linkages; Ghana requires more training on linkage with other innovation actors; Kenya needs help in identifying the appropriate actors; Malawi needs help in defining and developing mechanisms for linkages with innovation actors; Tanzania needs more knowledge on incubation processes; Uganda needs help in consolidating the National Innovation system; whereas Zambia needs help with private sector engagement.

Facilitating commercialization/utilization of research products/outputs

Botswana needed help in creating policies and modalities on commercialization of research projects; Ivory Coast needed help in strengthening its capacity on commercialization; Ethiopia needed help in establishing a system for research output commercialization; Ghana needed help in utilization of research outputs; Kenya needs help in commercialization of research products/findings and facilitation of academic - industry linkages; whereas Malawi needs skills and knowledge in translation and promotion of systematic review of research results. Tanzania requires assistance with development of accreditation policy; Uganda needs help in realizing innovation.

Source: Training Needs and Research priorities of the Science Granting Councils – the Maputo Needs Assessment Report (2018)

From Needs Assessment to Training Curriculum

The capacity strengthening needs and gaps have been translated to a training module/curriculum and programme providing a short description of how the training is organized, including the scope of each unit/module, learning objectives and outcomes. The Training materials include power point slides, case studies and local examples,

group and individual exercises etc. A key component of the training is experience sharing and peer learning in facilitated question and answer (Q&A) sessions. These allow more nuanced discussions on the specific country/organizational experiences, challenges, responses (covering policy and practice domains).

Session 1: Levelling the field: Context, Definitions and Status

Research, Innovation and IP Management: Setting the context, making the connections.

This session is delivered through an interactive lecture of about 30 mins followed by about 30 mins of facilitated Q&A. It helps set the stage for the rest of the training by ensuring that participants are of the same understanding on the key concepts, definitions and terminologies.

It further helps the participants understand the linkages between research, innovation and development and the role of IP in the whole process.

Key issues include:

- Where are the entry points for IP?
- How does it facilitate or hinder each stage in the process?
- What do we miss if we don't pay attention to IP management in the whole continuum?

Considering the diversity (in formal training, roles, levels of understanding of the participants, this introductory and scene setting session is very useful in preparing the participants for the rest of the training.

Session 2: Policy and Legal Issues for Innovation

National and International IP Frameworks/Regime

Institutional IP Policies and Strategies

Contracts, Agreements and related Tools for Managing Partnerships.

This session is delivered through a mix of interactive lectures and presentations; group works and facilitated Q&A sessions. It focuses mainly on the policies and strategies and address the following issues:

- In government/publicly funded research projects, who owns intellectual property rights? How are the benefits accessed and shared?
- How do these IP ownership and benefit sharing arrangements align or conflict with institutional IP policies?
- In multi-institutional partnerships and collaborations, how should issues of IP, publications and other benefits be accessed and shared?
- How do we cater for the interests of non-academic partners, especially the private sector?

Session 3: Facilitating Access to Innovation

IP Strategies, Mechanisms and Tools

Technology Transfer Offices: Their roles, establishment and resourcing

Harmonization of Commercialization with Public Interest

The session is delivered through presentations, group works, facilitated Q&A and plenary reporting/feedback. It focuses on the following key issues:

- How can SGCs support the establishment and strengthening of the TTOs/IPMOs in Universities and PRIs?
- How can SGCs support researchers and innovators in exploiting their IP?
- What kind of support tools (manuals, templates, guidelines) do SGCs require to foster greater collaborative research, innovation and commercialization?
- What additional capacity strengthening initiatives are required to enhance the role of Councils in catalysing knowledge and technology transfer with the private sector.

Session 4: Commercialization, Upscaling and Out-scaling

<p>Technology Licensing and other commercialization pathways</p> <p>Innovation and Commercialization infrastructure at the Universities and Research Institutes: Spin-outs, spin-offs, incubation hubs, science parks etc</p> <p>The role of innovation /commercialization intermediaries</p> <p>IP evaluation, marketing and trading.</p>	<p>This session focuses on the following key issues:</p> <ul style="list-style-type: none"> • What are the existing technology transfer and commercialization pathways? • Which ones have been applied in African settings and what are the outcomes? What are the best practices? • How do we foster and encourage academia – private sector partnerships and what possible roles for SGCs? • What is the role of innovation and commercialization intermediaries and how can we harness their potential for greater synergies? • How do you determine the financial value of your IP and in what other ways can researchers and IP holders benefit from ownership?
<p>Monitoring, Enforcement and Dispute Resolution: what role for the Science Granting Councils?</p>	<p>This session focuses on the practical administration of IP, technology transfer and commercialization and discusses (with lots of participant inputs) the niche and space of the Councils as facilitators, intermediaries and arbiters in research and innovation. It is a prelude to the session on implementation plan development. It is delivered through a presentation and facilitated plenary discussion/Q&A.</p>

Session 5: Towards an institutional IP Strategy and Implementation plans

<p>Key elements of an effective institutional IP strategy</p> <p>Country/organizational implementation plans</p>	<p>Participants discuss key elements of an effective IP strategy and develop implementation plans with clear timelines and follow up activities. They focus on:</p> <ul style="list-style-type: none"> • Content issues: – those issues that Councils deal with in the course of their work while performing their functions. Also focuses on their critical actors and clients and how the Council's address their needs. Finally, should focus on resource requirements (financial, infrastructural, skills/capacities, relational). • Process issues: Considering the presentations made in the plenary (on strategy development) and participants identify the relevant steps for developing the institutional IP strategies. They outline the the pathway towards achieving and developing the institutional IP strategies.
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Training Approach - Practice-based Learning

Pre-training assessment

This is a short survey (often done via survey monkey) to elicit the training needs, competency levels, areas of interest and emphasis as well as any additional topics and themes that the participants would like covered in the training. It is helpful in making the training a customised experience rather than a generic undertaking.



Training methodology

The delivery of this course is largely through

- (i) interactive lectures and presentations using power-point slides
- (ii) group works and individual exercises
- (iii) facilitated Q&A sessions.

Emphasis is placed on local examples and case studies. Where there are no relevant real/actual examples, facilitators design hypothetical cases that highlight the issues under discussion. Sharing participant and country experiences helps contextualize the training further and brings to the fore practical realities and challenges of IP management, technology transfer and commercialization.

The use of *energizers/ice-breakers* helps to keep adult learners active and engaged while facilitated Q&A sessions ensures interactive engagement. Group works/exercises are applied to promote peer learning and sharing of experiences. These are guided, documented and presented in plenary with additional materials provided to the groups.

Group formations ensured a mix of experiences across the different organizational, country, geographic and linguistic diversity. Group leadership is voluntary and rotational. Daily evaluations are conducted for immediate feedback and incorporation into the training.



Assessing the Quality of Training

We adopt a two-stage evaluation approach to assess the quality and delivery of the training workshop.



Level 1: Content and Delivery – relevance, depth, practicability, methodology/approach

Participants are requested to provide feedback on the training in terms of its relevance to their needs, how practical and applicable to their situations and contexts as well as the facilitators and their modes presentation.

They consider:

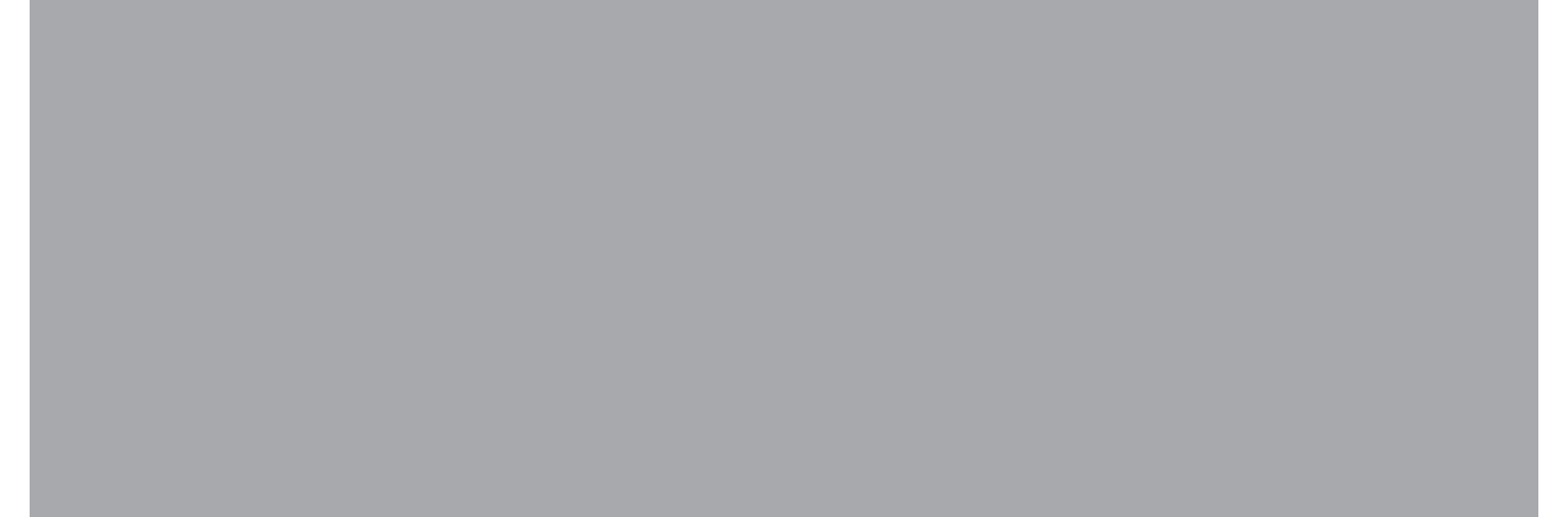
- What worked well?
- What didn't work well?
- What should change?

Participant views on curriculum content and delivery are collated and shared at the end of each day

Level 2: Learning outcomes – changes in awareness, understanding and ability to apply

The second level of assessment asks participants how their awareness, understanding and ability to apply the concepts and topical issues in IP, technology transfer and commercialization had changed as a result of the training. This follows the 10 topics and themes in the training curriculum.





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