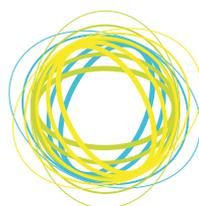


*Eva Kagiri-Kalanzi, Roseanna Avento*

**BRIDGING EXISTING AND NEW  
APPROACHES FOR SCIENCE,  
TECHNOLOGY AND INNOVATION  
COOPERATION BETWEEN  
FINLAND AND AFRICA**

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# EXECUTIVE SUMMARY

This policy brief on science, technology and innovation collaboration (STI) between Finland and Africa was compiled with three aims:

1. To explore the different strategies that exist in the Finnish-African STI landscape
2. To review the current context and landscape of Finnish-Africa STI cooperation
3. To explore if the drive for private sector engagement has affected Finnish-African STI collaboration

Though there are several policies and programmes to facilitate STI collaboration between Finland and Africa, there are no clear national or institutional strategies to guide or steer the activities. Rather, STI work is planned, facilitated, and implemented in silos, in an ad hoc and short-lived manner. It is also clear that the drive for private sector engagement has affected Finnish-Africa STI collaboration, however, the extent to which this has occurred is uncertain. Trade with Africa has increased, but most of the activities are not linked to STI, and while private sector engagement has grown and is encouraged, benefits have not accrued to the scientific community. It has been observed that there is definitely an increased interest in the region and in creating diverse partnerships, but there still remains challenges attributed to policy coherence, resource availability, incentives for cross-sector cooperation and strengthening cooperation based on mutual interests. This policy brief is recommending 6 actions:

- 1) The development of a national and cohesive STI strategy and implementation plan for Africa,**
- 2) Convening a platform of actors active in Finnish-Africa STI cooperation to strengthen national cooperation,**
- 3) Increasing flexibility within STI funding mechanisms to allow for cross-sector cooperation,**
- 4) Realigning the policy on private sector engagement to incorporate higher education institutions' (HEIs) interests in global responsibility,**
- 5) Added emphasis and financial support for commercialisation of innovations from project outputs, and better communication on the roles, objectives and expectations of Finnish participants to their African counterparts,**
- 6) Developing guidelines for Intellectual Property Rights (IPRs) in Finnish-Africa STI projects.**

# BACKGROUND

The move towards increased commercial engagement with Africa is not unique to Finland. Statistics in a 2016 report on international resource flows to developing countries from 2000 to 2016, show official development aid (ODA) has remained constant while commercial long term debt has increased (Development Initiatives, 2017). Finland's current development policy also emphasizes strengthening private sector engagement in Africa, an aim that led to the introduction of development policy investments to complement ODA in 2016. The rise of education as a marketable product globally has also seen Finland re-orient itself from a giver of free education. In 2009, the Ministry for Foreign Affairs and the Ministry of Education and Culture initiated policy-level discussions on education export leading to the Finnish education export strategy. Furthermore, since 2017, non-EU/EEA students training at bachelor's and master's level in Finland are charged tuition fees. On a policy level, Finland has a history of implementing STI projects with African partners. Many of these programmes have been carried out against the backdrop of development policy, international economic growth policy or internationalisation policy in education<sup>1</sup>. All these activities are however carried out within the individual ministerial frameworks, without a common strategy targeting Africa. This policy brief reviews the current Finnish-Africa STI landscape, synthesizes the different policies and approaches governing Finnish-Africa STI cooperation and analyses the extent to which the shift in Finland's policies towards increased private sector engagement has affected STI cooperation with the region.

## APPROACH

This policy brief is based on a study conducted in the spring of 2018, by 1) carrying out a desk review and document analysis of Finnish and EU policy documents related to cooperation with Africa; 2) interviews with Finnish ministries and their agencies (Ministry for Foreign Affairs, Ministry of Economic Affairs and Employment, Ministry of Education and Culture, the Business with Impact Programme (BEAM), Academy of Finland, Finnish National Agency of Education), two network organisations, a private sector actor and two NGO/CSOs (a total of 11 organisations)<sup>2</sup>; 3) an online semi-structured questionnaire was also sent out to the scientific community and private sector from July to August 2018 through various mailing lists and social media; and 4) a workshop on "A Policy Brief on Existing and New Approaches for Science, Technology and Innovation Cooperation between Finland and Africa" organised during the 11th Annual SANORD (Southern Africa Nordic Research Centre) Conference in Jyväskylä in August 2018, where a focus group discussion and learning café were utilised to collate data on experiences of STI collaboration between Africa and Finland.

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1 There are various examples of projects supporting Finnish-Africa STI cooperation. In 2013, **FinCEAL** (Finnish Science, Technology and Innovation Cooperation with Europe, Africa, Asia and Latin America and the Caribbean) was established with financing from the Ministry of Education and Culture to strengthen STI cooperation with the regions. The Ministry for Foreign Affairs is currently funding **SANBio-BioFISA I and II, The Southern Africa Innovation Support programme, SAIS I and II, FoodAfrica Programme**, The Academy of Finland's **Programme in Development Research** and The Finnish National Agency for Education's (EDUFI) **Higher Education Institution Cooperation Instrument (HEI ICI)**. The Ministry of Economic Affairs and Employment which steers Business Finland (formerly Tekes), has been co-financing the **Business with Impact (BEAM)** programme since 2015, a mechanism meant to support the access of Finnish enterprises to emerging markets. It also finances the **Emerging Market Growth Programme**.

2 Interviews were conducted between June and August 2018, and covered 11 individuals in the seven organisations. Due to unavoidable circumstances, the Ministry of Education and Culture and the Ministry of Economic Affairs and Employment and CSO representatives (i.e. four organisations) did not participate in Delphi interviews but rather answered a semi-structured questionnaire in written form over e-mail. In total, the questionnaire was distributed to over 300 persons. Of these, 137 were directly targeted via e-mail, and the rest through the FinCEAL Plus and UniPID's "Focus on Africa" newsletters. The mailing lists subscribers and those e-mailed directly were scientists based in Finnish institutions.

The questionnaire received 40 anonymous responses. The vast majority of respondents to the questionnaire were from a university background (~73%), followed by NGOs or CSOs at ~12% and finally government research institutes (9.8%). Respondents from universities of applied sciences and the private sector equally comprised 2.4% of the respondents (Figure 1).

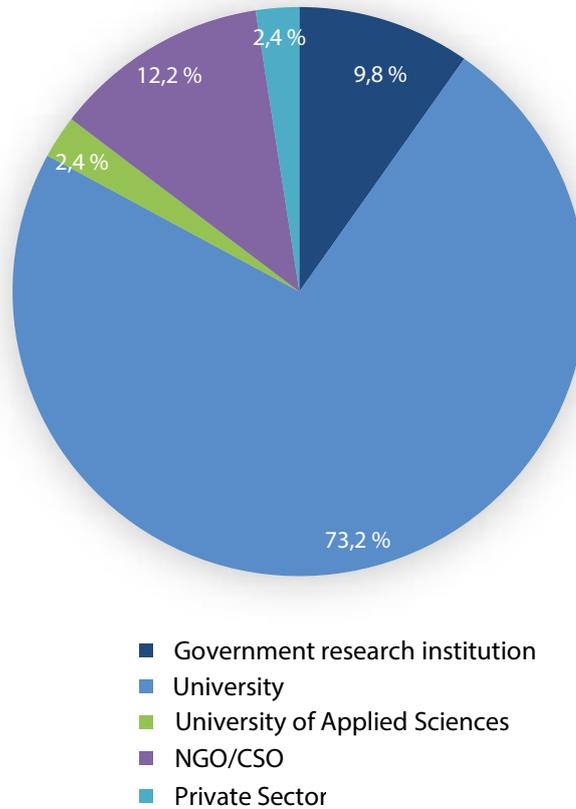


Figure 1. Organisations that participated in the FinCEAL Plus questionnaire on Finnish-African STI collaboration (Kagiri-Kalanzi and Avento, 2018)

# RESULTS

## STI COLLABORATION WITH AFRICA IS STILL LARGELY GUIDED BY DEVELOPMENT COOPERATION POLICY

Finnish national STI policy is primarily steered by the Ministry of Education and Culture and the Ministry of Employment and the Economy. However, when it comes to collaboration between Finland and Africa, the Ministry for Foreign Affairs' development policy plays the main role. Most Finnish-STI activities occur in **East Africa, southern Africa** and in **Anglophone West Africa** (Figure 2). The most popular partner countries for Finland are **Kenya, Tanzania, South Africa, Ghana** and **Nigeria**. **Ethiopia, Zambia** and **Namibia**. Most of these countries are Finland's long term development partners. The lean towards development cooperation is also visible in the sectoral representation of the data. Sectors that have been the focus of funding using ODA were also cited as the main areas of STI collaboration: health, food and nutrition security, water and natural sciences (Figure 3).

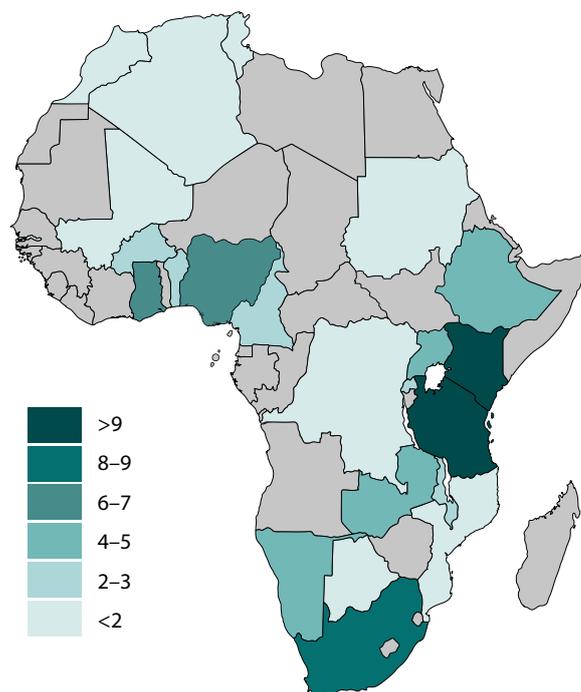


Figure 2. African countries mentioned on the FinCEAL Plus questionnaire, on Finnish-African STI collaboration, as Finland's partners on STI (Kagiri-Kalanzi and Avento, 2018).

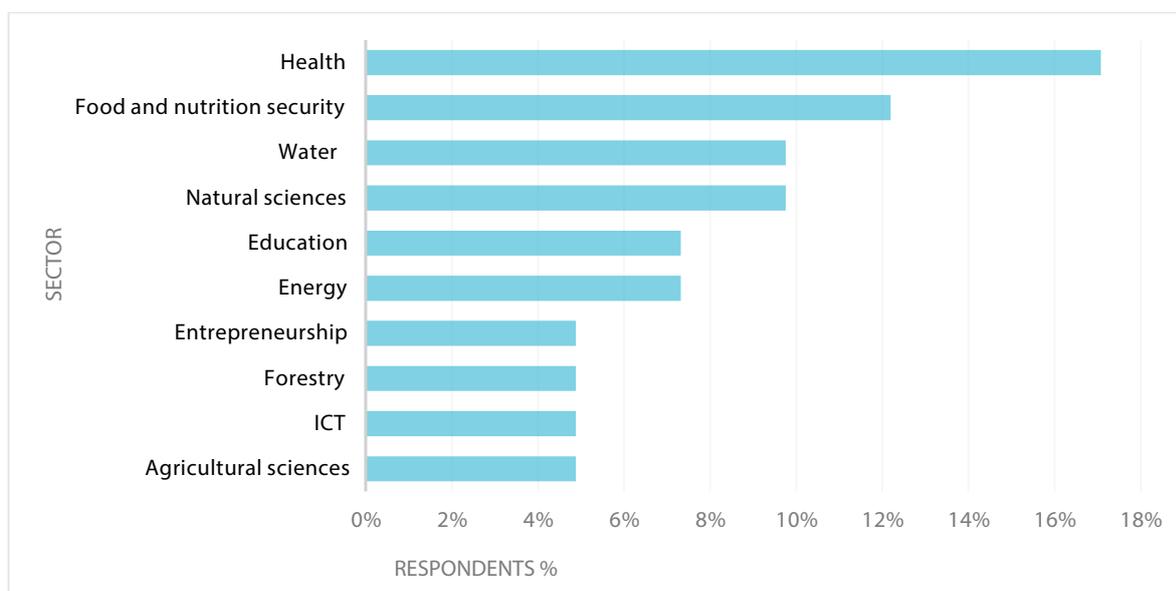


Figure 3. Finnish-African STI cooperation by sector mentioned on the FinCEAL Plus questionnaire on Finnish-African STI collaboration (Kagiri-Kalanzi and Avento, 2018)

## BENEFITS FOR FINNISH-AFRICAN STI COOPERATION ARE NOT PRIMARILY ROOTED IN COMMERCIAL GAIN

Finnish organisations view STI cooperation with their African partners as important, citing a range of benefits from **network formation** to **knowledge exchange** and **global responsibility**, but the emphasis appears to be on **research collaboration** and **knowledge exchange** (Figure 4). Whereas Finnish organisations consider STI collaboration as part of their global responsibility activities, these activities have to a certain extent decreased through the emphasis on business and trade. This discrepancy is attributed to a polarisation on the part of policy makers and implementers. While policy makers have, in line with global trends, shifted policies and funding alignments to encourage business engagement and trade, the implementers on the ground, especially in higher education institutions (HEIs), still view global responsibility as an important element of their work and role in society.

Benefits of Finnish-African STI collaboration to Finnish organisations	Benefits of Finnish-African STI collaboration to African organisations
<p><b>Networks</b></p> <ul style="list-style-type: none"> <li>Forming networks (diverse and multidisciplinary networks)</li> <li>Expanding existing networks</li> <li>Forming partnerships (research partnerships, UN organisations)</li> </ul> <p><b>Knowledge exchange</b></p> <ul style="list-style-type: none"> <li>Learning experiences</li> <li>Coproduction of knowledge</li> <li>Increased Africa knowledge</li> <li>Integrating traditional and scientific knowledge</li> </ul> <p><b>Research collaboration</b></p> <ul style="list-style-type: none"> <li>Conducting collaborative research</li> <li>Publications</li> <li>New PhD students</li> <li>Research exchange</li> <li>Access to data in Africa</li> <li>Dissemination of research and media exposure</li> <li>Good research and project subjects</li> <li>Access to specimens</li> </ul> <p><b>Capacity building</b></p> <ul style="list-style-type: none"> <li>Enhanced capacity of scientists</li> <li>Increased cultural competencies</li> </ul> <p><b>Study opportunities</b></p> <ul style="list-style-type: none"> <li>Study credits for students</li> </ul> <p><b>Employment</b></p> <ul style="list-style-type: none"> <li>Employment opportunities within the projects</li> </ul> <p><b>Global responsibility</b></p> <ul style="list-style-type: none"> <li>Concrete actions in regard to HEI's global responsibility</li> <li>Contribution to SDGs</li> </ul> <p><b>Ministry of Education and Culture vision related</b></p> <ul style="list-style-type: none"> <li>Internationalisation of personnel at HEIs</li> <li>Promotion of Finnish universities and Finnish education system</li> </ul>	<p><b>Networks</b></p> <ul style="list-style-type: none"> <li>Strengthening of international and multidisciplinary networks</li> <li>Expertise and assistance in projects</li> </ul> <p><b>Knowledge exchange</b></p> <ul style="list-style-type: none"> <li>New ideas</li> <li>New insights for community development</li> <li>Distribution of knowledge</li> <li>Coproduction of knowledge</li> </ul> <p><b>Research collaboration</b></p> <ul style="list-style-type: none"> <li>Identification of problems in fieldwork</li> <li>Dissemination of research results</li> <li>Joint publications</li> <li>Scientific visits</li> <li>Sharing of research resources</li> </ul> <p><b>Capacity building</b></p> <ul style="list-style-type: none"> <li>Improved expertise</li> <li>Updating and enhancing research skills</li> </ul> <p><b>Training and education</b></p> <ul style="list-style-type: none"> <li>Production of training material</li> <li>Hosts for exchange students</li> <li>Master's and doctoral degrees</li> <li>Scholarships</li> <li>Free courses</li> </ul> <p><b>Technology and methodology</b></p> <ul style="list-style-type: none"> <li>Access to modern monitoring equipment and international data</li> <li>Material inputs</li> <li>Access to new knowledge and modern techniques</li> <li>Access to publications and libraries</li> <li>Access to internet</li> </ul> <p><b>Promotion</b></p> <ul style="list-style-type: none"> <li>Raising awareness of African research</li> <li>Raising awareness about Africa</li> </ul> <p><b>SDGs</b></p> <ul style="list-style-type: none"> <li>Improved food security, less poverty</li> </ul>

Figure 4. Benefits of Finnish-African STI collaboration according to Finnish STI actors

## OPPORTUNITY TO DEVELOP A COHESIVE FINNISH-AFRICAN STI STRATEGY

A large number of the institutions represented in the study do not have an Africa strategy. Only 18% of the 40 respondents said their institution had an Africa strategy in place or being formulated, and 20% said their institution had no Africa strategy. 62% were not aware or did not know if their institution had an Africa strategy. As a result, collaborations are aligned to the general institutional strategies and broader policies in place in Finland and in the partner countries. Finnish ministries and agencies interviewed do not have their own specific Africa strategies either, but rather cooperation with Africa follows one or more policies and frameworks, e.g. development policy (with its four priorities), the Agenda 2030, Agenda for Sustainable Growth, Vision for Higher Education and Research in 2030, etc. The funding landscape has a considerable impact on which policies guide cooperation, this has normally meant a lean towards the development policy. Additionally, different Finnish ministries and agencies all have their individual funding programmes, but information exchange on the programme level is not done nearly enough. There is certainly room for better networking and collaboration, e.g. joint events, and even pooling resources for joint initiatives. The lack of a joint national strategy on STI cooperation with Africa also provides an opportunity for strengthening cooperation and testing new approaches like the **transformative innovation policy**<sup>3</sup> – an emerging frame that looks at STI in the context of socio-technical system change and goes beyond economic growth.

## SUPPORT FOR TRADE WITH AFRICA HAS INCREASED – BENEFITS HAVE NOT ACCRUED TO THE SCIENTIFIC COMMUNITY

There are various private sector instruments supporting STI cooperation between Finland and Africa derived from ODA allocations. An example is the Finnpartnership instrument<sup>4</sup>. Finnpartnership funding to African countries has increased gradually between 2006 and 2017. Specifically, funding for Africa-related projects grew from 31% in 2016 to 44% in 2017. From 2010–2015, Finnpartnership disbursed Business Partnership Support (BPS) funds covering 27 different sectors – ICT, Energy and Environment were in the top 5 and Education was 6<sup>th</sup> with 33 funded projects (Figure 5). The BEAM programme, launched in 2015 with co-financing from ODA, funded 34 research collaborative projects. The two instruments potentially provide an opportunity for cross-sector research – business cooperation. Pathways to this type of cooperation, however, do not exist. The BEAM research funding, which would have created a foundation for such a long-term strategy, was carried out as a pilot and has since been discontinued, and the rules surrounding access to Finnpartnership funding also do not fully support research-business collaboration.

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3 “A third frame for innovation policy is that of transformative change which takes as a starting point that negative impacts or externalities of innovation can overtake positive contributions. This frame focuses on mobilising the power of innovation to address a wide range of societal challenges including inequality, unemployment and climate change. It emphasises policies for directing socio-technical systems into socially desirable directions and embeds processes of change in society. Innovation 3.0 explores issues around socio-technical system change to give a structural transformation in: governance arrangements between the state, the market, civil society and science; experimentation and societal learning; responsible research and innovation; and, finally, a more constructive role for foresight to shape innovation processes from the outset and on a continuing basis.” <http://tipconsortium.net/about/>

4 The Finnpartnership business partnership programme supports Finnish companies and companies in developing countries in finding new business opportunities and partners. The programme is funded annually with about EUR 4 million from the development cooperation appropriations of the Ministry for Foreign Affairs. In 2016, 278 projects, ~€11 million were funded for Africa. Most popular African countries: Kenya 45 projects, €1.98 million; Tanzania 45 projects, €1.93 million; Ethiopia 26 projects, €1.2 million; South Africa 21 projects, €750 000; Ghana 20 projects, €1.1 million and; Namibia 19 projects €740 000.

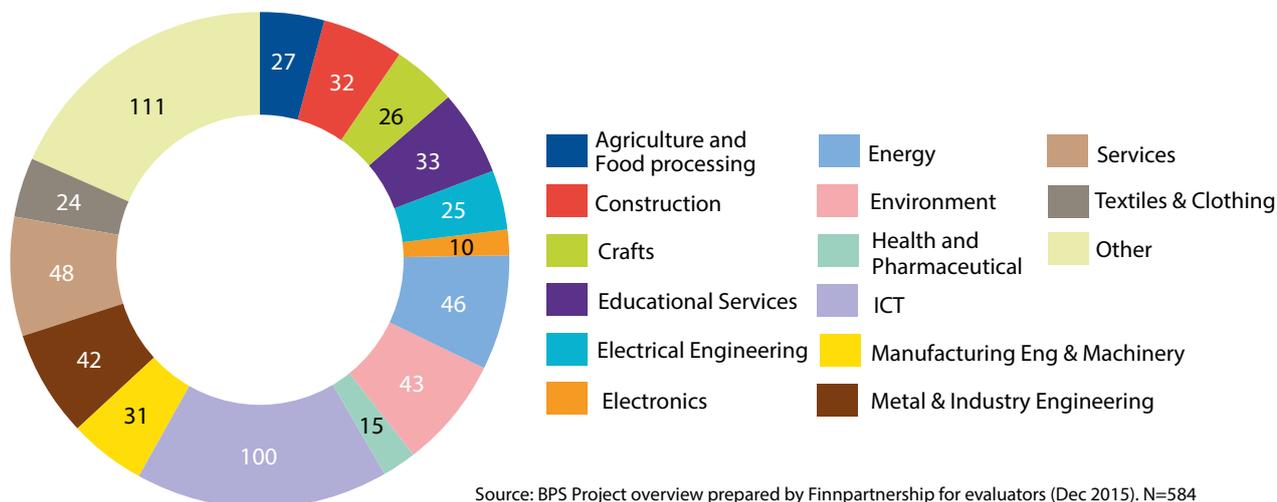


Figure 5. Sectoral spread of Business Partnership Support (BPS) projects approved in the period 2010–2015 (Ministry for Foreign Affairs, 2016.)

## OPPORTUNITY FOR ENGAGING MORE ACTORS

Finnish NGOs/CSOs are not well represented in discussions on STI cooperation with Africa. Although companies and HEIs are slowly recognising the value of partnering with NGOs/CSOs, Finnish innovation policy still lags behind and has not recognised their value. As actors involved in development activities, NGOs/CSOs have much to offer in STI collaboration. While many engage in capacity building, a good number do also carry out STI-relevant work through research and technology innovation, for example among rural farmers. Collaborations are usually forged with other NGOs/CSOs (e.g. farmer associations, cooperatives, cooperative unions) and local technology research institutes. These partnerships are crucial for the diffusion of innovative approaches locally and for building sustainability. Recognition of their role in STI is, therefore, imperative as their expertise can very well be harnessed for strategic and sustainable partnerships. There is also a need to gather and disseminate consolidated information on STI activities conducted within Finnish-African NGO/CSO collaboration.

To summarise, the lack of a cohesive collaboration framework and action plan poses a challenge and issues identified from the study can easily be linked to this gap. In an already complex system of actors, Finnish organisations hardly coordinate their efforts and work in silos. This is seen not only at the implementation level of STI projects but also at the political level. In addition, the absence of a long term collaboration plan specific to Africa, activities will continue to be **ad hoc, informal** and **transitory**. Developing a national Africa STI strategy and action plan for implementation could very well utilise the various opportunities that have been created by the long-term initiatives of the Ministry for Foreign Affairs within Africa and the Finnish scientific community.

# CONCLUSIONS AND THE WAY FORWARD

## 1. NEED FOR A CLEAR, LONG TERM COLLABORATION PLAN SPECIFIC TO AFRICA

- STI cooperation between Finland and Africa is mostly ad hoc, informal and transitory

**WE RECOMMEND** that a long term collaborative strategy for Africa be compiled with specific action plans at different levels, in order to lend structure and become more goal-oriented. We recommend that this strategy be aligned to Agenda 2030 and innovative approaches like the Transformative Innovation Policy be explored as potential frameworks. We recommend that the strategy be relevant and streamlined across all the ministries and not be limited to development cooperation policy. Involvement of African partners in this work is essential in this process. The premise is set, thus: **develop a strategy for Africa, with Africa**. Furthermore, institutions may also be encouraged to devise action plans for their African collaboration.

## 2. NEED FOR BETTER ALIGNMENT AND COOPERATION BETWEEN THE DIFFERENT STAKEHOLDERS IN FINLAND

- Opportunities that Finnish bilateral STI initiatives present to enhance Finnish-Africa STI cooperation are not fully explored. As a result, the initiatives do not reflect increased cooperation (or funding) between Finnish and African STI actors. While programmes and projects exist, information is not shared readily, even between ministries, funding agencies or even implementers.
- Initiatives by the funding and implementing agencies (Development Research, HEI ICI, BEAM programme, bilateral programmes etc.) occur in silos with no pull or push factors encouraging cooperation among the beneficiaries.

**WE RECOMMEND** that collaboration between Finnish STI actors in Africa be strengthened by establishing a region specific working group at the Ministry of Education and Culture's Forum for Internationalisation and that a platform for collaboration between multiple Finnish actors active in Africa be convened, for instance through a combined effort of the Finnish National Agency of Education, the Academy of Finland, UniPID, SANORD, Business Finland and the ministries.

## 3. CROSS-SECTOR COOPERATION NEEDS MORE FLEXIBLE FUNDING INSTRUMENTS

- Rigid funding rules, especially in the private sector instruments, hinder cooperation with the scientific community as more emphasis is placed on technology and innovation, rather than on science and other cross-cutting sectors like social sciences.
- Finnish businesses have mostly been involved in Finnish-African research focused STI projects as associate partners or as providers of material support.
- NGOs/CSOs are not recognised as part of the innovation system, despite the significant role they play in Finnish-African collaboration.

**WE RECOMMEND** realigning funding mechanisms to allow for more flexibility in allowing a wider array of partners in more dynamic roles in projects.

#### 4. NEED TO RECOGNISE THE GLOBAL RESPONSIBILITY ROLE OF HEIS AND ENCOURAGE STRATEGIC PARTNERSHIPS

- The pull factors for the research community to partner with Africa remain rooted in capacity building and solving social and scientific problems. A shift towards “business thinking” has not really occurred in basic research funding institutions or in the research community.
- In spite of the Finnish business community’s increased interest in engaging with Africa, there have not actually been any major breakthroughs in increasing trade with Africa through STI collaboration. Finnish-African trade is still based on traditional models i.e. agricultural goods and technologies and extractive raw materials.

**WE RECOMMEND** reinstatement and recognition of the global responsibility role of HEIs, especially in regard to implementing the SDGs. **Strategic partnerships** between businesses, NGOs/CSOs and the scientific community may boost business and thus are encouraged.

#### 5. NEED TO MERGE DIFFERING INTERESTS OF FINNISH AND AFRICAN STAKEHOLDERS

- While both African and Finnish counterparts are interested in research and capacity building, there is also a high interest in commercialisation of innovation from the African side, which has received relatively little attention from the Finnish side.
- An ecosystem where the same stakeholders implement ODA projects but are also working to promote trade and education export is confusing to African partners, especially as the roles and positions of Finnish experts may not be very clear.

**WE RECOMMEND** that **innovations from project outputs are given added emphasis and financial support within funding programmes**. We recommend that **trade promotion and education export delegations to Africa should better clarify the roles, objectives and expectations of Finnish participants to African counterparts**. Furthermore, we also recommend deeper, better and clearer communication with African partners to determine interests, roles and expectations.

#### 6. NEED TO ADDRESS IPR ISSUES SYSTEMATICALLY AND COMPREHENSIVELY

- Acknowledgement of partners’ rights to create, own, share and utilize results is a cornerstone for STI collaboration. Transfer of ownership of results and/or clear models for ownership of results, including commercialisation, are essential.

**WE RECOMMEND** that **clear mechanisms and models for transfer of IPRs should be developed together with African partners for the different funding instruments, following concrete examples like the Research Fairness Initiative**.

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