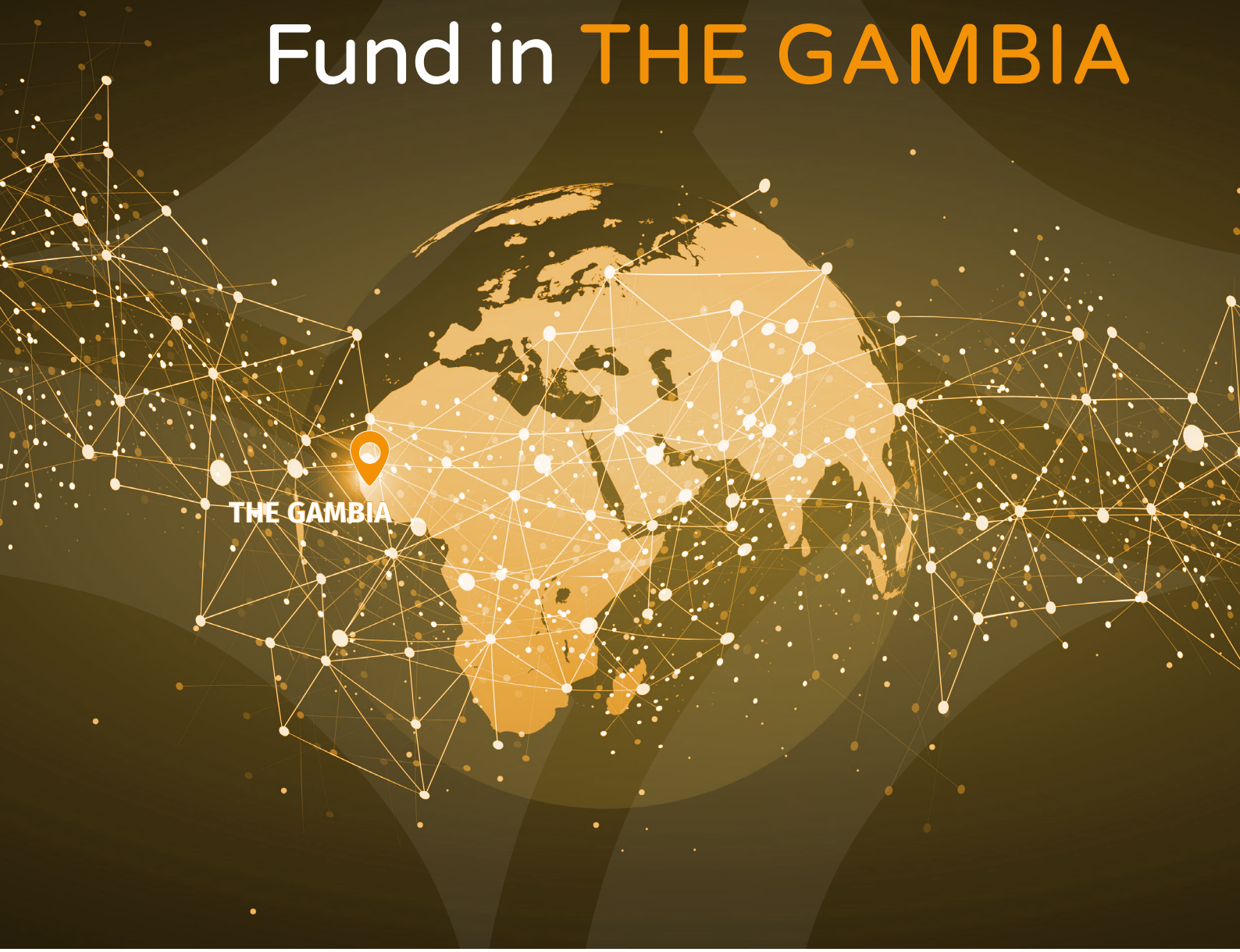
OACPS RESEARCH AND INNOVATION PROGRAMME

Policy Support Facility

Policy Recommendation Report for setting up a National Innovation Fund in THE GAMBIA



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ORGANISATION OF AFRICAN, CARIBBEAN AND PACIFIC STATES (OACPS)

OACPS R&I PSF

Policy Recommendation Report for setting up a National Innovation Fund in THE GAMBIA

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April 2022

OACPS RESEARCH AND INNOVATION PROGRAMME

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List of Abbreviations

BITRI	Botswana Institute of Technology Research and Innovation
CBR	Country Based Report
COVID	Coronavirus Disease
DARPA	Defense Advanced Research Projects Agency
BDS	Business Development Services
DFID	Department for International Development
DSTI	Directorate of Science, Technology, and Innovation
EU	European Union
FNI	Fundo Nacional de Investigação
FSQA	Food Safety and Quality Authority
GBA	Gambia Bankers Association
GCCI	Gambia Chamber of Commerce and Industry
GCSW	Ministry of Gender, Children and Social Welfare
GDP	Gross Domestic Product
GERD	Gross Domestic Expenditure on Research and Development
GHE	Gambia Horticultural Enterprises
GIEPA	Gambia Investment and Export Promotion Agency
GMD	Gambian Dalasi
GMT	Greenwich Mean Time
GTHI	Gambia Tourism and Hospitality Institute
GTMI	Gambia Telecommunications and Multimedia Institute
GWCC	Gambia Women's Chamber of Commerce
GYIN	Global Youth Innovation Network
HEI	Higher Education Institute
ICT	Information and Communication, Technologies
LDC	Least Developed Countries
MDI	Management Development Institute
MEA-IF	The Middle East and Africa Innovation Fund
MEL	Monitoring, Evaluation and Learning
MFI	Micro-finance Institution
MoFEA	Ministry of Finance and Economic Affairs
MoHERST	Ministry of Higher Education, Research, Science and Technology
NAQAA	National Accreditation and Quality Assurance Authority
NASA	National Aeronautics and Space Administration
NDP	National Development Plan
NEA	National Environmental Agency
NGO	Non-Governmental Organisation
NIF	National Innovation Fund
NIS	National Innovation System
NPO	Not-for-Profit Organisation
NRDS	National Research and Development Strategy
NSTIP	National Science, Technology, and Innovation Policy

OACPS	The Organisation of African, Caribbean and Pacific States
PRO	Public Research Organisation
PRR	Policy Recommendation Report
PS	Permanent Secretary
PSF	Policy Support Facility
PV	Photovoltaic
R&D	Research and Experimental Development
RIF	Rwandan Innovation Fund
SDF	Social Development Fund
SDG	Sustainable Development Goals
SIDA	Swedish International Development Agency
SIG	Start-up Incubator Gambia
SME	Small, Medium Enterprise
SMME	Small, Micro, Medium Enterprise
STI	Science, Technology, and Innovation
SWOT	Strength, Weakness, Opportunity, and Threats
TIN	Tax Identification Number
UAV	Unmanned Aerial Vehicle
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Emergency Fund
UoTG	University of The Gambia
US	United States of America
WALIC	West African Livestock Innovation Centre
WEF	World Economic Forum
WIPO	World Intellectual Property Organization

Executive Summary

The Gambian government aims to build a mass of viable and competitive productive capacity in science, technology, and innovation (STI) to achieve the structural transformation of its economy. The government wishes to improve conditions to enhance the national environment for the growth of entrepreneurship, investment opportunities, business, and the well-being of civil society, by developing a National Innovation Fund (NIF) to support and address critical challenges in all sectors.

To this end, the Ministry of Higher Education, Research, Science and Technology (MoHERST) of The Gambia submitted an Expression of Interest (EoI) to the Secretariat of the Organisation of African, Caribbean and Pacific States (OACPS) for policy support services through the Policy Support Facility (PSF) of the OACPS Research & Innovation Programme.

In national innovation systems, the emphasis on enhancing technology, and information flow between people, enterprises, and institutions is critical. Innovation and technology functions result from complex relationships between system actors, including enterprises, universities, government research institutes, and civil society. Therefore, the NIF would play a critical role as a platform to provide competitive funding opportunities to help enhance innovative performance and overall competitiveness. This report offers recommendations and tools for launching the National Innovation Fund, including a step-by-step guide to resource mobilisation and management mechanisms in The Gambia.

With a view to strengthening drivers of innovation to contribute to economic development, the NIF intends to help The Gambia develop incentives to enhance its innovation and technology adoption capabilities.

The overall objective of the NIF should be to **support a functioning national innovation system (NIS) in The Gambia contributing to small and medium-sized enterprises' increased competitiveness, access to finance, new markets and job creation.**

The expert panel conducted desk research to gain a better understanding of The Gambia's innovation ecosystem and development. Fieldwork was conducted with stakeholders from across key sectors to help us prepare evidence-based recommendations for establishing the NIF. Based on the findings, The Gambia's innovation ecosystem does not function optimally for three main reasons:

(1) **lack of financial incentives** to support innovation,
(2) lack of **credit or private equity to support SMEs and R&D** and,
(3) lack of **specialised technical skills**.

The planned NIF intends to reduce the severity of these challenges by incentivising technical actors to provide training services and capacity building. It will act as a catalyst for growth in vital sectors of the economy, particularly start-ups, that have the capacity to create job opportunities and spur economic growth. With a view to designing a workable NIF, this document draws on lessons learned from four African countries (two middle-income and two least developed):

- The Botswana Innovation Hub, which houses the Innovation Fund (IF), a key enabler in providing seed and early-stage funding to companies or organisations.
- The South African Innovation Fund, which provided both grant and equity finance from 1998 to 2010.

- The Rwanda Innovation Fund (RIF), which provides equity financing for tech-enabled small and medium enterprises (SMEs), trains tech-oriented entrepreneurs in business planning and management, and registers intellectual property rights.
- The Fundo Nacional de Investigação (the National Research Fund) of Mozambique, which invites proposals for research and innovation through open calls with pre-assigned funding envelopes.

To progress toward the National Development Plan (NDP) and the goals of the National Science, Technology and Innovation Plan and for the successful functioning of the National Innovation Fund, it will be crucial to have careful project selection, support and, where necessary, criteria for termination. Five overarching lessons emerge from the findings of this study, based on which the following recommendations can be made towards establishing the NIF:

1. The NIF must **prioritise competitive opportunities for all potential sectors** to trigger broad-based economic growth.
2. The MoHERST should lead in **initiating an ambitious national programme that involves all incubators and accelerators**, to induce a dynamic force of innovation in partnership with stakeholders of the NIF.
3. **Government should determine an annual flexible allocation for funding the NIF**, to leverage additional funding from other national and international organisations and the private sector.
4. Related **ministries should continuously devise skills development and capacity-building programmes, including pre-incubation activities that bring members of academia (researchers), the public sector, and businesses together to develop and test innovative ideas for solving everyday problems or designing business ideas and entrepreneurial skills.**
5. **In promoting the NIF, the government should initiate an awareness-raising campaign at all levels in the quadruple-helix of government, academia, industry, and society.** The purpose of enhancing interlinkages is to spur demand-led innovation activities and further encourage collaboration between universities, public and private sector actors, and civil society.

Therefore, this Policy Recommendation Report seeks to assist The Gambia in implementing the most effective innovation drivers to achieve reasonable prospects for social and economic improvement, inclusion, and long-term success. To develop the NIF, additional examples and tools drawn from the **Botswana and South Africa Innovation Funds** and others are provided in the **Annexes**, to help design and operationalise the NIF to the context of The Gambia.

Establishing the NIF provides MoHERST with an opportunity to demonstrate agile leadership and innovative thinking by designing a funding instrument that may be activated at short notice. One such instrument might be a Trust, subject to the relevant legislation.

1 Introduction

This Policy Recommendation Report (PRR) provides the basis for establishing a National Innovation Fund (NIF) in The Gambia. It offers a step-by-step guide and operational mechanisms for the Fund to support potential innovations and development in the country. The assignment required six months of work from July 2021. This short timeframe was critical to align with The Gambia's policy planning process and ensure the relevance of the service.

The PSF service was, among other things, tasked with carrying out an assessment and review of the research and innovation (R&I) ecosystem in The Gambia and performing a detailed SWOT analysis of existing structures, policies, and policy instruments. The associated Country Background Report (CBR) prepared the way for the fieldwork in The Gambia.

This Policy Recommendation Report examines the conditions for developing the National Innovation Fund. Based on secondary information and the primary data collected during the fieldwork in The Gambia, face-to-face meetings and interviews were conducted with key stakeholders about the possibility of creating and designing an enabling environment for the National Innovation Fund to operate.

This report covers all the critical components in this process. Section 1 contains an introduction and a justification for setting up the NIF, with Section 2 providing an appraisal of the Gambia Innovation system. Section 3 - Methodology and analysis - discusses the findings of the fieldwork, while Section 4 presents an overview of international approaches to innovation funds, with lessons from four African case studies. This sets the stage for a discussion in Section 5 on setting up and managing the Innovation Fund, including a framework for monitoring, evaluation and learning. Lastly, Section 6 contains recommendations for scoping and operationalising the NIF. The annexes also include tools to help design and operationalise the NIF in the Gambian context.

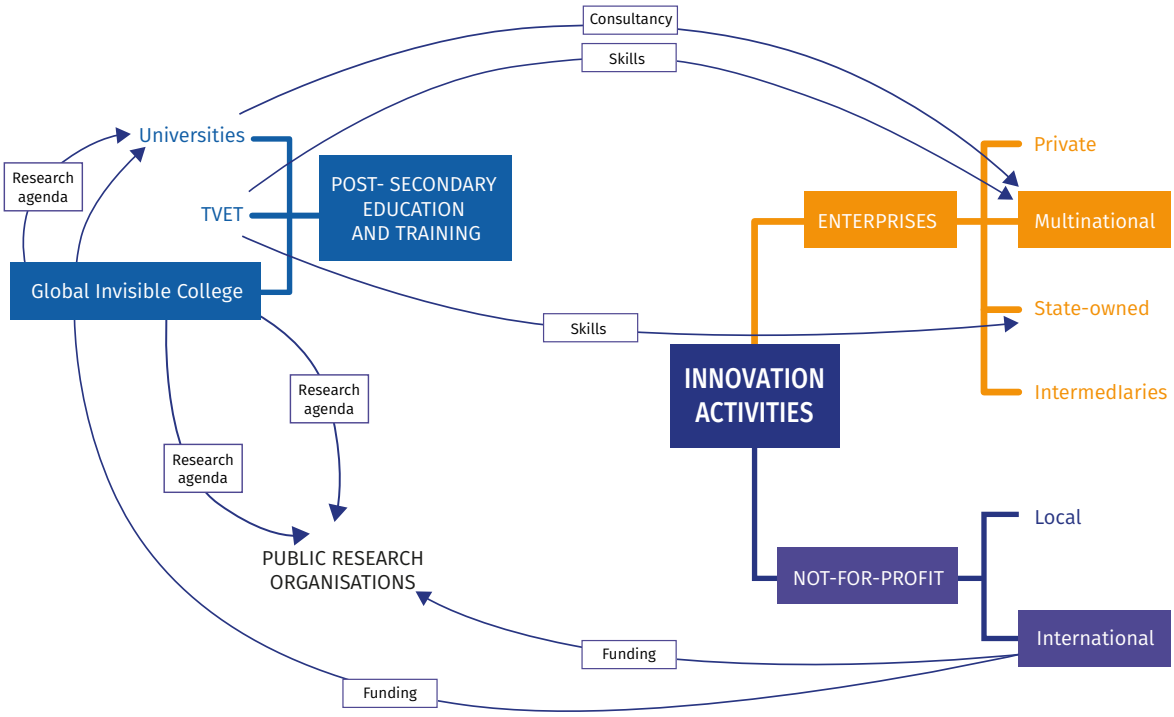
Once established, the NIF expects to provide a funding platform that is open to a wide range of innovation sectors through competitive funding calls. In the long term, the Fund envisions catalysing The Gambia's competitiveness by providing financial opportunities where new innovators and talents are supported to create value for national growth and increase the well-being of the people.

This document offers guidance on specific procedures that require assessment and examination to operationalise the Fund.

1.1 JUSTIFICATION FOR SETTING UP A NATIONAL INNOVATION FUND

The Gambia hosts a modest innovation system that displays weak linkages between the local actors, universities, public research organisations, enterprises, and civil society. Furthermore, the country's low global competitiveness and innovation ranking exacerbates challenges to national development. An analysis of The Gambia's scientific production suggests that universities function apart from the enterprise sector of the innovation system and instead have strong links with the Global Invisible College of foreign universities, pharmaceutical companies, donors, and public research organisations (PROs) (**Figure 1**). Based on this, setting up global governance on the NIS and specific control for national programmes would help ensure that The Gambia receives economic and social benefit from such research collaboration.

Figure 1 **Disarticulated innovation system**



Source: Authors

The Gambia innovation system thus fits the description of a 'disarticulated' system of isolated pockets with little diffusion to the rest of society (Soete and Freeman, 2007). A similar pattern appears in many developing country systems.

In terms of barriers to innovation, stakeholder interaction revealed that access to funding is the main obstacle. With the existing predatory lending practices, interest rates have skyrocketed from 10% to 34%, and small, micro and medium-sized enterprise (SMMEs) encounter high capital costs with unfavourable credit terms. Financial access is also constrained by the non-availability of collateral and consequent high commercial bank interest rates. Furthermore, women entrepreneurs in particular are restricted by limited access to collateral.

The NIF could help bridge the gap between universities that are disconnected from market actors and research agendas that are set externally to the system. Research and innovation systems around the world are experiencing profound changes. It turns out that the most effective strategies are those that deploy cross-sectoral processes operated by networks of institutions, public agencies, and the private sector. Therefore, the identification and development of crucial sources of information for use in monitoring start-ups and programmes scaled up from the Fund and science and technology foresight would help to anticipate future trends and needs.

2 The Gambia innovation system

Innovation is an essential driver of value creation, economic growth, and social welfare. Innovation is driven by an interest in finding new sources of economic growth, rising productivity, international competitiveness, and addressing social and environmental challenges.

2.1 SWOT ANALYSIS

Based on stakeholder engagement and an investigation carried out by the expert panel, the SWOT analysis (**Table 1**) provides evidence on the Gambia innovation system's strengths, weaknesses, opportunities, and threats. This brief analysis shows the various challenges and potential to be considered in implementing the NIF programmes and initiatives. The NIF could help to strengthen further the linkages between the productive sector and academics, support projects that can improve energy production, etc.

The SWOT analysis sets out to provide a basis for designing the NIF considering the country context. It provides an overview of the environment in The Gambia as regards challenges and areas potentially needing socio-economic improvement as well as of the wellbeing of society. This report refers to critical aspects for consideration in setting up the NIF.

Table 1 - SWOT analysis

STRENGTHS	WEAKNESSES
• Political stability • Ministerial champion • Standards authority established • Short time to start a new business • International scientific collaboration • On GMT meridian • Youthful profile of the population • Access to numerous incubators for entrepreneurs • Access to innovation/tech hub and accelerator programmes	• High levels of poverty and gender exclusion • UoTG under-capacitated • Bias toward international clinical trials • Inadequate innovation system linkages • Supply-side focus • Inadequate power supply • High cost of capital • Low levels of business R&D and innovation • Low private-public partnerships • High price of data/connectivity
OPPORTUNITIES	**THREATS**
• Setting the frontier for LDCs • Innovative project selection mechanisms • Grassroots innovations across the country • Engagement of universities/higher education • Partnerships between system actors • Development of low-cost innovation (e.g., apps) • Low cost of human capital • Identifying what works • On the GMT meridian	• Climate change - up to 8% loss of land projected • Brain drain • Corruption • Natural disasters • Covid-19 • High burden of diseases • Limited resources

Source: OACPS, PSF Country Background Report The Gambia

2.2 THE INNOVATION SYSTEM APPROACH

The MoHERST is the custodian of The Gambia's National Science, Technology, and Innovation Policy (NSTIP), which follows the widely adopted (and adapted) innovation systems approach. The NSTIP notes that the Gambian Government recognises STI's crucial role in socio-economic transformation. Therefore, it will be essential to develop and enhance the nation's STI system in such a way as to ensure that the current exponential pace of STI development no longer disadvantages citizens.

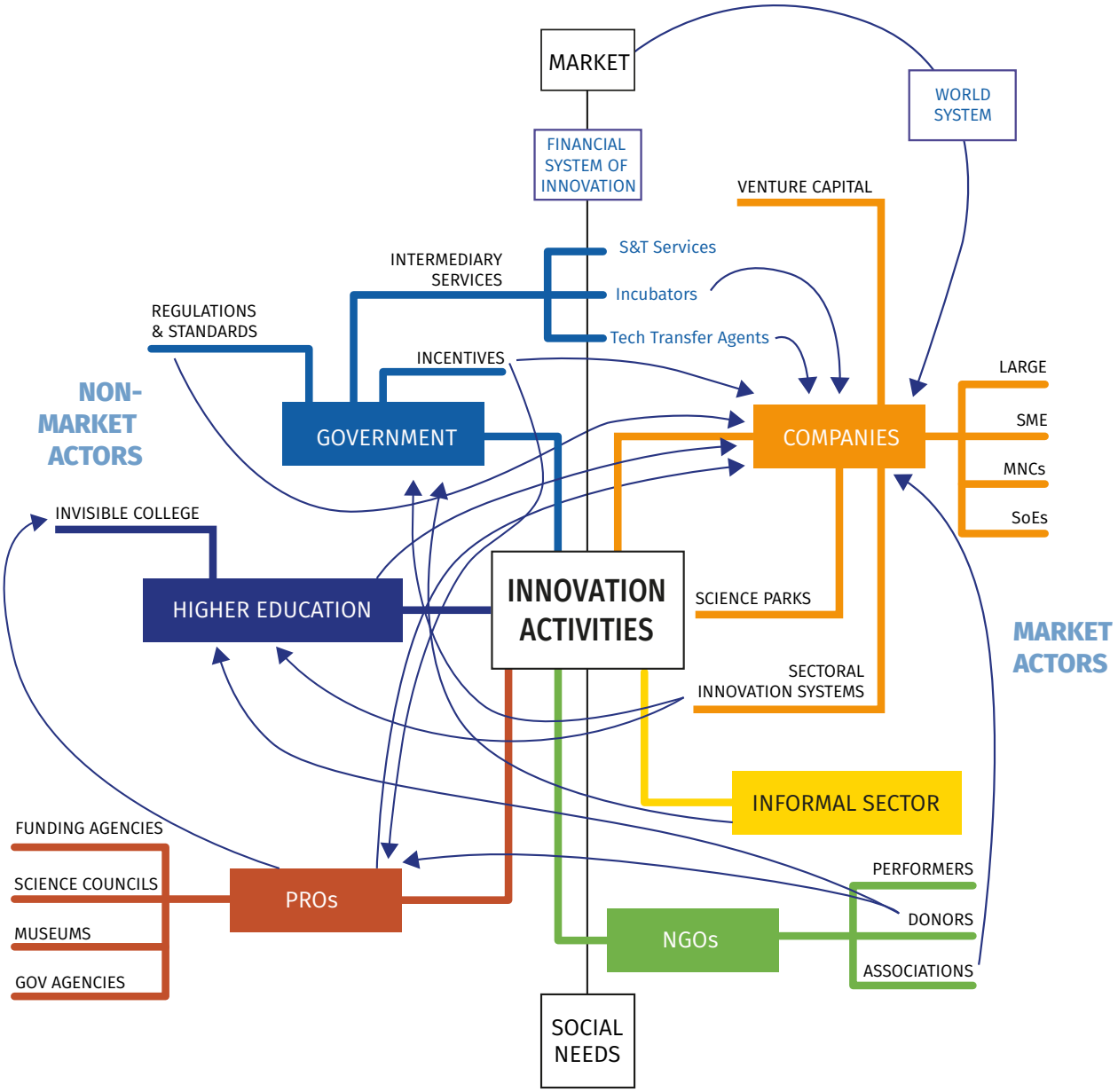
The systems approach argues that innovation arises from mutual interaction among enterprises, universities, and public research organisations (PROs). A variation on this theme is the Triple Helix model, which allocates a privileged status to universities as the fount of new knowledge. Another variation is the Quadruple Helix model, which includes civil society and social entrepreneurs as a fourth strand. The Quadruple Helix model draws attention to the vital interaction of the Triple Helix actors with communities, the informal sector, and other social partners who are both users of innovation and innovators themselves. The Quadruple Helix speaks to the importance of the contract between science and society, especially in this time of rising inequality, exclusion, technological and environmental challenges, and the dangers of zoonotic diseases.

The schematic in **Figure 2** depicts an innovation system with its main actors - enterprises, public research organisations (PROs), post-secondary education and training institutions (universities, universities of technology, technical colleges - the invisible college of science - and the not-for-profit sector NPOs). Linkages between the actors are shown as curved lines.

The government is included as a regulator, standards agent, provider of funding and incentives, and intermediary. Enterprises face national and global markets and have a strong connection with the domestic financial system of innovation. The PROs and post-school education and training institutions are non-market facing and generate public goods. The not-for-profit sector addresses social needs; the informal sector comprises market and non-market actors. Also important are incubators, science parks, and commercial scientific and technical service providers, for example, hydrology, testing laboratories, and environmental impact consultants.

The Gambia innovation system comprises a host of institutions, including, but not limited to the University of The Gambia, American International University West Africa, Legacy University, Islamic Online University, Gambia Technical Training Institute, Gambia Tourism and Hospitality Institute (GTHI), Medical Research Council, National Agricultural Research Institute, National Water Laboratory, West Africa Livestock Innovation Centre, National Public Health Laboratory, financial services, telecoms, food processing, the Start-up Incubator, the Disruptive Lab, Manduar Hub, The Woman Boss, MoHERST, National Accreditation and Quality Assurance Authority (NAQAA), Food Safety and Quality Authority (FSQA), Gambia Standards Bureau, Gambia Investment and Export Promotion Agency (GIEPA), National Environmental Agency (NEA), National Disaster Management Agency, National Museum, Gambia Chamber of Commerce and Industry (GCCI), Gambia Women's Chamber of Commerce (GWCC), Global Youth Innovation Network (GYIN), Association of Gambian Innovators, Social Development Fund, Nova Scotia Gambia Association, and the Centre for Innovation against Malaria.

Figure 2 **Innovation system, actors, and linkages**



Source: Michael Kahn ©2019

These domestic institutions may interact with global peers, which for The Gambia include the London School of Hygiene and Tropical Medicine, the US Centres for Disease Control, and other universities and PROs.

Building a functional innovation system calls for attention to five elements: framework conditions, the development, attraction, and retention of highly skilled staff, the provision of the necessary research and innovation infrastructure, promoting knowledge exchange, and supporting measurement, evaluation, and policy learning. The NSTIP addresses all of these elements.

Framework conditions refer to the role of the State in defining economic and industrial policy, ensuring adequate infrastructure and facilities, and developing and implementing innovation policy. Incentives such as tax breaks, soft financing, support for staff training, and state procurement promote innovation in firms, education, the government itself, and civil society. The NIF would be an enabler to address challenges through improving microeconomic and financial conditions in The Gambia, as outlined in **Table 2**.

These actions overlap with the industrial policy so that care is needed to make sure

Table 2 - Framework conditions for improving start-up and SME growth

Framework conditions	Challenges	Indicative solution
Access to finance	Access to appropriate finance Few financial support incentives	**National Innovation Fund**
Business environment & competition	Low competitiveness Low levels of creativity or innovation Crowding out of innovation activity by foreign interests Weak networks and collaborative linkages Weak university-industry links	
Increasing demand & growth	Access to markets Lack of market knowledge	
Human resource development	Inadequate special and technical skills, weak education systems	
Knowledge infrastructure & services	Moderate understanding of innovation Weak technology transfer approaches Science-led innovation models Weak BDS & Innovation Support Services	
Entrepreneurship	Low rates of entrepreneurship, start-ups Survival-based enterprise Lack of creativity in enterprise	

Source: Authors

that this is aligned with STI policy. The stock of researchers and potential innovators is another critical marker - to this end, governments ensure a sound school system and general healthcare. Chang et al. (2016) argue that these two expectations of government fall outside the span of control of industrial policy and innovation policy.

As shown in **Figure 2**, it is appropriate to include the financial system of innovation that bridges the global financial system and the national. The financial system of innovation includes private and state organisations that deploy financial tools toward innovation activity. Government roles include baseline financial support, regulations and registrars, and incentive mechanisms. The latest thinking on the state's role challenges the school of 'lean government' by arguing that governments should play the role of social entrepreneurs rather than 'leaving it to the market.' A contemporary exponent of this position is the economist Mazzucato, whose book, 'The Entrepreneurial State' (2011), makes the case that governments have always been risk-takers in innovation. The publicly funded research that gave us the World Wide Web is a case in point. Private sector contributions include internal deployment of own resources, external sources from lending organisations, and various contractual agreements with third parties through grants, loans, equity shares, and the like.

The proposed NIF is a state incentive mechanism that seeks to boost innovation across the board.

2.3 TECHNO-ECONOMIC CHARACTERISTICS

The Gambia's gross domestic product (GDP) stood at USD 1.9 billion in 2020, up from USD 1.67 in 2018, and is ranked 185th globally and 50th in Africa. The industrial sector is dominated by small-scale manufacturing and accounts for 15.8% of GDP, agriculture for 21.8%, and services approximately 54.5%. Imports amounted to 32% of GDP, a considerable imbalance compared with 7% for exports.

The Gambia is ranked 124th of 141 countries in global competitiveness and is behind most of its African peers (WEF, 2019). This low ranking results from inadequate institutions and infrastructure and an unfavourable macroeconomic condition. The 2020 Doing Business survey (World Bank, 2020) ranked The Gambia 155th among the 190 countries included in the comparison. The mobile penetration rate stood at 140% in 2015, with an Internet subscription rate of 19%[1].

The Gambia's innovation capability score of 30.5 places the country rank 107th in the world. The innovation capability score includes objective measures: R&D expenditure of 0.1% of GDP, 113 scientific publications/million population, 0.17 patent applications/million, and 62.9 trademark registrations/million population[2]. WIPO recorded 16 patent grants to non-residents in 2019 and 115 trademark filings to non-residents in 2019[3].

Scientific publications concentrate on the health sciences, with co-authors in the United Kingdom, United States, Belgium, Austra-

1 https://tradingeconomics.com/gambia/competitiveness-index
2 https://knoema.com/GII2018Aug/global-innovation-index?regionId=GM
3 https://www.wipo.int/members/en/details.jsp?country_id=66

lia, Nigeria, South Africa, and Kenya. Strong collaboration with Europe and the United States arises for historical reasons, and more recently through donor-funded projects. Gambian nationals have participated in cutting-edge work on the Oxford University/Jenner Institute Covid-19 vaccine manufactured by AstraZeneca. Such activity points to the strong relationships fostered through the Invisible College of Science.

The digital economy in The Gambia is active - there is high curiosity regarding innovation and digital transformation, with a tech hub and several incubators striving to accelerate the process. The pandemic has accelerated the penetration of digital technologies into all aspects of economic and social life. Provided adequate connectivity, people, entrepreneurs, governments, and other formations may use modern technologies to promote well-being. The downside is that the same technologies may exercise societal control. The positive applications must outweigh the negatives to ensure that more rapid progress is made toward meeting the SDGs.

The commodity-exporting countries of the 'South,' faced with unfavourable terms of trade and tariff barriers, have experienced significant difficulties in entering the world market for manufactured goods. Economist Ha Joon Chang explains that the 'North' (including the Asian Tigers) has now drawn up the ladders that enabled them to gain market dominance. This metaphor gives rise to the idea of finding the 'missing ladder' as a mechanism for firms in resource-rich countries to break the path dependencies of the colonial legacy. This quest lies at the heart of industrial and innovation policy. It is the view of this PRR that the two are inseparable. Industrial policy is 'traditionally' concerned with manufacturing, but increasingly focuses on the services sector. Irrespective of the focus, innovation activity is central to the search for new opportunities so that innovation can be seen as the ladder toward success.

The provision of support through the NIF should make it possible to get a foothold on the ladder and progress as far up the ladder as possible.

3 Methodology and analysis

The approach used in this study combined quantitative and qualitative methods. It comprised three core areas of activity:

- Desk research: this process includes literature review, reports, and secondary data analysis. In preparation for the fieldwork, we conducted a preliminary study of the information resulting from the desk research. During this phase, the experts used and shared several sources of information.
- Fieldwork: the second activity consisted of a 5-day expert panel visit to The Gambia to conduct key stakeholder interviews (October 11 to 15, 2021) and focus groups, which together captured the opinions of over twenty-three (23) institutions/organisations (**Annex II**) from across relevant sectors in The Gambia, (i.e. government, universities, public research institutes, business community, intermediary organisations, incubators, innovation labs, parliamentarians, international development organisations). In addition to the focus groups and individual interviews, an interview was conducted with the Minister and the Permanent Secretary of MoHERST.
- The experts conducted regular online meetings with MoHERST experts and key stakeholders to capture their feedback to ensure that their work aligned with the project's aims.

3.1 FIELDWORK FINDINGS

The information gathered about innovation in The Gambia appears in showing responses to questions about innovation in The Gambia. The respondents provided various ways on how innovation can contribute to the NDP goals. This includes:

- contributing to sustainable growth;
- generating jobs;
- improving employment opportunities for youth;
- improving delivery of goods and services;
- improving the education and health sectors;
- revamping the energy sector;
- boosting the agribusiness sector;
- boosting many local manufacturers;
- introducing innovative uses of groundwater and rainwater and
- an innovative mechanism for access to finance.

Some of the recent innovations highlighted by stakeholders in The Gambia included, among others: rapid COVID tests; innovations in online teaching; banking services; mobile money/banking apps; agri-business products & processes.

The results and feedback from the public and private sector stakeholders are as follows:

Innovation incentives: Barriers to innovation include a lack of finance for innovation. This is the first obstacle raised by all stakeholders, followed by a lack of credit or private equity. Equally, a lack of skilled employees was raised, especially in connection with the high maintenance costs for equipment.

Government structures: The feedback suggests the need for a governing body or an Advisory Board. This body will, among other

things, be responsible for defining the Fund's strategic orientations. As a second choice, having an expert committee (expert panel/ technical advisory committee) with proven expertise in innovation was also strongly recommended by respondents. It is noteworthy that the choice of option depends much more on the respondent's sector. Public sector representatives most often opt for a board with a technical or expert committee. In contrast, the choice of having only one expert group/ committee was raised by many members from the private sector.

Fund management: In managing the fund, stakeholders suggested several possibilities discussed in this chapter. Some respondents proposed that the government control the NIF through MoHERST, which has a mandate to define and oversee innovation policy at the national level. The Fund will be an instrument for the ministry to implement its strategic options for innovation.

Another group considered having an independent body/agency oversee the Fund to be more appropriate. The options identified were:

- A separate entity comprising individuals from various sectors;
- A public-private entity as a standalone organisation;
- Private sector players such as GCCI;
- A public-private partnership model.

Others suggested their organisation should do it, as they believe they have the required experience in managing funds.

Tripartite management (ministry, private sector, and academia) is another option and a committee composed of the government and innovators. Some participants also expressed the idea of a Fund manager to manage its day-to-day operations.

Funding options: Data collected show that the opportunity to fund seed & early-stage innovations is predominant, despite the high funding risks in The Gambia. The Gambia is not an advanced country where one can find advanced or/and final stages of creativities growing to scale.

However, the NIF will be flexible in funding all phases of the entrepreneurial lifecycle. It will be not restricted to only seed or early-stage.

From the point of view of the private sector and other stakeholders, flexibility in funding innovations is preferred and was proposed for all stages and sharing of funds.

Funding support options: Providing grants is the first modality of support that most participants suggest. As a second option - loans or co-financing are recommended, especially to ensure the Fund's sustainability. Mentorship & training is an option recommended by public research organisations, entrepreneurs, and other stakeholders (see **Annex ID**). Scholar choice is not recommended, as this type of support already exists.

4 International experiences

Innovation Funds have become a favourable mechanism to promote innovation activities and are found across the global innovation landscape.

Three peaks of interest in Innovation Funds are evident - a first in the early 2000s when the EU, US, and China were articulating their innovation strategies, a second in the wake of the 2008 financial crisis, followed by growing concern with the attainment of the SDGs, and the highest peak yet, during the COVID-19 period.

Virtually all high-income and middle-income countries have set up an Innovation fund.

Examples of such funds include:

- Sectoral Innovation Funds of Brazil[4]
- Strategic Research Fund, Technology Development Fund 1 and 2 Bridging Fund, and the Applied Innovation Fund that supports the Grand Challenge of Malaysia[5]
- Innovate-UK[6]
- Baltic Innovation Fund[7]
- Portugal Social Innovation Fund[8]
- Botswana Innovation Fund[9]
- Technology Innovation Agency (South Africa)[10]
- Ignite Innovation Grant of Jamaica[11]
- Kenya Innovation Agency.[12]

Examples of Innovation Funds in the Least Developed Countries include:

- Rwanda Innovation Fund[13]
- Vietnam National Technology Innovation Foundation[14]
- Mozambique National Innovation Fund[15]
- Bangladesh Innovation Fund[16]
- Tanzania National Fund for the Advancement of Science and Technology.[17]

The above are overwhelmingly government initiatives. Innovation funds complement international development aid, multilateral agencies, development banks, commercial banks, and venture-capital funds. Examples include the UK DFID Human Development Innovation Fund in Tanzania, UNICEF Uganda Innovation Fund, Asian Development Bank High-level Technology Fund, and the UN Technology Bank.

NESTA (2018) developed a helpful categorisation of financial instruments deployed toward innovation activities, incubation, and early-stage funding. An adaptation is shown in **Table 3** on the next page.

4 https://www.oecd-ilibrary.org/economics/oecd-economic-surveys-brazil-2006_eco_surveys-bra-2006-en
5 https://www.mosti.gov.my/malaysia-grand-challenge/
6 https://www.gov.uk/government/organisations/innovate-uk
7 https://www.mkm.ee/en/objectives-activities/economic-development/entrepreneurship-and-innovation#baltic-innovation-fund3
8 https://inovacaosocial.portugal2020.pt/en/financing/social-innovation-fund/
9 https://www.bih.co.bw/botswana-innovation-fund/
10 https://www.tia.org.za/
11 https://dbankjm.com/ignite/
12 https://www.innovationagency.go.ke/funding
13 https://www.angazacapital.com/the-rwanda-innovation-fund
14 https://fundit.fr/en/institutions/national-technology-innovation-foundation-vietnam-natif
15 https://fni.gov.mz
16 https://a2i.gov.bd/innovation-lab/#1509050558525-28a4c045-101f5c39-5bb2
17 https://www.costech.or.tz/funding

Table 3 - Innovation Fund financial instruments		
Funding tools	**Description**	**Notes**
1. Grants	Transfer payment	Familiar and straightforward; no immediate return expected; low management overhead
2. Grants for R&D funding	Stage-gate payments as research progresses	Suitable for high risk/reward projects; low management overhead
3. Grants/equity in accelerators for late-stage projects	Grants/ equity shares for new companies; management advice	A higher success rate for start-ups; more complex
4. Grants convertible to loans or grants with mandatory royalties	Conditional on revenue targets	Recycles money, higher management overhead
5. Grants convertible to equity	Conditional on revenue targets	Recycles money, higher management overhead
6. Matched crowdfunding	Match to be achieved	Risky; possible stakeholder buy-in; uncertain
7. Loans	Interest-bearing	Recycles money; actual rate of return; low management overhead
8. Project-specific loans	Loans linked to specific projects, repayable on success	May recycle money; open to gaming; higher management overhead
9. Convertible loans	Rights to convert into equity	Biased to the lender; may deter initiator application; higher management overhead

Source: Adapted from NESTA (2018)

Of the above, Grants (1 and 2) and Loans (7) may be managed from within a government department with in-house financial, administrative, and project management skills. The other more complex tools may best be managed through a separate or financial services organisation.

Whichever funding tool(s) is/are deployed, considerations that shape the progress of the work toward innovation should comprise:

- Good governance;
- Rational project selection and termination criteria;
- Specification of intellectual property benefits, mainly where indigenous knowledge is applied;
- Consideration of funder walk-in rights;
- Inclusive innovation regarding gender, age, region, and social stratification;
- Responsible and open research and innovation;
- Demonstrated contribution to attaining the SDGs, and minimisation of negative externalities;
- Sound ethical practices.

4.1 LESSONS FROM AFRICAN CASE STUDIES

Four African case studies, two from middle income and two from the least developed countries listed above, are now considered.

Botswana is a landlocked, middle-income country with a small population of 2.5 million. Botswana exports diamonds, processed and raw metals, and imports foodstuffs and manufactured goods. Botswana is a Southern African Customs Union member, which acts as a brake on industrial diversification. The country's innovation system is small - its patent applications ranked 134th in the 2019 Global Competitiveness Report (WEF, 2019).

Botswana has three universities, a technical college, and four PROs - the Botswana Innovation Hub, Botswana Institute of Technology Research and Innovation (BITRI), the National Health Laboratory, and the Botswana Vaccine Institute.[18] BITRI is part of the UK's National Institute for Health Research Global Health Research Unit. The Botswana Innovation Hub houses the Innovation Fund (IF), a key enabler that provides seed and early-stage funding to companies or organisations. These may bring in universities and research organisations as sub-contractors. The Innovation Fund thus targets the private sector. The IF also provides grants for skills transfer, institutional and on-the-job training. Governance is vested in an independent Oversight Committee with a secretariat in the Botswana Innovation Hub. A comprehensive set of guidelines that specify eligibility, exclusions, applicable costs, non-qualifying expenditures, proof of market requirements, and grievance procedures is in place.

The Innovation Fund is entirely government-backed. It had no external evaluations identified.

The first-round awards were: development of an unmanned aerial vehicle (UAV); vehicle permit payment app linked to the Botswana tax service; pre-payment meter remote top-up; poultry waste conversion; a PV power pack; intelligent traffic management system software; and plastic waste bricks for affordable housing.

Mozambique is an LDC with a population of about 33 million. The country's development path has been interrupted by conflict and natural disaster, with the promise of significant revenue streams from oil and gas exploitation on hold. Mozambique's knowledge infrastructure is limited, and the innovation system is both disarticulated and heavily dependent on donor support for operational costs. GERD stood at 0.30% of GDP in 2018.[19]

Mozambique has seven public universities, seventeen private universities, eleven PROs, and ten regulatory bodies. The oldest higher education institute (HEI) is the Eduardo Mondlane University, which has a lot of staff with doctoral degrees. The leading PROs are the Institute for Agricultural Research and the National Institute for Fisheries Research. The Manica Centre for Institute Research Medical operates as a private institution.

The Fundo Nacional de Investigação (FNI - National Research Fund) was set up in 2005. The Fund invites proposals for research and

18 http://www.bitri.co.bw/bitri-nhl-collaboration/
19 Global Competitiveness Report 2019.

innovation projects through open calls with pre-assigned funding envelopes. These were subject to external review, after which a steering committee made recommendations to the then Ministry of Science and Technology.

The FNI is a legitimate, professional, and competent agency for promoting research in Mozambique.[20] In its early stages, FNI was performing the function of a science grant council, was reliant on international donors, and had insufficient capacity to deliver its mandate. These institutional weaknesses resulted in the significant donors re-structuring their support.

The FNI experienced challenges with identifying external reviewers and concerns that proposal quality was often poor, priority areas were often not addressed, and few proposals extended beyond the national capital. Overall, scarce resources made prioritisation, balance, and interdisciplinarity tricky. There seemed to be unrealistic pressure for the demonstration of short-term results.

The SIDA evaluation (Elming and Abrahamsson, 2010) did not find evidence of tangible outcomes.

Rwanda is an LDC with a population of 13 million, with fertile, arable lands and massive agricultural, mineral, and renewable energy potential. Considerable effort has gone into developing knowledge infrastructure.

The National STI Policy (2013-2022) is diverse in its intent. It declares mandatory university-industry participation as a requirement for funding, the establishment of private R&D funding instruments such as venture capital, crowdfunding, seed funds and donations, incentivisation of industry, and a 'mechanism to promote research careers across the whole R&D and innovation value chain.' These intentions are given expression through two funding streams.

The National Council for Science and Technology manages the National Research and Innovation Fund, mainly supporting academic research. An online system facilitates research and innovation calls, submissions, reviews, grants, research permits, electronic payments, and monitoring.

In late 2018, the Rwanda government entered into a ten-year USD 30 million loan with the African Development Bank. The Rwanda Innovation Fund (RIF) provided equity financing for tech-enabled SMEs, trained tech-oriented entrepreneurs in business planning and management, and registered intellectual property rights. The RIF will also support capacity building in incubators and accelerators. It is forecast to create more than 2,000 direct jobs and over 6,000 indirect jobs over its 10-year life cycle.[22] The Government of Rwanda committed USD 8.6 million to the RIF.

A parallel instrument is the MEA Innovation Fund supported by the African Development Bank and Ignite Investments Angaza Capital to invest in health-tech, agri-tech, ed-tech, smart cities, and clean technologies.[23] No details of the application processes to access the RIF are available.

The RIF receives support from the government, donors, African Development Bank, and other private funding agencies.

20 https://openaid.se/en/activities/SE-0-SE-6-5114008003-MOZ-32182
21 https://openaid.se/en/activities/SE-0-SE-6-5114008003-MOZ-32182
22 https://www.minecofin.gov.rw/news-detail/rwanda-innovation-fund-receives-frw-25-billion-financing-from-afdb
23 https://www.angazacapital.com/the-rwanda-innovation-fund

South Africa, the southernmost country of Africa, is a middle-income economy with a large population of 60 million. The highest level of industrial diversification on the continent, exporter of coal, diamonds, raw and processed metals, automotive goods, and armaments, is largely self-sufficient in food production. South Africa imports significant volumes of medium and high-tech manufactured goods and is the pivotal member of the Southern African Customs Union. The innovation system is modest and includes several sectoral innovation systems (agriculture; armaments; chemicals; viticulture). The country has an extensive set of universities and PROs, and many business entities perform in-house R&D. Even so, GERD has stagnated at around 0.8% of GDP over the last decade, possibly as a by-product of general economic malaise[24].

In 1997, the new Department of Arts, Culture, Science, and Technology instituted a competitive Innovation Fund intended to promote industrial competitiveness, improvements in quality of life, environmental sustainability, and the harnessing of information technology. Projects would be funded through open competition and encourage networking and cross-sectoral collaboration. An ever-increasing management burden led the Department of Science and Technology to invite service providers to bid for the management of the Innovation Fund that migrated to the National Research Foundation in 2000, where it remained until 2010. After that, the Innovation Fund was incorporated into the funding instruments of the new Technology Innovation Agency.

It is most beneficial to consider the first phase of the Innovation Fund when it was an in-house entity. The first round of calls for proposals of the Fund invited bids according to specified themes, for example, ICT, crime prevention, advanced manufacturing, or health. Grants of up to USD 1 million per year for three years were awarded to consortia of universities, PROs, or industry researchers. The projects tended to be of an applied research character with the expectation of possible use. Project selection was based on scientific expert opinion and followed the concerned unit of the ministry. They promoted thematic areas through annual calls; later proposals were continuously accepted in all fields. Finance was in principle available for all stages of the development cycle, including what were termed 'venture capital loans' and assistance toward the cost of patenting.

A vital process innovation was the adopting of a 'living evaluator' model, whereby evaluators were required to show commitment to their project through to completion and ex-post evaluation. In the final years of operation an attempt was made to monitor progress according to NASA Technology Readiness Level scoring, but with limited benefit.

Over its 13-year lifespan, the Innovation Fund disbursed some USD 200 million of grant financing, though there was a shift toward partial equity funding in the later years. According to the STI report, about 232 projects in South Africa were supported through the Innovation Fund. However, the expectation of success from a selection of 10 projects during the life span of the Innovation Fund support was minimal. The Fund created 304 job opportunities, but 91 of these were in a company that failed to accelerate and later ceased operations. Another 110 jobs were associated with an incumbent company. Ultimately the Fund generated returns of about USD 400 000 from

24 www.tradeingeconomics.com

prior investments.[25] A team of independent evaluators from the Stellenbosch University Centre for Research on Evaluation, Science, and Technology conducted an assessment. The aim was to find out that the main achievements of the Innovation Fund are that it contributed to building collaborative networks, attained some notable successes, encouraged many researchers in their work, and made researchers more aware of the importance of recognising intellectual property. No blockbuster technology emerged from its stable of projects. In reality, the total amount of funding and the small size of projects prevented this.[26]

One might speculate that the limited successes reflect the project selection and size. The South African Innovation Find was entirely state-funded.

4.2 FINDING THE LADDER

The most obvious learning is that the term 'Innovation Fund' and its practical manifestation take on various forms. This fuzziness partly arises because of the interchange of science, research, innovation, and technology. The Botswana Innovation Fund targets promising near-market projects, not research activities in PROs or universities. Up to 2010, South Africa's Innovation Fund predominantly focused on the use potential of pre-existing applied research competence, with awards dominated by PROs rather than enterprises or universities. The Mozambique Fund is a proxy science granting council, and the Rwanda Innovation Fund is essentially a work-in-progress.

A second learning point is the difficulty associated with project selection. Ultimately, officials are required to sign off on behalf of the government and, in doing so, are allocating government funds. They are expected to do this based on the recommendation of experts, who may or may not provide an adequate understanding of the likelihood of a project's success on the testbed, let alone in the market. Allocation is made under pressure to show results and carries a risk of moral hazard.

The third implicit point in the above is the general absence of evaluations. In this regard, the South African experience may be worth noting, where the living evaluators were required to perform the ex-post evaluations. These are on record, and a summary publication was compiled.

The fourth is the matter of transparency, or in most cases, the lack thereof. At a minimum, it might be appropriate for lists of applicants, successful applicants, and appeals to be placed in the public domain. This would also serve as a confidence-building mechanism.

The design of any intervention rests on an explicit or sometimes implicit adoption of the theory of change (TOC). The principle of the TOC helps to achieve positive linkages between the intended impact and the actions

25 Innovation Fund Annual Report 2009.
26 A Review of the National Research and Development Strategy (NRDS) and Ten-Year Innovation Plan (TYIP). Pretoria, DSI and NACI, 2020.

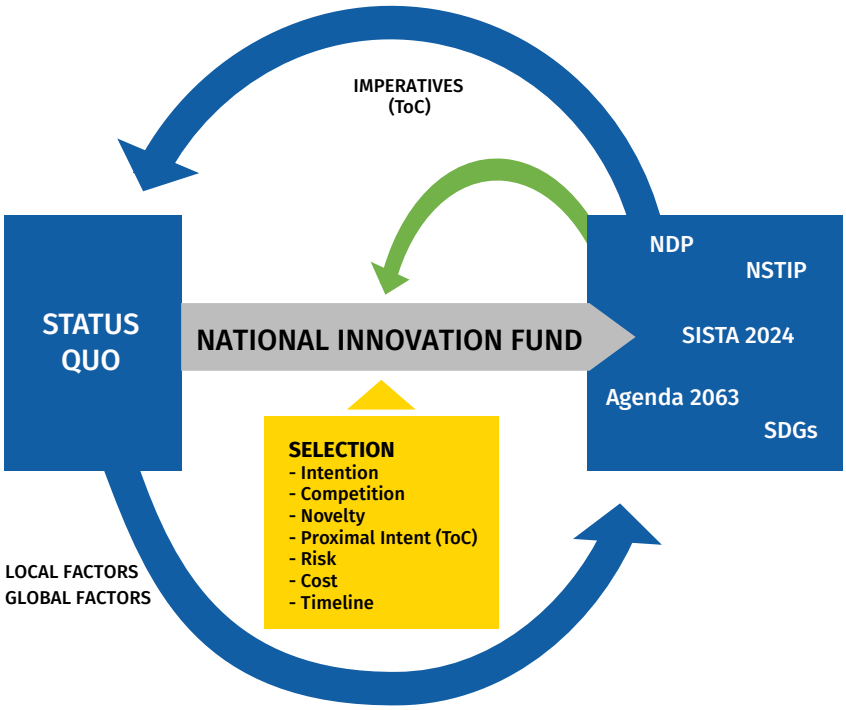
that are foreseen to achieve such an impact. Consequently, the approach for designing the NIF embraces this principle.

Accordingly, the intervention is to be conceptualised from intended outcomes and then works back to the inputs and activities needed to bring these about. This approach, often used in environmental 'backcasting,' explains how the interventions are intended to produce the desired results, step-by-step, formulating the assumptions and constraints to be met to transform inputs and activities into intended outputs and outcomes. The approach supports the formative and summative monitoring and evaluation of projects.

Therefore, where the main activity of an Innovation Fund is to support R&D, the implied assumption is that R&D is the crucible of innovation, as expressed by the so-called linear model, as in South Africa. If such support is to achieve results and impact immediately, project selection should take this as the uppermost goal. Expressed in this manner, the NIF is structured according to its overarching TOC.

The various projects selected for support will be structured according to their TOC, which should be consistent with the overarching TOC. This complex set of dependencies is captured in **Figure 3** below.

Figure 3 **The theory of change**



Source: Authors

To identify and climb the ladder toward NDP and NSTIP goals, careful project selection, support, and, where necessary, criteria for termination are crucial to success. The various drivers and feedback streams are shown, along with key considerations that will inform project selection.

What is critical in achieving the desired outcomes is the selection process. If a project design proposal does not have readily attainable and measurable outcomes, then the probability of success will be reduced.

With the limited resources at its disposal, careful identification and selection will be essential for the NIF.

To this end, it may be helpful to draw on an approach used by the US Defence Advanced Research Projects Agency (DARPA). The DARPA may be an exemplar of the Entrepreneurial State in action, in that many of its projects have had a world-shaping impact, the Internet being one such.

The DARPA project selection method is (deceptively) simple and requires that the applicants explain:

- Inlay terms, what is it that they intend to do?
- The theory of change
- What the state of the art looks like?
- Who are the competitors?
- The milestones to completion
- How the project's success will be measured?
- The risks involved in the work
- Who is to do the job, and at what cost?

This method allows for rigorous monitoring of progress. It is simpler than, for example, the Technology Readiness Level[27] system that engineering and technology-intensive organisations deploy. As mentioned above, the Technology Readiness Level method was of patchy value in the case of the South African Innovation Fund.

For the NIF to be a ladder toward national development, the selection (and monitoring) process should include parties with demonstrated experience in innovation, both hard and soft, gained in manufacturing or financial services.

Project design and selection are also mission-critical.

27 https://www.nasa.gov/directorates/heo/scan/engineering/technology/technology_readiness_level

5 Setting up and managing the National Innovation Fund

5.1 INTRODUCTION

Capital is often challenging for small businesses and start-ups, high-risk ventures. The NIF should aim to support entrepreneurs who may not qualify for traditional financing options (if they exist). These investments help bridge a critical funding gap, thus allowing enterprises to better position themselves for growth and success. This supports the development and adaption of practices, tools, resources, and technologies. The National Innovation Fund furthers scientific, research, and development activities. Given the innovation gaps The Gambia is experiencing and the findings of fieldwork, the NIF is a pertinent instrument.

The NIF should foresee supporting all potential sectors of the economy with particular emphasis on innovative technologies as part of its mission to achieve growth. In this way, the NIF will increase the productivity and competitiveness of these economic sectors, which has the potential to contribute to the economic development of The Gambia. The NIF should promote the implementation of projects beneficial to The Gambia's national, impactful development, designed to raise economic efficiency, improve enterprises' innovative potential and technological level, and boost economic growth.

The focus should be to spur and accelerate the growth of innovation-focused enterprises at various revenue levels and funding stages of the start-up lifecycle. The NIF should aim to improve the market outcome for enterprises and society and increase possible collaborative, multi-agency, private-public partnerships. In addition, the Fund is designed to spur and support innovation and adaptation by entrepreneurs as they adapt to the new economic realities caused by the COVID-19 crisis and the economic downturn. Supporting entrepreneurs as they navigate the new economic reality increases our economy's potential for success and future competitiveness. Entrepreneurs will need to innovate to stay competitive and advance in the 'New normal'. The Fund will help leverage more private-public partnerships to achieve innovative and impactful solutions for the national development of The Gambia. The Fund focuses on financial support to vital economic sectors, specifically innovative start-ups, SMEs, agriculture, and life sciences.

This document aims to define uniform lending, co-financing, and grant policies, which will govern the NIF in the Gambia. The guidelines will pertain to all loans or grants made by the oversight Advisory Board and MoHERST in its outreach to start-ups and existing businesses in The Gambia. **Annex II** includes tools to help design and operationalise the NIF to the national context.

This report stands as a living document updated by the Advisory Board and will expand in terms of impact, product, and policy. We recommend that the NIF be reviewed periodically, to highlight the following ***goals*** and ***market*** aspects:

> The ***goal*** of The Gambia's NIF is to promote access to capital to underserved communities - to mobilise investments to help bridge a critical funding gap, thus allowing enterprises to better position themselves for growth and success. This supports the development and adaption of practices, tools, resources, and technologies. The National Innovation

Fund furthers scientific, research, and development activities in The Gambia. Additionally, it will promote job creation in communities to increase economic growth.

The ***market*** served by the NIF is primarily to support all industries. Still, it places a particular emphasis on innovative technologies as a part of its mission to achieve growth, thereby increasing its potential for contribution to the economic development of The Gambia. The goal of the Fund is to promote the implementation of projects beneficial to The Gambia's National Development that are impactful, designed to raise economic efficiency, and improve the innovative potential and technological level of enterprises, with a view to boosting economic development. Moreover, there is an emphasis on intentionality, on enterprises that are women-owned, rural, and low-income based.

This document provides the following critical steps or checklist that should be taken seriously during the design and operationalisation of the NIF, see **Table 4**.

Table 4 - Necessary steps and considerations in designing the National Innovation Fund

Pre-launch considerations	
Preparatory design steps	• Develop an evidence base for the Fund's business case. • Define the overarching objectives, target beneficiaries, grantees, and geographic location. Clarity in fund objectives helps ensure congruity between what government and grantees aspire to achieve. • Agree on the level of involvement and influence of the fund manager over each fund aspect. • The selection process should draw on the views of independent practitioners and academics not employed in the delivery of the Fund to ensure a fair and transparent process that protects those working in the Fund, especially the fund manager, from accusations of bias. • Consider an independent selection committee. • Promote the Fund to potential funders to deepen the pool of funding. • Establish the risk appetite of the Fund. Accept that projects are untested, and that a certain number may fail. • Develop a robust risk management strategy.
Develop eligibility and selection criteria for potential grantees	• Clear eligibility criteria define the competition rules, while selection criteria determine how the winners are chosen. • Ensure clarity on funding arrangements with grantees. Options include entire grants, incorporating loan elements alongside commissions, or securing a level of matched funding from grantees.
Promote the Fund to potential grantees	• Promote, inform, and demonstrate the merits of the Fund to potential grantees. International experiences show that targeted workshops with potential grantees help forecast the scale of interest and improve the eligibility and quality of applications.

Table 4 - Necessary steps and considerations in designing the National Innovation Fund	
Implementation consideration	
Performance assessment and results measurement	**(a) Assessing grantee performance** • Outline what grantees will report on and when, and how their reporting will be assessed, analysed, and presented. • Overburdening grantees with reporting requirements should be minimised. • Consider standard performance measurement indicators for projects with shared characteristics such as SMEs and early-stage innovations. • Consider designing standardised templates for reporting. • Factor into the design an independent mechanism to assess annual and final project reporting. • Establish criteria for judging when project performance is inadequate and what actions are required (including an option for closure). • Incorporate how the quality of evidence from projects on annual and final reports will be assessed and verified through field validation. • Develop a management information system to collate and analyse performance data. • Management needs to decide whether the fund manager will assess the reporting and provide tailored feedback to grantees. • Capacity support should be provided to ensure quality reporting. Create incentives for robust reporting. • Ensure that all approved projects have clarity about their aims, objectives, and mechanisms to assess achievement (e.g., results chain supporting the monitoring and evaluation processes). **b) Assessing fund manager performance** • Set key performance indicators for fund management (management of risk; appraisal of projects; disbursement of funds within the timeframe; grantee perception of fund management processes; delivery of capacity building and lesson sharing).
Financial management oversight	• Define a due diligence process before the funding of each project. • Include a stringent financial oversight mechanism to manage disbursements and check grantee expenditure. • Conduct workshops to build the capacity of grantees to manage and report on finances.
Managing risk	Understand the risks associated with the Fund at all levels, such as operating environment risks, financial mismanagement, and weak grantee implementation capacity. Establish a risk management strategy that details potential risks and actions to address them, e.g. • Maintain a register to track, monitor and support at-risk projects. • Communicate government and other funder's risk appetite to grantees and clarify when implementation challenges must be reported. • Reduce the risk of fraud through random audits and quality assurance visits, e.g., through the M&E team.
Building grantee capacity	Design mechanisms (round tables, workshops, seminars, newsletters) for sharing knowledge and expertise, mainly as new funding priorities arise in practice areas such as value for money, beneficiary feedback mechanisms, quality of evidence and gender mainstreaming.

Table 4 - Necessary steps and considerations in designing the National Innovation Fund	
Learning considerations	
Make systemic change part of the design	Systemic change can be factored into a National Innovation Fund design by: • Identifying or anticipating the development of critical partnerships to take any successful approaches to scale. • Allowing a sufficient timeframe to capture the impact of national policy change or improvements in service delivery or markets, which may only be felt after the lifetime of an individual project or innovation.
Capturing learning	What works and what doesn't work concerning funding management processes. Critical audiences for learning are the government or relevant ministries, the fund manager and, to some extent, grantees, who will have perspectives and whose views can be elicited by an annual perception survey, e.g. • Which approaches contribute to job creation and reduce poverty and inequality at individual projects. Critical audiences for learning are grantees, their partners (including local and national governments), international investors and the fund manager. • Portfolio analysis provides insight into the fund's performance in meeting its overarching objectives and into emerging lessons at an aggregate level. Key audiences include the funders and the fund manager.
Fund evaluation	Grantees/loans and the Fund should agree on evaluation objectives at the outset with a defined budget allocation. Key aspects to evaluate include: • The efficiency of the Fund as an instrument, e.g., the success of the competitive selection process in choosing substantial projects and developing their capacity and learning potential. • The effectiveness of the fund management processes and procedures. • The results achieved, what has succeeded and what has not, and the explanations behind these results.
Outreach and dissemination	At the outset of the Fund, consider who in the broader development community is interested in its performance and results and learning from it. • Conduct a stakeholder analysis to target key audiences and consult on what they want to know, when and how.

Source: Authors

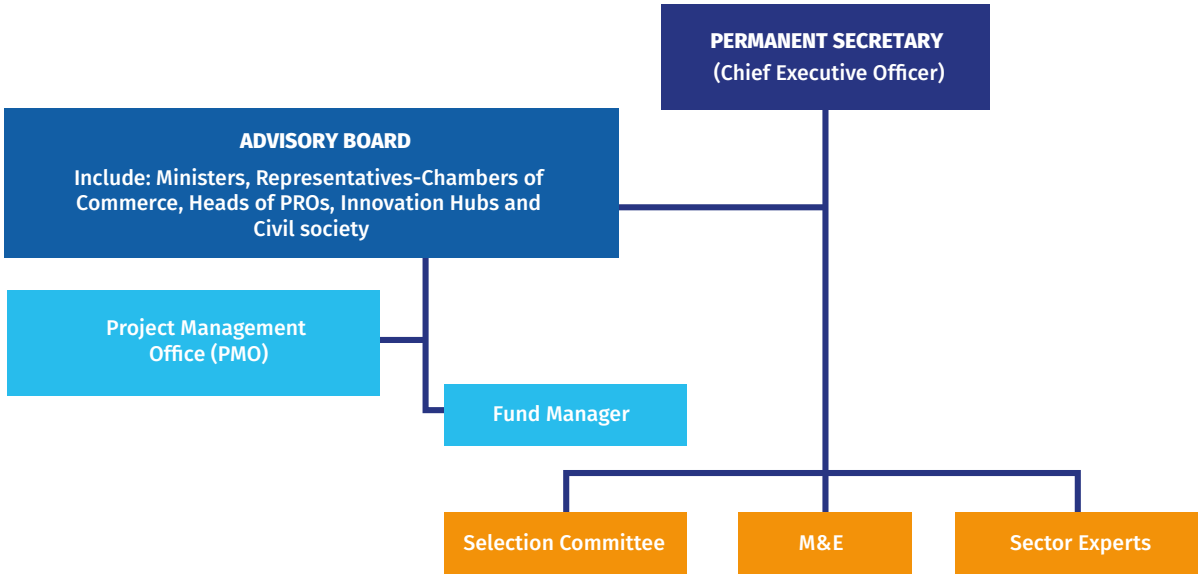
5.2 GOVERNANCE

The National Innovation Fund will be housed at MoHERST, under the accountability of the Permanent Secretary (PS), who will be the de facto Chief Executive Officer of the Fund. An Advisory Board will set the direction of the Fund and play an overall monitoring role.

The Advisory Board will meet under the Minister. The Advisory Board shall serve as the structure to oversee and advise on growing equitable economic prosperity by accelerating innovation. Its role includes identifying and recommending solutions, reviewing policies, and approving proposals to drive the innovation economy. It will share its strategic thinking and access expertise or connections that may not be readily available via other means. It will include members from central relevant Ministries, the Chamber of Commerce, Vice Chancellors' Committee, heads of PROs, heads of tech hubs, and a representative of civil society. Today's government will adopt the proposed governance structure with parliament's approval under an Act of Parliament.

The day-to-day administration of the Innovation Fund will fall to a lean Secretariat within the Ministry, comprising a Fund Manager with planning and M&E skills and an Administrator. The PS will be responsible for issuing calls for proposals. **Figure 4** below presents a layout of the governance structure.

Figure 4 **Governance structure**



Source: Authors

The PS will convene a Selection Committee to assess the applications, make recommendations for project awards, and receive evaluation reports on the projects.

The Selection Committee will have a flexible membership that will be appointed based on the theme of a call. The minimum will comprise the PS or nominee, two experts in the theme domain, a business sector expert, an expert from academia, and any other required experts. All members will be expected to declare any potential conflict of interest and respect confidentiality.

The **Advisory Board** may consist of no fewer than nine (9) board members, a Permanent Secretary (PS) and an appointed MoHERST staff member, appointed by the PS, two private sector members from the entrepreneurship ecosystem, two experts from the innovation/ start-up ecosystem, a staff member from the Ministry of Finance, and two from other public sector organisations. The proposed rules for members of the Advisory Board should include:

- **Appointment and term.** The Chair of the Advisory Board shall appoint the board members, through voting, for a term of two years each. The Fund Manager shall submit the above to the Advisory board for concurrence.
- **Duties of the Chair.** The Chair shall preside at all meetings and perform duties assigned by the board.
- **Resignation.** Any member of the board may resign upon giving 30-day written notice to the Chair.
- **Vacancies.** All vacancies, however created, may be filled by appointment of the board.
- **Regular meetings.** Regular board meetings shall be held quarterly or as needed depending upon calls for proposals for funding or requests.
- **Voting.** The majority of the Advisory Board members shall constitute a quorum for the transaction of business. (A quorum is a minimum number of members present in a meeting to conduct the group's business). The action consented to by a majority in the board presented at a quorum shall be regarded as an act of the Advisory Board.
- **Minutes.** The Board Chair shall appoint a Secretary to maintain minutes and other relevant records of the meetings and other activities.
- **Telephone conference meetings**. Members of the board may participate in a meeting using tele-conferencing (Zoom, Microsoft Teams, BlueJeans, or another platform) or similar communication equipment, so long as all members participating in the meetings can hear each other. Participation in an appointment under this section constitutes presence in-person at the meeting.

5.3 FUNDING STRUCTURE OF THE NIF

The Advisory Board will oversee the NIF as follows: the board will review and approve all grant and lending policies, prepared and updated by the Fund Manager, at least annually. These policies aim to ensure the highest quality of entrepreneurs and deals, and to maintain the Fund's sustainability and financial soundness. Every three years, the board will review and approve changes to the NIF policies as proposed by management or suggested by board members. These changes should consider applicable laws or regulations, the proposed «Act of Parliament», and changing economic and operational conditions. Any modifications to the policy should be consistent with the stated objectives.

Grant funds: Grants, non-repayable funds, will be made available for start-ups or existing businesses that can prove need, business viability, and socio-economic impact. It proposed that grants of up to 50,000 dalasis and a maximum of 500,000 dalasis (1,000 euros to 10,000 euros) are non-repayable, drive innovation, and spur transformative economic development. The grant investment must be used for an innovative project that corresponds with The Gambia's national development goals. Funds should be used for day-to-day operating expenses solely for the project.

The amount of fund to be allocated to fund start-ups or existing businesses at the different phases of the entrepreneurial lifecycle will be based on availability of funds and at the discretion of the Board per call for proposal.

In addition, the Fund grants or loans funds to eligible recipients that cannot otherwise obtain traditional bank financing due to predatory lending, high-interest rates, and unfavourable terms. Bridging this financing gap will enable businesses to grow and generate new employment opportunities, retain jobs, create wealth, and support their communities.

Grant funds are released contingent upon the Advisory Board's good review of all provided documentation listed in the application process. The recipient agrees to use the grant funds in line with the needs stated in the application, schedule, and budget.

The Advisory Board should reserve the right to demand the return of all grant funds (and accounting as to the use of any expended/ unexpended grant funds) if:

- The recipient does not spend grant funds for their intended use or otherwise fails to comply with the terms of the agreement;
- The recipient takes any action which brings or is likely to bring the Fund into dispute;
- There is any legal action, suit, arbitration or other legal, administrative, or governmental investigation, inquiry or proceeding pending or threatened against the owner or senior manager, for a breach of trust, or fiduciary duty, fraud, or financial wrongdoing;
- The recipient should promptly notify the Fund's Advisory Board should any of the events above occur.

Following any such event, the Fund will no longer have any obligation to pay the recipient any outstanding unfunded grant amount. For the eligibility of funding (grants or loans), the procedures will consider the following requirements:

- Entrepreneurs must have a registered business with a Tax Identification Number (TIN);
- The business must have been operating for at least a year;
- The business must be based in The Gambia;
- The project submission must be relevant to national/country development priorities;
- The project submission must show a high degree of innovation;
- The entrepreneur/founders must have attended training from incubators/accelerators in The Gambia;
- The entrepreneur must have a business mentor;
- For growth or advanced stage funding, the project must have a prototype;
- For grants, entrepreneurs must show need, the viability of the business, and the impact of product;
- For development or advanced stage, the project is considered mature enough and is scalable;
- For co-financing for projects, the company/business must show proof of a bank's contribution of up to 25%.

Loans & Co-Financing: The NIF should aim to invest in those companies with significant growth potential in The Gambia. The NIF should be particularly interested in start-ups and businesses with solid business plans, pitch decks, and clear visions to grow and have an impact on their communities. The Fund will provide co-financing opportunities and repayable and non-repayable grants/loans. It will offer financial support to entrepreneurs in the early seed stage, advanced stage, and growth stage, offering investments that drive economic growth, act as catalysts for further acquisitions, and create jobs for Gambians.

Whenever possible, collaboration within different sectors within the ecosystem should be encouraged. Grant or loan amounts will depend on the strength of the project's positive impact, subject to approval by the governing board, in co-financing opportunities and low-interest loans of up to D5M for investment that drives innovation and grows the ecosystems in critical sectors of the country. This will serve as a powerful tool to position The Gambia as a possible location of choice for business investment in Sub-Saharan Africa. Whether loan or co-financing, the investment must be used for an innovative investment to respond to The Gambia's national development.

The Advisory Committee will establish and recommend for approval lending authority levels based on projects and impact, including co-financing and grants. The board will set annual fund allocations based on available funds.

5.4 MANAGEMENT STRUCTURE

The government ministry mandated with innovation leadership is the MoHERST, especially its Division for Science, Technology, and Innovation, leading the STI policy development and overseeing its implementation. The Permanent Secretary of MoHERST and the Advisory Board will authorise the appointment of a Fund Manager. The expert panel's analysis from collected fieldwork information shows that STI is a crosscutting issue, not explicitly leaning towards any sector. Furthermore, we support the MoHERST as the competent Ministry to coordinate the Fund. Several other ministries and public institutions should play a role in STI-related policy formulation and implementation. These include the ministries responsible for industry and trade, agriculture, works and communication, health, environment, energy, labour, etc. The Ministry of Finance and Planning is charged with a wide range of policy areas and has the mandate to advise the President on development planning policy and strategy, which plays a significant role in implementing innovation-related programmes.

The MoHERST will have the management capability to operationalise the NIF in The Gambia. MoHERST will, of course, have an important role related to political decision-making regarding the NIF and national innovation activities, as shown in **Table 5**. Moreover, MoHERST will have oversight and a guiding role over the STI programmes implemented across the country.

Table 5 – Activities and proposed implementation timeline

No.	Actions	Institution Responsible	Frequency	Time	Indicators
1	Start negotiation within the government to establish the National Innovation Fund (NIF)	MoHERST, MoFEA	Annually	January 2022 and ongoing	Government decision committing to set up an Innovation Fund and fund it annually
2	Prepare an Act of Parliament to institute the Fund	MoHERST	Once	+ 6-9 months 2022	Fund established by Act of Parliament
3	Put in place the governance structure (Advisory Board and Expert Committee)	MoHERST	3-year term	+3-4 months by April 2022	The system governing the Fund is in place
4	Develop a fundraising strategy and action plan	Advisory Board, DSTI	Annually	+6-9 months 2022	Strategy and action plan approved
5	Define priorities	Advisory Board, DSTI	2-yearly	+12-15 months	Priorities approved

Table 5 – Activities and proposed implementation timeline

No.	Actions	Institution Responsible	Frequency	Time	Indicators
6	Develop programmes with appropriate budget	MoHERST, PS, Advisory Board, DSTI, Experts Committee	Annually	+12-15 months	Programmes and budget approved
7	Prepare the resource kit: • NIF Manual (ref. Annex I) • NIF presentation brochure • Calls for application • Application forms	DSTI, Advisory Board, Experts Committee	Updated annually	+12-15 months	Resource kit available and accessible
?	Develop an evaluation framework	DSTI	2-yearly	+12-15 months	Existence of an evaluation framework
8	Organise a Fund launch event Call for proposal	MoHERST, MoFEA	Once Annually	June 2022 July 2022	
9	Implement and manage programmes	PS, Advisory Board, DSTI, Experts Committee	Annually	+18-30 months	Projects funded
10	Conduct evaluation	External entity	2-yearly		Approved evaluations
11	Communication	MoHERST	On-going		Website, social network platforms

Source: Authors

- Development of the National Innovation Fund by June 2022 (fully USD 5 million – USD 10 million funded by government, international donors, private sector, and financial institutions);
- First Call for Proposals by July 2022;
- First funded deal by September 2022.

Capacity building in line with best practices for managing the NIF should become part of performance measurement. The findings indicate a significant need for capacity building to lead to the effective management of the NIF. In The Gambia, just like other developing countries, entrepreneurship education is usually not an explicit part of the curriculum of educational institutions at any level. It is essential to mainstream entrepreneurship into the national education curriculum coordinated by the MoHERST. The MoHERST would then lead activities for scaling up innovation capabilities and management skills critical to achieving growth of the start-up ecosystem.

5.5 APPLICATION AND SELECTION PROCESSES

This process factors in the cyclic nature of the NIF as a revolving loan fund from the co-financing/loan repayments when co-financing or lending for a proposed innovation; repayment terms with favourable interest rates allow the funds to revolve to maintain a healthy return on investments.

The application process will be a three-step process as shown in **Figure 5**:

1. First, a call for proposal includes submitting a letter of intent, a concept paper, an application, a full technical proposal, a business plan, and a pitch deck.
2. This is followed by an initial review of the business application by the expert panel, covering the business plan, financial model, use of proceeds, addressable markets, go-to-market strategy, and the team. This also includes an interview and complete due diligence of the review process.
3. The final step is the selection process; following the completion of the due diligence, selected recipients are provided with a grant, co-financing, or loan document, and a firm commitment for funding. All applicants must go through entrepreneurship training from one of the hubs/labs in The Gambia and be assigned a mentor. On occasion, pitch competitions will be held for specific projects and or hackathons that solve challenges in particular communities or urgent societal problems requiring innovative solutions.

Figure 5 **Application process**

Source: Authors

Applicants should be evaluated continuously using a multistage process:

- Online platform;
- If meeting initial qualifications, an in-person interview;
- If selected for an interview, the applicant presents to the Fund's governing board;
- The Advisory Board will either decline or refer to the fund manager for due diligence;
- Advisory Board ultimately decides whether to invest in or not.

The board will review the approval of all grants and loans. The Fund Manager will support the reporting procedures and analyse the board's grant or loan administration. The following aspects will apply to approved loans and grants:

- Interest rates for loans are not to exceed 9%;
- Loan terms of between one and five years;
- Co-financing of up to 75% of the project;
- Strict grant and loan guidelines;
- 1% origination fee for loans.

Code of conduct: An Advisory Board member(s) shall not participate in the discussion, review, or approval of any grant or loan transaction for which a member has a conflict of interest. Potential conflicts of interest may be, but are not limited to, the following:

- Loans or grants to businesses where the board member or an immediate family member of the Advisory Board member has an ownership interest.
- Loans or grants to businesses in which the Advisory Board member or an immediate family member of the board is a member of management or the board of directors.
- Loans or grants to businesses where the Advisory Board member's company or employer has a significant financial or other relationship.
- Loans or grants to businesses in which the Advisory Board member will benefit financially or otherwise from the loan transaction.

Co-financing/Loans: The Fund Manager will review strategies to develop and achieve the goals of the NIF and make appropriate recommendations to the board.

The management shall provide periodic reports on loans and grants portfolio information to fulfil the board's responsibilities of reviewing loan and grant performance. These statements may include, without limitation, the following:

- Loan and grant portfolio composition reports;
- Past-due loans;
- Loan default reports and non-performing loan trends;
- Usage of funds;
- Loan commitments, outstanding and contingent liabilities;
- Progress on the development of the product;
- Proof of prototype; and
- Audited financial statements of entrepreneur/business funded.

At least on an annual basis, the Advisory Board will review the process, which should address, without limitation, the following:

- Early recognition of any deterioration and the sustainability of the fund;
- Quantifying the level of risk in the portfolio;

- Adequacy of documentation accepted during the application process; and
- Compliance with applicable donor agency requirements and with NIF policy.

Deal summary: The Fund Manager will provide a memo or credit memo to be completed for all requests to provide a snapshot of the request and to document any board approval. The memo or credit memo will include a summary of the following:

- The entrepreneur and business;
- Loan structure, co-financing, or grant;
- Sources and uses of funds for the product/service;
- Collateral;
- Financial condition of borrower;
- Financial condition of all owners;
- Conditions/industry/market/competition;
- Risk.

Credit and collateral requirements and evaluation. The Gambia's NIF requires all loans to be fully secured or have an available guarantee for loan loss provisioning by the board. A loan will be considered fully secured if the combined liquidation values of all assets taken as collateral are equal to or exceed the loan amount. Loans not fully secured should have a credit enhancement such as dedicated funds available for loan loss.

Loan loss reserve policy. The board will maintain loan loss reserves sufficient to cover estimated credit losses inherent in the loan portfolio and specific resources for loans identified as impaired. The government should fund this loan loss through an allocation.

Maximum loan maturities. The board requires loan maturities to match specific donor/fund guidelines. However, in general, the entire loan terms are as follows (see **Table 6**).

Minimum equity requirement for co-financing. Typically, the board will require at least a 25% equity injection from the borrower. However, the board may require a lesser equity injection based on the type of business, operation, management/business experience, collateral risk, and overall credit risk.

Table 6 - Requirements for loan maturities

Use of proceeds	Maximum maturity
Working capital	1-5 years
Furniture, fixtures, supplies, and equipment	3-5 years
Other	Up to 7 years

Source: Authors

Maximum loan amount. The aggregate of loans to one entrepreneur/business cannot exceed D5M. The Advisory Board shall have the authority to make exceptions to this policy guideline.

The NIF has already secured an initial budget allocation of 3 million dalasis from the Government of The Gambia as a vote for 'open innovation' in the ministry's annual funding. In addition, in the pipeline there is a combination of possible private and public sources, such as telecom companies, financial institutions, local government, international development agencies, and other private and public organisations. The goal is to raise total capital of USD 5 million to serve as a revolving fund, with annual allocation commitments from the government, to be leveraged with other funding sources to create a large enough pool to sustain the Fund.

The table below summarises interviewers' options for funding sources and how they should be sustained. The options show that the government should be the primary funder and start putting together a seed fund.

Different approaches involving partners, the private sector, international organisations, or angel investors are suggested by participants.

For the sustainability of the Fund, a co-funding mechanism, low-interest rates on loans or taxpayer contributions are among suggestions provided by interviewers (see **Table 7**).

Table 7 - Funding providers and sustainability options

Funder	Category of funds
Government & partners	Innovations should be demand/market-driven
Government levy from telecom operator companies Partners and donor funding levy fee from innovators	Co-funding mechanism
Government & development partners	National fund
Government & donor partners	National fund for the public
Government & NGOs	Co-funding
International organisation and development partners, commercial banks, and MFIs	Proper mechanisms and strict regulations
Government budget allocations, development partners, and investors	Corporate Social Responsibility open to all beneficiaries of the Fund
Government - for the seed fund open to development partners and stakeholder organisations	Withholding tax levied on businesses to the Fund.
The private sector, government, and investors	Government to commit a percentage of revenues to the Fund through an Act.
Combined government, angel investors, private entities, development partners	Low-interest rates on loan, equity model, taxpayer contribution
Public and private investors	Equity financing, co-financing

Table 7 - Funding providers and sustainability options	
Funder	**Category of funds**
Government, development partners, and private sector (technology levy)	Loan revolving scheme
Government, financial institutions, and private sector companies	Long run sustainability
Government through a public-private partnership approach	Royalties on an annual basis
Government through international donor agencies	Close monitoring and evaluation system in place

Source: Authors

5.6 RISK MANAGEMENT

Typically, financial sustainability is the riskiest element. Economic sustainability should be inbuilt in the National Innovation Fund and should be well defined in applicants' projects, considering the risks in innovation processes. Similarly, this also applies to other sectors, including intensive R&D, such as in the health sector. Financial sustainability may involve a mixture of public and private finance regarding capacity development. The Gambia Innovation Fund should exemplify good practices for governments in stimulating and facilitating innovation through finance and support programmes using a programmatic-based approach. If this becomes successful, it can be used as a blueprint for future government programme design and implementation.

5.7 M&E AND LEARNING

Monitoring and evaluation (M&E) will be essential for ongoing learning and the innovation structure will ensure inclusive monitoring of the funding processes and assessment of the outcomes during implementation. The M&E will contribute to ensuring accountability of the funding cycle with checks and balances.

Points to include:

- The Innovation Fund, in and of itself, is an innovation;
- Expectations attaching to the innovation must be managed;
- Like any innovation, the NIF may generate unintended outcomes;
- Communication with the user and beneficiary communities is essential;
- All project awards will be subject to summative evaluation;
- Project awards larger than EUR 45,000 will be subject to formative and summative assessment;

- The formative evaluation may take the form of a 'living evaluator';
- The Selection Committee will recommend the appointment of evaluators who will be subject to an oath of confidentiality;
- A list of successful project awards will be published for each call;
- Decisions on calls will be made within three months of receipt of a complete application;
- Unsuccessful applicants may appeal to the Fund Manager.

The NIF should adopt a monitoring, evaluation, and learning (MEL) mechanism during the implementation of the National Innovation Fund through the directive of the PS. The fund management team will be responsible for data collection and use of M&E tools and reporting. The MEL system will also develop a monitoring database in collaboration with the MoHERST and selected vital stakeholders such as associations, the patent registration office and business incubators.

The NIF results chain should start from impact to outcomes and include some essential activities. It contains proposals for indicators through which the M&E specialists can monitor the progress and assumptions that are considered necessary to attain the required results. Outcomes represent the main results that NIF should accomplish, describing the targeted change. These are defined at the innovation system level and at the innovation level that embodies the system's functioning.

Each funding call, activity and support will generate indicators based on the roadmap of the NIF. Stakeholders involved in managing the activities of the Fund will monitor the performance of recipients and partners through the iterations of each progress delivery and over a stipulated period. They shall manage MoHERST expectations, responsiveness to applicants, access to information, timely disbursements, availability of expert appraisal, transparency of decision-making, coping with COVID restrictions, and timely appointment of an oversight structure. Thus, at the outset, each applicant, institution intermediary, and the project will be in tandem with the NIF leaders, mentors, and coaches to establish the success metrics. The MEL will apply the following Key Performance Indicators (KPI) during the evaluation timeline:

- Number of proposals received;
- Number of valid proposals assessed and success rate;
- Number of appeals lodged;
- Number of proposals approved within three months;
- Number of projects completed on time, within budget;
- Policy learning (narrative);
- Number of companies to receive support;
- Number of companies registered/ formed as an outcome of support;
- Number of partnerships, MoUs and collaborations formed;
- Number of regional partnerships established (through ECOWAS programmes);
- Percentage of gender inclusion;
- Regional distribution in The Gambia.

The M&E must submit measurement and evaluation reports to the Advisory Board at agreed time intervals.

5.8 SUSTAINABILITY

Sustainability should be a critical component from the start when selecting qualified projects for NIF support. Analysing sustainability requires typically five dimensions: economic/ financial, institutional, environmental, technical, and socio-cultural sustainability. Sustainability screening from these perspectives is necessary when assessing the feasibility of project proposals and needs to be part of the programme's monitoring approach as outlined above. Typically, financial sustainability is the riskiest element. In terms of enterprise projects, economic sustainability, as earlier proposed, should be inbuilt in the business plan, considering that the business must be part of the development process. Financial sustainability may involve a mixture of public and private finance regarding capacity development. The NIF should exemplify good practice for the government and international funders in stimulating and facilitating innovation through financing using a programmatic approach. The MoHERST will recruit the human resources to work on the NIF under a budget allocation from the Fund.

Initiatives such as arranging entrepreneurship showcases should help promote financing events targeting a range of private sector investors. A set of financially attractive business propositions may be developed to entice financiers' interest. Given the growing African market showcases are not a hard sell, but will require careful development to reach self-sustainability after five to seven years.

6 Recommendations

The Gambian innovation ecosystem needs a Fund and governance to play a critical role in transitioning the country to a competitive footing. This should address the country's challenges in terms of pressing economic and social transitions, caused by a lack of incentives to support innovation for development.

To guide the work and provide the information needed to promote innovation, the NIF management would create methods to measure business innovation activities and research innovations. The NIF Advisory Board will also work with other agencies to improve the measurement of productivity and innovation, particularly in better measuring the output and outcomes of the Fund's impact on national development. Furthermore, there's a need to catalyse industry and university research partnerships through the NIF grants, expand innovation promotion, fund activities such as technology commercialisation and entrepreneurial support, and encourage digital adoption. The planned Innovation Fund will act as a catalyst for growth in vital economic sectors, particularly start-ups, which can create job opportunities and spur economic growth.

Based on the findings represented in this report, for the NIF to contribute to the overall strategic objectives, the following recommendations are proposed:

Government should allocate fixed annual funding to the NIF

- The government should have an annual fixed allocation for funding the NIF, to leverage additional funds from national and international organisations and the private sector.
- In the initial period of the Fund, MoHERST could also explore possibility of an innovative funding mechanism, such as requesting the Government to dedicate to this Fund a percentage from tax returns of selected sector of development until enough resources are mobilised.

MoHERST and the advisory board should aim to annually fundraise between USD 5 million - USD 10 million for an Innovation Fund (to start)[28]

- National Innovation Funds are large in scale and vary per country. Cultivate relationships with possible funders to raise capital annually for a fund of between $5M to $10M. Evaluate annually at the Advisory Board level with a view to increasing gradually.

Prioritise offering competitive opportunities to sectors that show potential

- When established, the National Innovation Fund (NIF) must prioritise offering competitive options to start-ups and the SME sector to trigger broad-based economic growth.

Relevant ministries to devise skills development and capacity building

- The relevant ministries should continuously devise skills development and capacity building programmes across innovation hubs, business incubators, academia, and government sectors to increase opportunities for innovation.

28 MoHERST has already conducted assessment on policy, legal and regulatory gaps and is currently working on an act of parliament to solidify the support from Government on the NIF.

Cross-sector stakeholder engagement

- To involve and engage critical stakeholders from the various sectors as shown in **Annex II** – the list of stakeholders.

- To hold an annual national pitch competition that will include all demographics and sectors.

Conduct annual assessment on the success or failure of innovation programmes

- To get early signs of success or failure, prepare qualitative information to assess the likelihood and reasons for funded projects' success or failure. The M&E could organise these assessments before the Advisory Board meetings to provide vital information for considered action.

Promote information flow and dissemination across actors in the triple-helix

- In considering the Gambia Innovation Fund (GIF), the Government should initiate an awareness-raising campaign across all levels in the triple-helix of government, academia, and industry. The purpose of enhancing interlinkages is to spur demand-led innovation activities and further encourage collaboration between universities public and private sector actors.

We conclude that successful and sustained implementation and policy learning from this Policy Recommendation Report will help The Gambia implement the most significant drivers of innovation to achieve reasonable prospects for long-term success.

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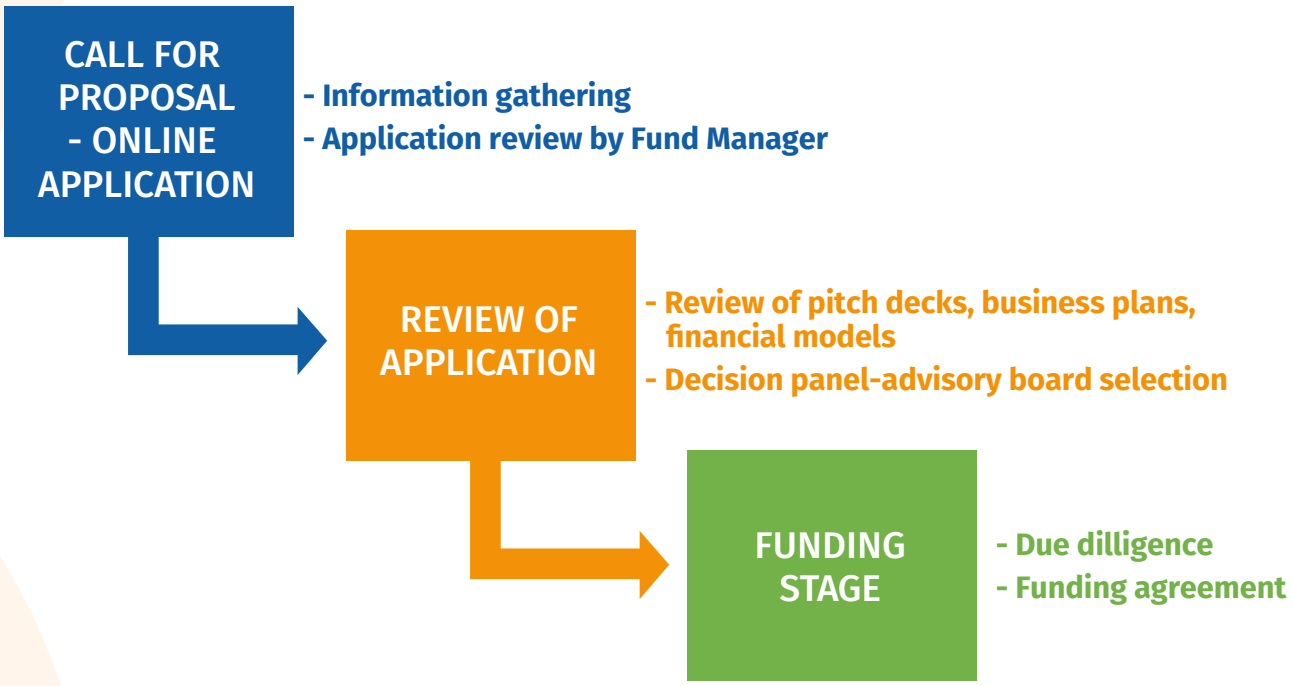
Annexes

ANNEX I
TOOLS, PROCESSES, AND INTERNATIONAL EXAMPLES FOR BUILDING THE NIF

A. Tools and application process



B. Botswana Innovation Funds: selected takeaways

Intentions

Collaboration and networking across NSI and globally
Beneficial use of technology from all sources of R&D
Support firms to commercialise the technology
Promote inclusive process innovation and product development

Financial instrument

Cash grants to promote innovation and staff development in registered companies
Eligible costs
Cost of labour
Materials
Licence and costs
Proof of concept
Sub-contractors (case-by-case)
Tooling and capital items (case-by-case)
Computer hardware and software (case-by-case)
Patent registration

Exclusions

Prior expenditure
Basic research
Purely military end-use
Tobacco, alcohol, recreational drugs, sex trade
Double-dipping
Marketing costs

Conditions

Alignment with BIH strategy
Technical and commercial viability
Financial viability of the applicant
Demonstrated management capability
Tax compliance of the applicant
Quality standard compliance
High likelihood of social and economic impact

Reference: https://www.bih.co.bw/fund-guidelines/

SUBMISSION REQUIREMENTS

Submissions in response to this Call for Proposals will be made through the provided portal and must include the following sections in the order listed:

a. Expression of an interest letter.

b. Technical proposal containing the following content:

A concept note of the innovative solution(s) including:

- Technical specifications;
- Team experience;
- Work plan / Schedule for an implementation;
- Mission team experience/profiles;
- Implementation plan with budget and timeline;
- Working prototype (pictures, narrative, video).

c. Any other relevant documentation as an additional value proposition.

APPLICATION PROCESS

Submit your proposal here:
Covid-19BWchallenge https://form.jotform.com/innovationfund/application

General Terms:

1. Clarifications

Request for clarifications shall be sent to innovationfund@bih.co.bw, cc procurement@bih.co.bw. BIH will respond in writing to any request for clarification, provided that such bids are received five (5) days before the deadline for submission of proposals. Should the clarification results in changes to the contents of the Call for Proposals advert, BIH shall amend and issue an addendum.

2. Preparation costs

The prospective solution provider shall bear all costs associated with preparing and submitting their proposal. BIF shall not be responsible or liable for the costs regardless of the outcome of the bidding process.

3. Cancellation

BIF reserves the right to cancel the Call for Proposals without providing any reasons.

4. Validity

The solutions and prototypes proposals costing must be valid for 90 days.
Reference: https://www.bih.co.bw/covid-19-third-call-for-proposals/

C. The South African Technology Innovation Agency: key features

The TIA Mandate provides financial and non-financial support to innovators and inventors. This mandate is implemented through three funding instruments.

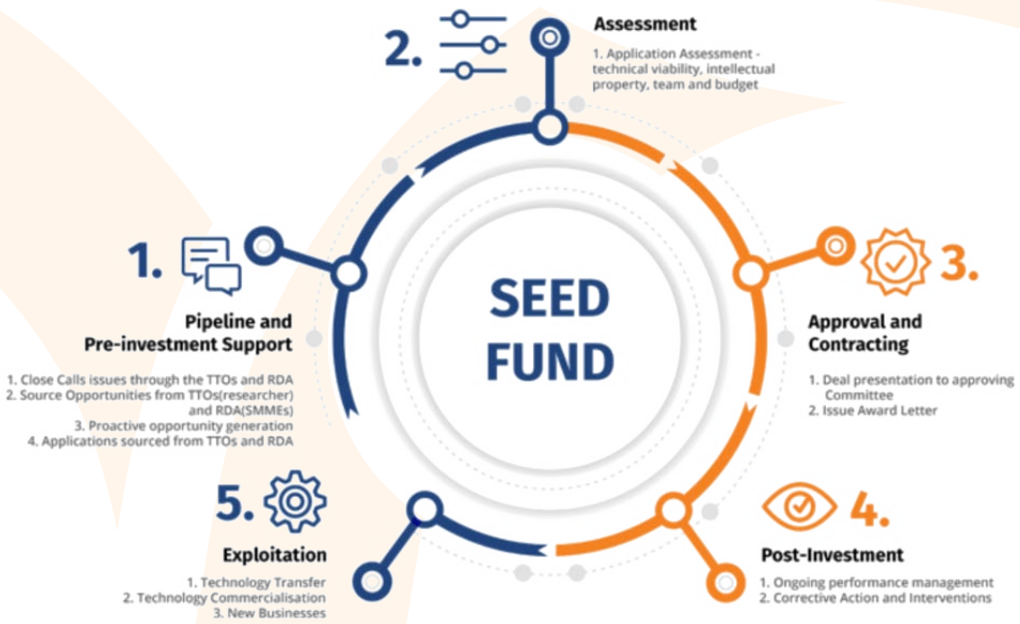
(i) SEED FUND

The Seed Fund enables innovators to evaluate, demonstrate, and advance their research outputs' value proposition and commercial potential.
Targets all NSI actors (universities, PROs, SMMEs); excludes large businesses.
According to the Technology Readiness Level system, projects are to be in the range of 3 to 8.
All costs except for basic research.

USAGE OF FUND

- Initial proof of concept
- Prototype development
- Sourcing of IP opinions
- Production of market samples
- Refining and implementing designs
- Conducting field studies
- Support of certification activities
- Piloting and scale-up and techno-economic evaluation
- Detailed primary market research
- Business plan development

APPLICATION PROCESS



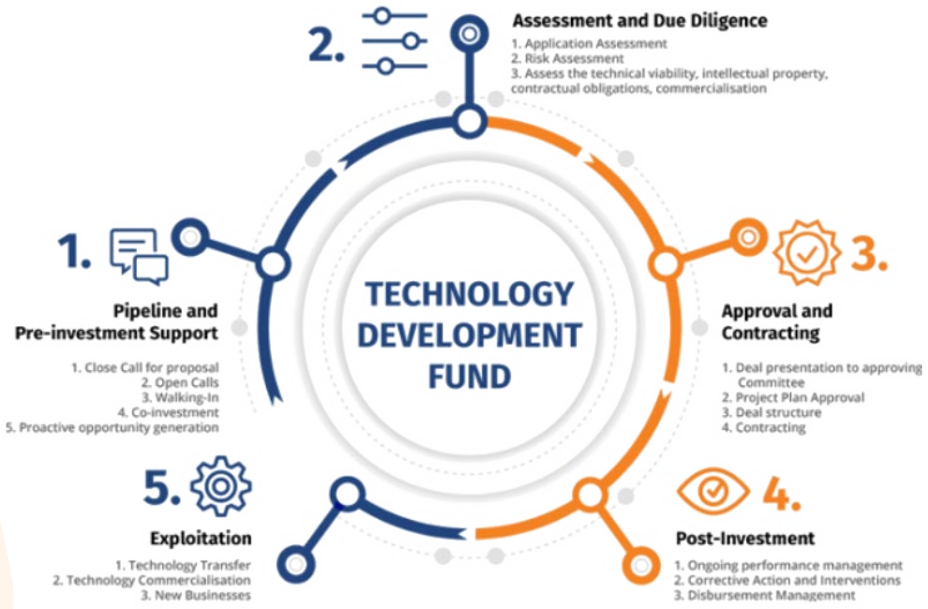
(ii) TECHNOLOGY DEVELOPMENT FUND

Funding from proof of concept to technology demonstration.
Targets all NSI actors (universities, PROs, SMMEs); excludes large businesses.
According to the Technology Readiness Level system, projects are to be 4 to 7.
All costs beyond proof of concept.

USAGE OF FUND

- Prototype development
- Demonstration and pilot plants
- Support of certification activities
- Piloting and techno-economic evaluation
- Sourcing of IP opinions
- Provision of analytical services
- Acquisition of technical and scientitfic infrastructure and skills
- Technology demonstrations
- Plant breeders rights
- (PBR) trials
- Field testing and performance trials for veterinary and crop health and nutrition technologies

APPLICATION PROCESS



(iii) PRE-COMMERCIALISATION FUND

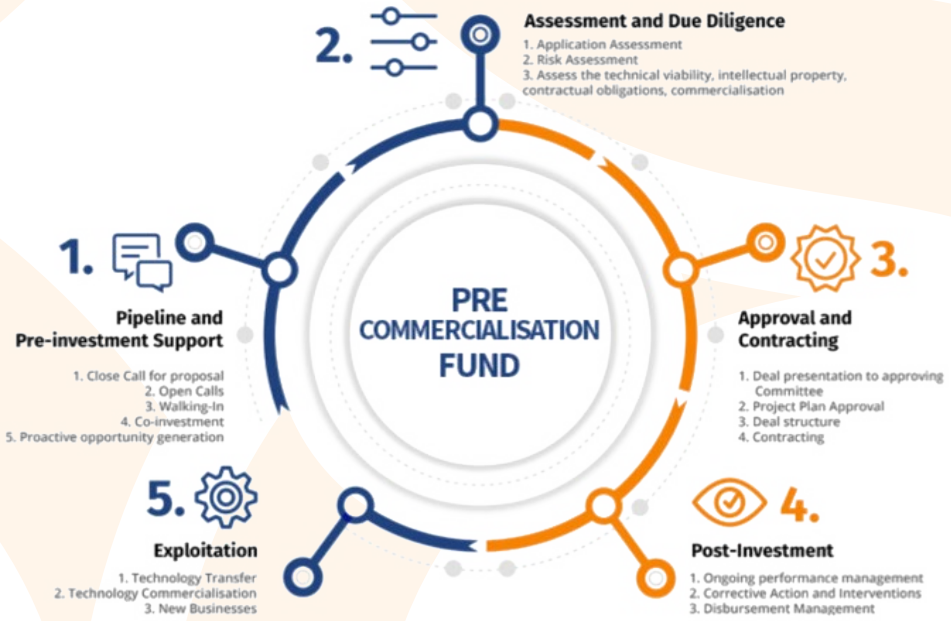
Assists existing or potential individual entrepreneurs and small, micro, and medium-sized enterprises to obtain funding to support pre-commercialisation activities.

Targets all NSI actors (universities, PROs, SMMEs); excludes large businesses.
According to the Technology Readiness Level system, projects must be at stage 8.
Off-take agreement or third-party follow-on as pre-requisite.

USAGE OF FUND

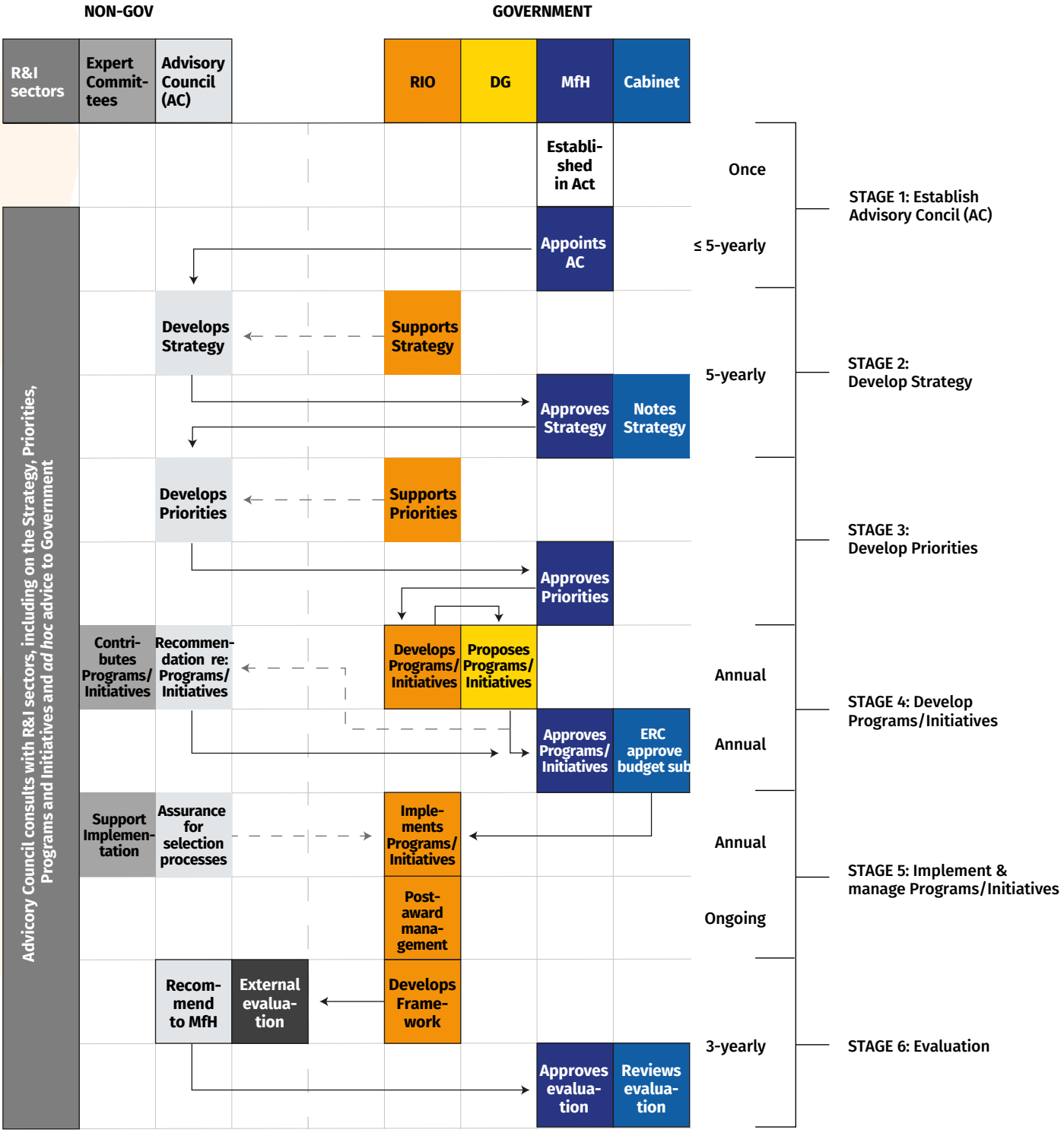
- Production of market samples
- Support of certification activities
- Market testing and validation
- Regulatory approval
- Certificatin activities
- PBR registration
- Business plan development

APPLICATION PROCESS



Reference: https://www.bih.co.bw/covid-19-third-call-for-proposals/

D. Governance framework process



Source: Western Australia Future Health Research and Innovation Fund. Governance framework (2020).

ANNEX II
LIST OF STAKEHOLDERS INTERVIEWED

Institutions/Organisations
American International University West Africa (AIUWA)
Association of Gambian Innovators
Gambia Bankers Association (GBA)
Gambia College
Gambia Horticultural Enterprises (GHE)
Gambia Investment and Export Promotion Agency (GIEPA)
Gambia Telecommunications and Multimedia Institute (GTMI)
Insist Global Ltd
International Trade Centre
Management Development Institute (MDI)
Medical Research Council Gambia at the London School of Hygiene and Tropical Medicine
Ministry of Finance and Economic Affairs (MoFEA)
Ministry of Gender, Children and Social Welfare (MoGCSW)
Ministry of Higher Education Research Science and Technology (MoHERST)
NATCOM UNESCO
National Assembly
National Public Health Laboratories of the Ministry of Health
PointClick
S.IG
Social Development Fund (SDF)
The Gambia Chamber of Commerce and Industry (GCCI)
University of The
West African Livestock Innovation Centre (WALIC)
Women's Chamber of Commerce

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