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Botswana National Innovation Capability Framework, an innovation model to move from production to effective commercialisation

LEARNING BRIEF #1

Key words: Botswana, innovation, SmartBots, DBIH, digital transformation

Africa RISE (Reform for Investment and Sustainable Economies) is a technical assistance facility funded by the European Union and implemented by a consortium led by Landell Mills, with support from Adam Smith Europe, Imani Development and International Economics. Its aim is to promote business development and improve the investment climate in eastern Africa, southern Africa and the Indian Ocean in support of inclusive and sustainable growth, job creation and decent work.

This paper provides key insights on a proposed model and roadmap for a National Innovation Capability Framework [NICF] that was developed with the support from EU Africa RISE, at the request of Botswana Office of the President [SmartBots Implementation team]. This model, or adaptations of it, could be considered by other countries, regions, organisations, or in similar contexts.

In mid-2021, the Office of the President of Botswana – through its SmartBots Implementation Team – requested assistance from the Africa RISE programme to develop the country’s National Innovation Capability Framework (NICF). Innovation, in the form of new products, processes and ways of managing, is essential to a country’s economic growth. Experience in other countries shows that such frameworks can lead to better coordination and improved effectiveness of the innovation ecosystem. Building national innovation capacity will drive the country’s ability to produce and commercialize a flow of innovative technology, and brings benefits for MSMEs’ innovation capacities and competitiveness.

Botswana, according to the World Intellectual Property Organization [WIPO] Global Innovation Index (GII), ranked 106th of 132 countries in 2021, a drop in ranking from the 89th place it held in 2020. The GII, which assesses countries’ capacities for, and success in, innovation, highlighted a number of weaknesses in Botswana’s innovation performance: (i) human capital and research, which saw a massive drop in ranking, from 53 in 2020 to 130 in 2021; (ii) knowledge and technological outputs, which also fell: 101 in 2021, down from 89 in 2020; and (iii) market sophistication, where Botswana had a ranking of 96 in 2020 but only 113 in 2021. However, the country is in the top third of the GII for sub-Saharan countries; it ranks 9th amongst the 27 sub-Saharan countries in the index,¹ and it performs above the regional average in four pillars, namely: institutions; infrastructure; business sophistication; and knowledge and technology outputs. Yet, it ranks last in the upper middle-income country group (34th).

Africa RISE mobilised a Senior Consultant to engage with SmartBots, the Botswana Digital Innovation Hub (BDIH) and other key stakeholders, and prepare a comprehensive NICF with a clear roadmap to implementation.

This paper presents key insights from this process that could be considered by other stakeholders, for similar needs or in similar contexts.

Africa RISE at a glance

- EU-funded technical assistance facility
- A four-year programme running until December 2024
- Covers 25 countries in eastern and southern Africa and the Indian Ocean
- Progress to date: more than 30 assignments underway or completed
- Over 1,000 expert days of input provided

[1] There are 46 sub-Saharan countries but only 27 listed on GII https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021/bw.pdf

1. The importance of Government embracing innovation

Botswana is a landlocked country, with a population of 2.25 million people. At the time of its independence, in 1966, the country was amongst the poorest nations in the world, with GDP per capita of only \$89. The discovery of the first kimberlite pipe, in combination with good governance, prudent economic management and a relatively small population, proved to be the catalyst that pushed Botswana to become an economic success story, achieving middle-income status in 1986 and upper middle-income status in 2005.

The country's overreliance on diamond exports delayed the transformation of the economy but, with the emergence of Botswana's Fourth Industrial Revolution (4IR) and driven by the expansion of the national ICT infrastructure, the country is building its path towards a Knowledge-Based Economy (KBE). It aims to become Africa's innovation leader by 2036.

The Botswana Digital Innovation Hub (BDIH) has been selected to drive the implementation of the 4IR Digital Transformation Strategy. BDIH is focused on fostering high-tech businesses and commercialising ideas for sustainable economic growth. It has organised over 100 hackathons, and supported more than 200 start-ups & aspiring innovators. Its work to identify innovative ideas and support them moving to market has not yet, however, led to the expected levels of commercialisation. As a result, the Government of Botswana moved to strengthen the country's innovative capacity and outputs, and design a comprehensive NICF.

2. The need for a system change: the focus on Botswana innovation ecosystem

The proposed NICF, developed with support from the Africa RISE programme, has a number of features:

- ***It maps out the national innovation ecosystem, acknowledging the presence and role of the different national stakeholders in addition to the BDIH***

The framework puts entrepreneurs at the centre of the innovation ecosystem (see Figure 1). BDIH, along with other innovation Service Providers (SPs), orbits around the entrepreneurs.

"The benefit to Botswana from having this NICF is increased innovation activity and an ecosystem that is able to identify and support innovation from ideation to market, ultimately resulting in public and private sector reform."

SmartBots



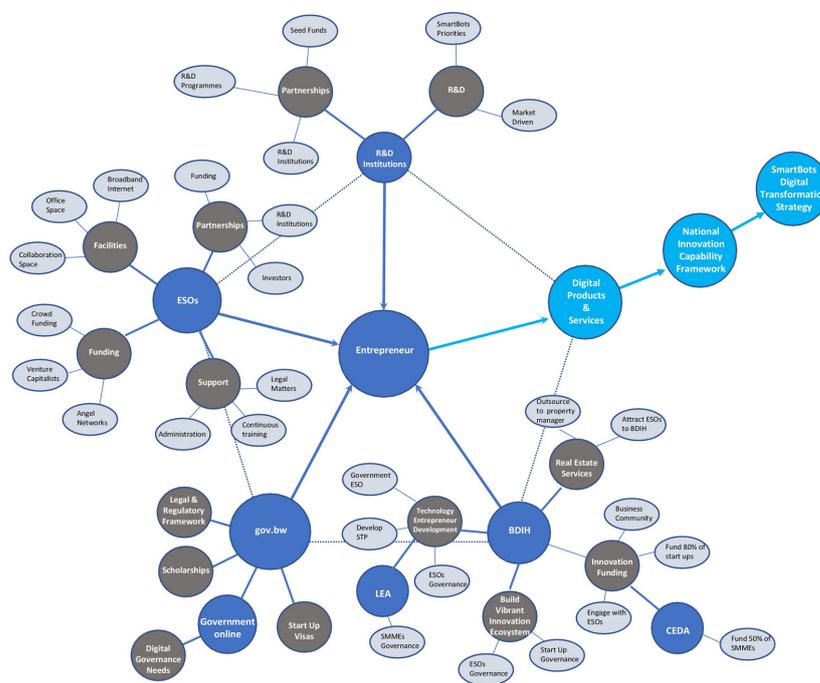


Figure 1: Botswana Innovation Ecosystem Map

These SPs [“Who” – shown in dark blue] provide several categories of support, e.g. R&D, which are shown in dark grey [“What”]. Each category has examples of services attached to that type of support [light grey bubbles]. The light blue bubbles [“How”] represent the products & services produced by the national innovation ecosystem that feed the NICF and contribute towards meeting the SmartBots agenda.

- **Includes policy level interventions to nurture innovation and create an enabling environment for start ups to succeed**

The **Start-Up Act**, a comprehensive legislative and regulatory framework, will aim at endorsing entrepreneurship amongst young people, enabling them to establish new firms with high growth potential by offering targeted incentives. It consists of (a) **Start-Up Leave**, which offers entrepreneurs the opportunity to take a special sabbatical from their current employment to start a business, which will see them receive a salary during the development of their start-up, and allow them to return to their previous employment should the start-up journey not be successful; (b) the **Start-Up Visa**, targeting innovators from outside the country, acknowledging the shortage of innovative domestic talent whilst moving towards making Botswana a regional innovation and entrepreneurship hub; and (c) the **Crowdfunding Act**, aiming at increasing the participation of the private sector in funding innovation in Botswana, through a modern and widely used funding model.

- **Proposes that Entrepreneurship Support Organisations (ESOs) be established**

These ESOs will be private sector led and will provide a complete battery of support services for innovators, including access to funding, business skills, training and networking with other innovators. The ESO model will provide entrepreneurs with direct links to experienced businesspeople and the opportunity to network and access markets for their future products and services.

- **Switches the focus to the Private sector as a partner in co-funding innovation**

It moves away from traditional understanding of progress where the Government becomes the chief driver of growth and innovation, by creating avenues to nurture the interest of the industry to co-contribute to funding of innovative businesses. The ESO model encourages the private sector to contribute to high-risk business ventures alongside government, which assumes also risk and investment capital.

- **Proposes the formation of an ESO national association, to have ESOs collaborate and avoid work in silos**

The role of the association will be to formulate a common vision for its members, plan events for networking and provide capacity building opportunities for entrepreneurs. It will reach out to local and international investors to promote its members and seek opportunities for partnerships. The association will also seek to partner with international innovation hubs and associations of similar ESO structures. The ESO national association will design performance metrics, collect data periodically and monitor the performance of its members on their contribution to building the innovation ecosystem in Botswana.

3. A clear way forward: the NICF Roadmap

A seven-point, 12-month roadmap has been included in the NICF, highlighting the key steps to implement the framework:

- the need to identify the NICF owner;
- strengthen BDIH's role as the coordinator of the NICF;
- an awareness campaign to obtain buy-in from key stakeholders, e.g., Ministry of Tertiary Education, Research, Science and Technology (MOTE);
- the development of the legal framework for the ESO model;
- the drafting and adoption by the parliament of the Start Up Act, (including the Start Up Visa, Start Up Leave and Crowdfunding Act);
- a detailed implementation plan with clear roles & responsibilities and costed activities that will contribute towards the realisation of the NICF;
- a national communication campaign to be launched to make the public aware of the changes in the innovation ecosystem.

Ultimately, innovator support, wide range awareness, and government inclusion are key to boost innovation ecosystem in Botswana, during and post-COVID.

"This Framework is a key enabler in the transformation of the Botswana Innovation Hub into a Botswana Digital and Innovation Hub as envisioned under the SmartBots strategy. We are currently looking at ways to make the ESO system work, to nurture innovation by providing ongoing support through ESOs for the next generation of start-ups, scale-ups, as well as existing SMEs".

BDIH

Key takeaways from the proposed NICF

- Maps out the national innovation ecosystem, acknowledging the role of multiple national stakeholders and appreciating the national importance of NICF
- Clearly defines the terms innovation and start-up and offers clear incentives to drive innovative marketable solutions through the support of start-ups
- Acknowledges Botswana's weaknesses as an innovative economy and proposes a modern, comprehensive framework to close the gap with other countries in the continent and beyond
- Recognises the role of the private sector in funding innovation, risk mitigation and graduation of innovative solutions to become market-ready products and services

For more information about this learning brief, the proposed Botswana National Innovation Capability Framework, or if you want to learn more about EU Africa RISE support, please contact us at info@eu-africa-rise.com.