



# SADC INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER SURVEY REPORT

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## 1. Introduction

The inaugural Survey of Intellectual Property (“IP”) and Technology Transfer (“TT”) activities of Public Research Institutions in the SADC region (excluding South Africa) was initiated as result of the need to benchmark these activities across the region. The survey was enabled through the partnership between the South African Department of Science and Technology (“DST”), the Southern African Research and Innovation Management Association (“SARIMA”) and the SADC Secretariat, specifically through the funding support provided by the DST.

The target audience for the survey was SADC countries other than South Africa. The reasons for this include the fact that a comprehensive 7 year baseline survey of IP management and technology transfer activities at SA publicly funded institutions was conducted recently, providing useful input. No such survey has been conducted in the region broadly. It should be noted, however, that the SADC survey instrument was designed drawing heavily on the South African survey, so as to enable useful benchmarking across all SADC countries.

The Survey’s objective was to establish a basis for benchmarking, through measuring the most significant indicators to track the overall activity of IP and TT at publicly funded research institutions, as well as assist in monitoring the progress made in terms of creating capacity in the region to manage IP and TT as well as the associated outputs and outcomes. The reporting period taken into account was the institutions’ last financial year up to or including June 2016.

This document is a draft Report, prepared for the benefit of the participating institutions and SARIMA members generally. It has been prepared by the SARIMA committee, and will be forwarded to expert reviewers for comments and finalisation in due course.

## **2. Methodology**

The initial draft survey questionnaire was prepared drawing on the SA IP and TT survey (2008-2014) questionnaire, which draws on similar questionnaires in other countries / regions where such surveys regularly take place. The draft was however adapted to the SADC TT environment based on knowledge gained by SARIMA through the “*Strengthening Research and Innovation Management in SADC*” initiative, over the past 3 years.

The survey questionnaire comprised of five sections:

- Section A –Details of the Respondent and Institution
- Section B – TT Capacity Development Needs
- Section C – TT Staff and Budget
- Section D – IP Ownership, Protection and Management
- Section E – IP Commercialisation /TT

All respondents were asked to complete Section A and B, and only those institutions with a Technology Transfer Office (TTO) or Function were asked to complete the remaining sections i.e. Sections C, D and E.

The initial draft survey questionnaire was presented and discussed with the SADC Focal Points at the SADC TT Forum which took place in May 2016 as a SARIMA pre-conference workshop. Suggestions made by the Focal points were taken into account in preparing the final draft survey questionnaire. These key suggestions are summarised as follows:

- A simple guideline is required to explain the various terms used
- Questionnaire and guidelines need to be translated in Portuguese and French to encourage better participation from Anglophone and Francophone countries
- Prepare an electronic survey as well as a print version to enable both modalities of responding to the survey.
- Allow the SADC countries at least one month to respond to the questionnaire

Furthermore it was decided that a webinar be held at least two weeks after the survey was circulated to clarify questions and definitions and deal with any ambiguity in survey

questions. People were asked to register for this webinar should they wish to participate. No registrations were received thus the webinar did not take place.

### **3. Number of Responses & Reporting challenges**

The survey questionnaire was distributed to 14 SADC countries through SARIMA's Focal Points. Due to an initial low response of 12 it was decided to extend the closing date for another two months i.e. 30 September 2016. A total of 23 responses were received from eight countries i.e. Angola, Botswana, Madagascar, Mozambique, Namibia, Seychelles, Tanzania and Zimbabwe. Although SARIMA is aware that formalised technology transfer is in very early stages of implementation in the region, this response rate is much lower than was hoped for. Given the low number of responses from certain countries, results in some instances could only be reported in an aggregated fashion, so as to preserve anonymity. We presume that at least part of the reason that institutions did not respond is because of the weak levels of capacity in innovation support and technology transfer, and thus institutions did not see value in reporting such low levels of activity. We will continue to engage with colleagues in these countries to test this assumption and understand the other reasons for the low response rate.

As result of the poor response rate, and the fact that of the respondents only six reported formalised TT activities, some results could not be reported in a meaningful manner and have been excluded from this report.

### **4. Analysis of Data**

Of the 23 responses received three were removed from the data; two were not research institutions and the third had so little information that it was inappropriate to include them. Furthermore, although not part of the originally targeted respondents, private research institutions were included in the analysis

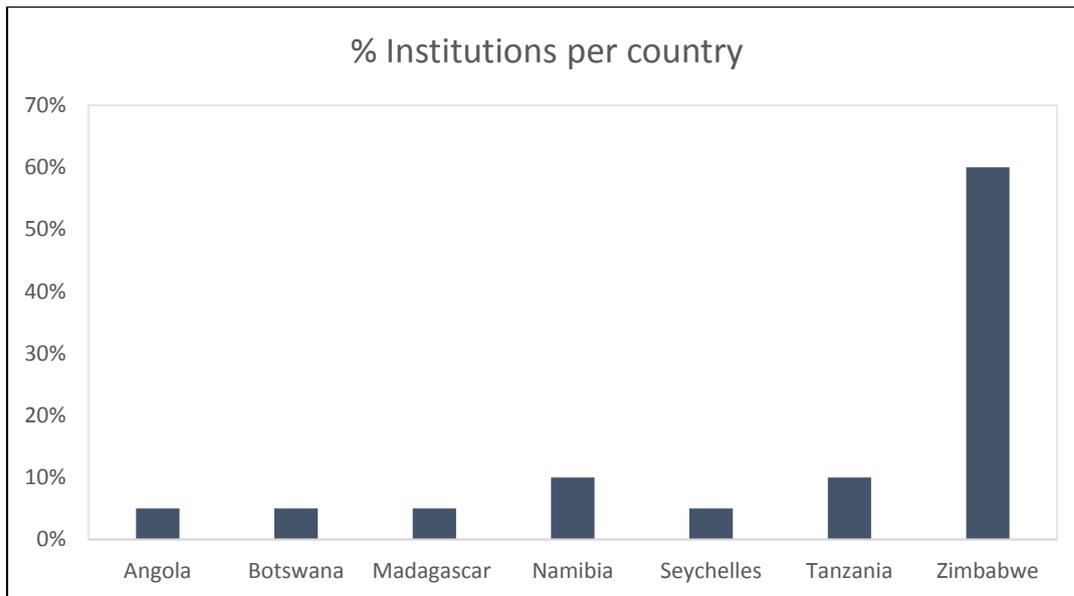


Figure 1: Percentage Institutions per Country

The percentage of research institutions per country used in this analysis is shown in Figure 1. Although respondents were from seven different countries, the majority of institutions (60%) were from Zimbabwe. Furthermore of the 20 research institutions (35%) were private institutions.

## 5. Results

### A. Details of Respondent and Institution

This data was collected for post survey field work purposes only and are not included in this Report.

### B. Technology Transfer Capacity Development Needs

Section B provides a snapshot of key institutional constraints impacting TT activities across the different countries as well as key areas for TT capacity development.

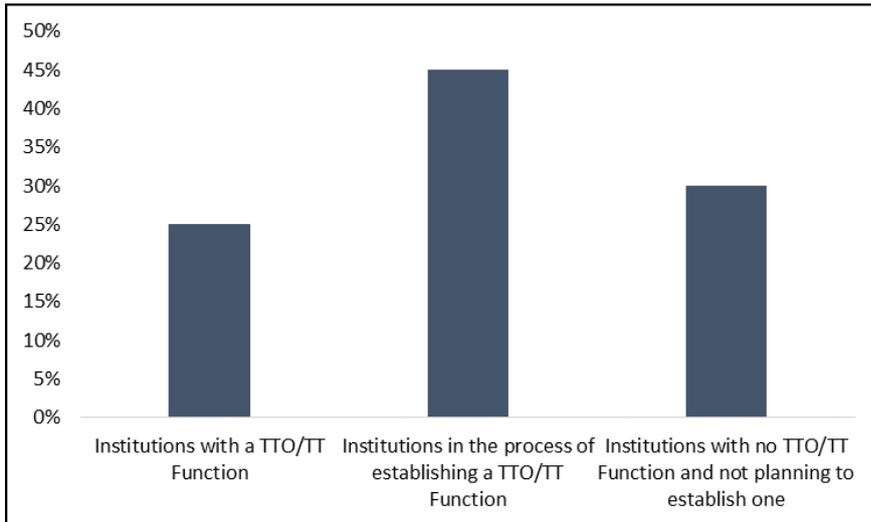


Figure 2: Percentage Institutions with or without TTO's or TT Functions

Figure 3 shows that the majority of institutions (45%) are in the process of establishing a Technology Transfer Office (TTO) or Function (Figure 3). Furthermore only 15% of institutions indicated that they have business incubators.

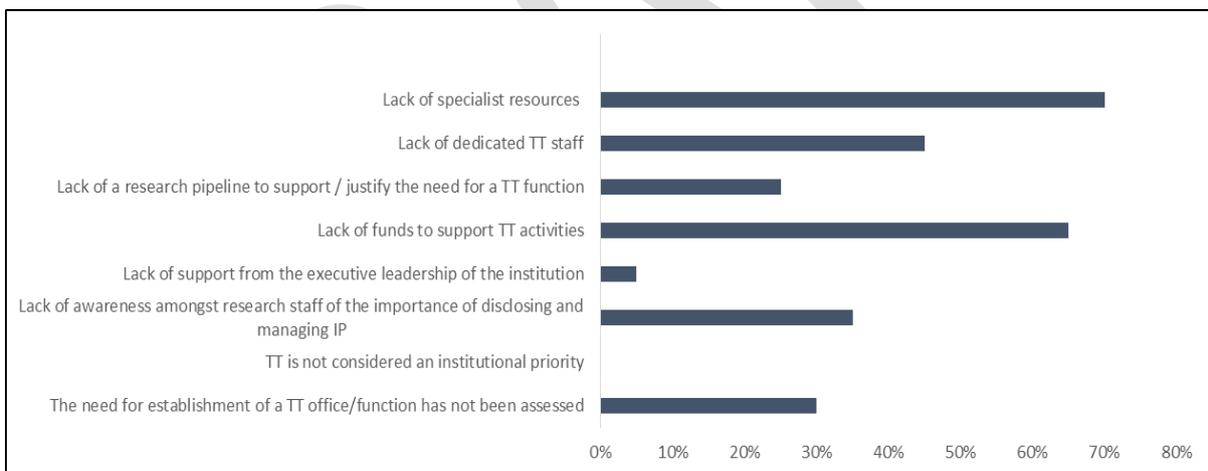


Figure 3: Percentage institutions ranking of constraints impacting TT activities

With regards to key institutional constraints impacting TT activities, the top five constraints across all countries, in order of importance, were: (1) Lack of specialist resources, (2) Lack of funds to support TT activities, (3) Lack of dedicated TT staff, (4) Lack of awareness amongst research staff of the importance of disclosing and managing IP, and (5) The need for establishment of a TT office/function has not been assessed (Figure 4).

It should be noted that all of the institutions participating in this survey regard TT as an institutional priority and only one institution indicated a “*Lack of support from the executive leadership of the institution*”, which is encouraging as it suggests that there is strategic support for these activities

Institutions were also asked to identify key areas for TT capacity development in their respective institutions.

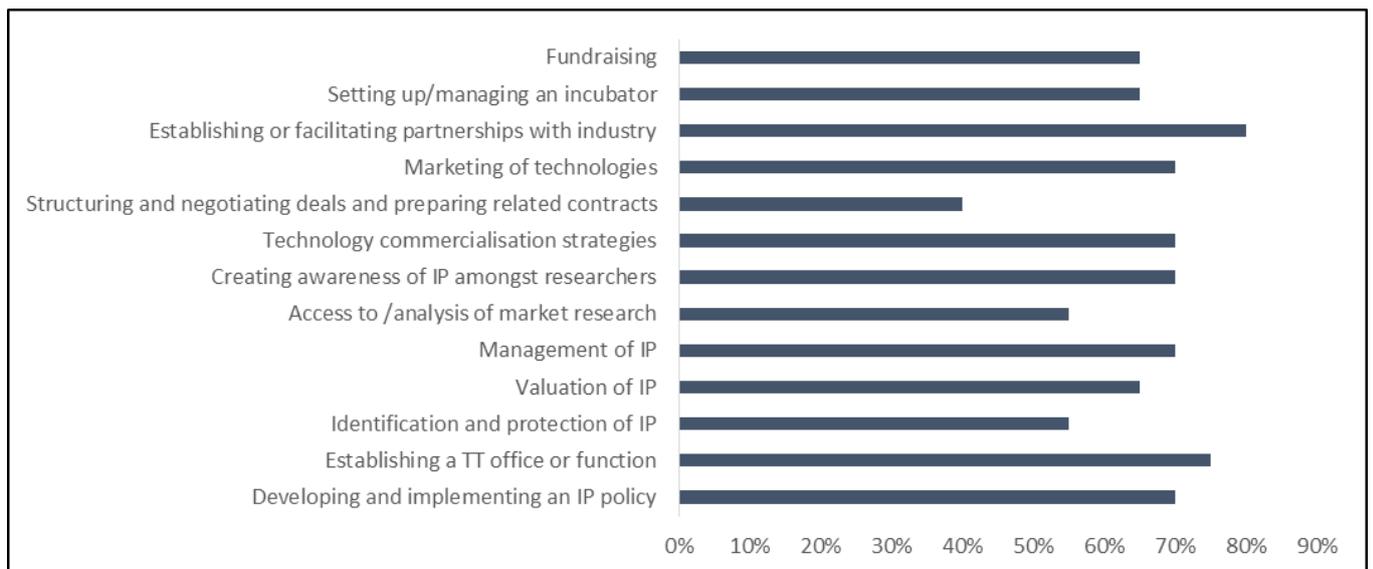


Figure 4: Percentage institutions ranking of key TT capacity development areas

The key areas for capacity development (Figure 5) across all countries include (in order of importance): (1) Establishing or facilitating partnerships with industry (80%), (2) Establishing a TT office or function (75%), (3) Management of IP, creating awareness of IP amongst researchers, Technology commercialisation strategies and Marketing of technologies (70%). It should be noted that “Establishing a TT office or function”, “Management of IP”, “Creating awareness of IP amongst researchers” and “Technology commercialisation strategies” were listed by all institutions as areas for capacity development. Interestingly, “Structuring and preparing deals and related contracts” was not identified as a priority. This may be due to the size and level of maturity of technologies, where development to a point where commercialisation deals are possible, can take significant resources and time.

Institutions were also asked to list the top five TT focus areas that they thought SARIMA should consider introducing as topics for training interventions in their country.

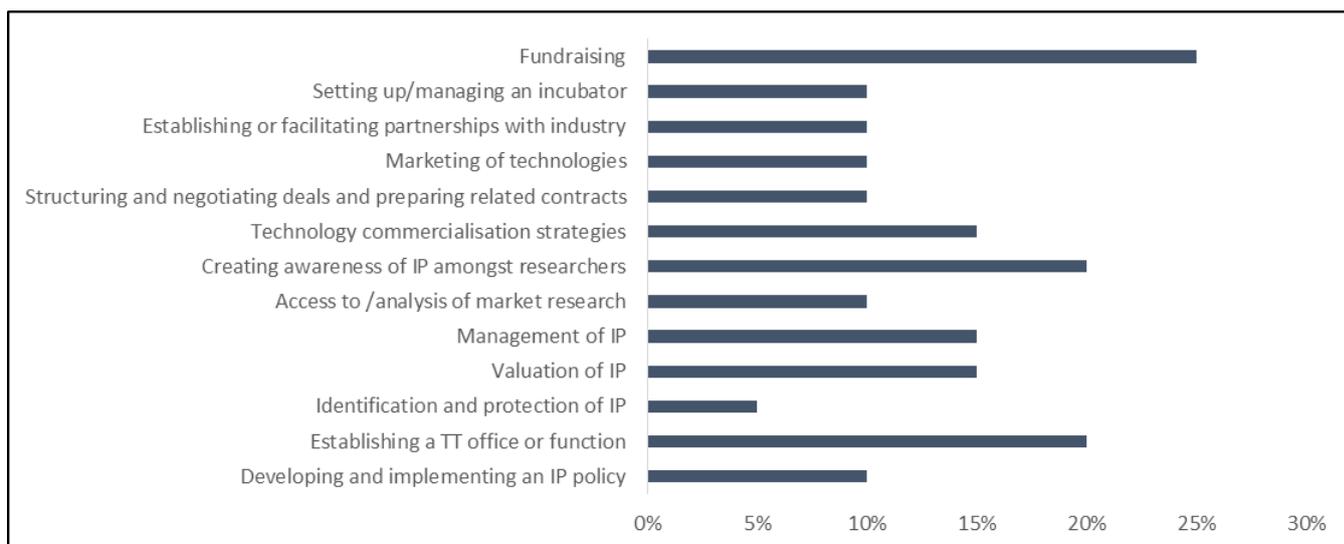


Figure 5: Percentage Institutions ranking of Key Training Topics

Twenty five percent of institutions listed “Fundraising” as the most important area for training followed by “Establishing a TT office or function” (20%) and “Creating awareness of IP amongst researchers” (20%), as well as, “Management of IP” (15%), “Valuation of IP” (15%) and “Technology commercialisation strategies” (15%). Of interest is that “Identification and protection of IP” was selected by the least number of institutions, suggesting that this is the area where there is already some awareness and capacity. However the immediate next steps beyond being able to identify IP, would be to create an office/function, create awareness amongst researchers so that they may disclose promising IP, and how to manage IP disclosed and identified, and thus there is strong alignment between the topics selected by institutions, and the likely stage of development of the tech transfer function. This result provides input to SARIMA on topics of most interest to institutions.

### C. Technology Transfer Staff and Budget

Section C (and remaining sections) focused on those institutions that have already established a TTO or TT Function. This section aimed to identify the level of skill of TT staff as well as the budget available to undertake TT activities.

Of the six institutions that have a TTO/Function:

- The majority (66%) of institutions established these functions in the past three years. One institution had a function in existence earlier than this.

- 50% have a TT capacity equating to 1 full time equivalent (FTE), 33% have 2 FTEs and 17% have 5 FTEs
- 73% of TT personnel across all the institutions are males.
- Operational budgets for TT activities ranged from USD 5,000 to 632,400
- Funds for filing/maintenance of patents ranged from 18% - 30% of the TT operational budget and 4.9% - 40% were set aside for TT staff training needs
- 50% of institutions have dedicated IP protection funds and 33% have ring-fenced Seed funding. Budgets allocated for these vary.

Due to the paucity of responses it was not possible to report quantitatively on the qualifications of the TT personnel. The qualifications vary – the majority have PhDs or Masters degrees' and fields of study vary from humanities and education to engineering and agriculture.

We were unable to report on data on budgets and expenditure in detail, due to paucity and questions around data provided. However what we can report is that the largest TT budget is more than US\$600,000.00 whilst other reporting institutions had USD100,000.00 or substantially less. Two institutions reported having a Seed Fund in place to promote the development of technologies towards commercialisation.

#### **D. IP Ownership, Protection and Management**

This section focused on country and institutional policies relating to IP ownership, protection and management, the number of technologies protected and what form of IP protection was sought.

All countries have IP laws in place. Also all institutions reported having institutional policies that regulate IP ownership and management. In terms of actively managed statutory protection IP rights, Patents are the highest reported rights, followed by Designs and Trade Marks. This is consistent with the fact that patents provide the strongest form of protection for an invention. Designs protect the aesthetic appearance of a product (with a limited set of countries providing for functional protection as well). Trade Marks are more valuable once commercialisation is taking place, and are more typically filed by the commercialising partner(s) once the product or service is market ready, in support of a brand. None of the institutions currently have Plant Breeders' Rights Families in their portfolios. Furthermore, only one institution has at least one technology protected through trade secrets and two institutions with technologies protected through copyrights.

## **E. IP Commercialisation / TT**

Section E aimed at identifying the number of technologies (with and without IP protection) that have been commercialised by the institution through a commercial partner as well as those commercialised through spin-off companies.

A total of 5 technologies have been commercialised (one where there was IP protection in place, and four where there was non-protected IP). Furthermore only one institution reported commercialisation of a technology through the formation of a spin-off company. Based on missing and inaccurate data provided, one could not draw any meaningful insights from this section (Table 2).

## **6. Conclusion**

The limitations in this study, namely the low response rate, and missing data across especially the IP ownership, protection and management section, as well as the IP Commercialisation section, , makes it difficult to draw more than broad conclusions regarding the state of IP and TT activities across the SADC (excluding South Africa) region. What we can take from this study is that technology transfer is still a relatively new concept to the SADC region as indicative of the number of participating institutions that have TTOs or functions. What is encouraging is that majority of responding institutions have strategic support for technology transfer, and many are in the process of establishing an office or function. Furthermore, the survey provides useful pointers in terms of what are institutional capacity constraints and highest priority areas for capacity development (Section 5B). This information could be used as a starting point in identifying interventions to address some of these challenges at an institutional, country and regional level, and how the SADC Secretariat, SARIMA and their partners can address these requirements. Lastly, the learning gained from the survey can inform further such surveys to be conducted in the region. It is however recommended to conduct a survey in 2 to 3 years' time, when institutions that at the time of the survey were creating tech transfer functions, have had time to create some momentum in their activities.