

AU-EU High Level Policy Dialogue DRAFT Policy Briefing

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1 Introduction

Calling for more investment and a new perspective on relations, Jean-Claude Juncker, the president of the European Commission, referred to Africa as Europe's 'twin continent' during his 2018 State of the Union address. At the 5th African Union – EU Summit, on 29th of November 2017 in Abidjan, Côte d'Ivoire, both parties agreed to a 'paradigm shift to an even stronger, mutually beneficial partnership in the spirit of shared ownership, responsibility, reciprocity, respect and mutual accountability and transparency'. An increase in efforts for 'research, innovation for sustainable development, including the launch of a partnership on climate change and sustainable energy, and to deepen collaboration between researchers and innovators' was also agreed.

Cooperation between the two continents has since 2000 been guided by the Africa-EU Partnership and reinforced by the adoption of the **Joint Africa-EU Strategy (JAES, 2007)**. The JAES highlights the importance of science and technology for promoting sustainable development in both continents. It has furthermore been recognized that it is essential that the private sector translates breakthrough research into innovative products and services.

Hence, various initiatives were launched to enhance cooperation in science, technology and innovation (STI). Since its adoption in 2010 by the second Africa-EU summit, the **AU-EU High Level Policy Dialogue (HLPD)** on STI functions as the "*platform for regular exchanges on research and innovation policy and aims to formulate and implement long-term priorities to strengthen Africa-Europe cooperation on science, technology and innovation*".

The HLPD supports the implementation of the JAES by defining priority areas for research cooperation. In this context, the HLPD first adopted a roadmap towards a jointly-funded AU-EU Research and Innovation Partnership on **Food and Nutrition Security & Sustainable Agriculture (FNSSA)** in April 2016. The Roadmap outlines an implementation pathway as well as priorities for a jointly developed research agenda. The process is co-owned and co-funded by the European Commission (DG RTD through Horizon 2020 and DG DEVCO through its Pan African instrument), the AU Commission, as well as the EU and AU Member States. In October 2017, a second priority area was formalised through the adoption of a Research and Innovation Partnership on **Climate Change and Energy Security (CCSE)**.

Various challenges have been highlighted by researchers involved in AU-EU STI cooperation regarding the promotion of effective partnerships between Europe and Africa. These include the need to engage the private sector, take into account dependency on personal identities, and to continue finding ways to improve the two-way nature of the partnership.¹ It is also seen as essential to establish structures for learning from successes and failures. As illustrated in the briefing, efforts have been made to incorporate these elements in the formulation of the partnership in order to promote mutually beneficial outcomes.

¹ Ralphs, G and Wagner, I (2018). Towards Better Joint Work: Reflections on Partnership Effectiveness. *Africa-Europe Research and Innovation Cooperation*. Springer.

2 Key developments in R&I Priorities, Policies and Instruments in the EU

Horizon 2020, the 8th Framework Programme (FP8) for Research and Innovation, is implemented by the European Commission. With nearly €80 billion in funding Horizon 2020 (2014-2020) is the biggest EU funding programme, and one of the largest single standing programmes in the world. At the same time, it only makes up roughly 10% of total public R&I funding available in EU from national governments.²

Horizon 2020 aims to strengthen the EU science base, advance EU's technological leadership and innovation capabilities, and tackle societal challenges through R&I. The structure of the programme is based on three pillars: '**Excellent science**', '**Industrial Leadership**' and '**Societal challenges**'.

Since FP1, thematic priorities were developed as reflected in the figure below. The European Research Council and information and communication technologies have become the most funded areas, followed by health and biotechnologies and transport, aeronautics and space.

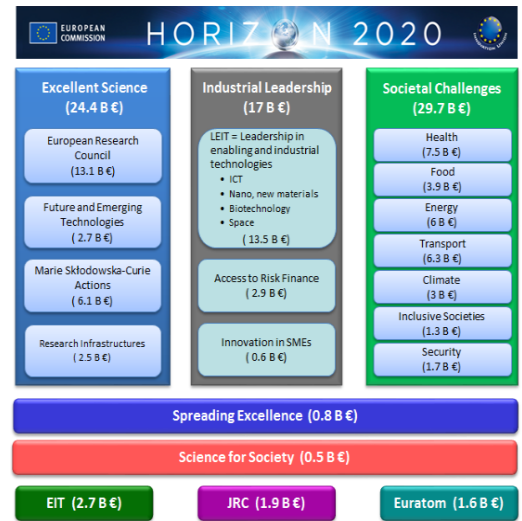
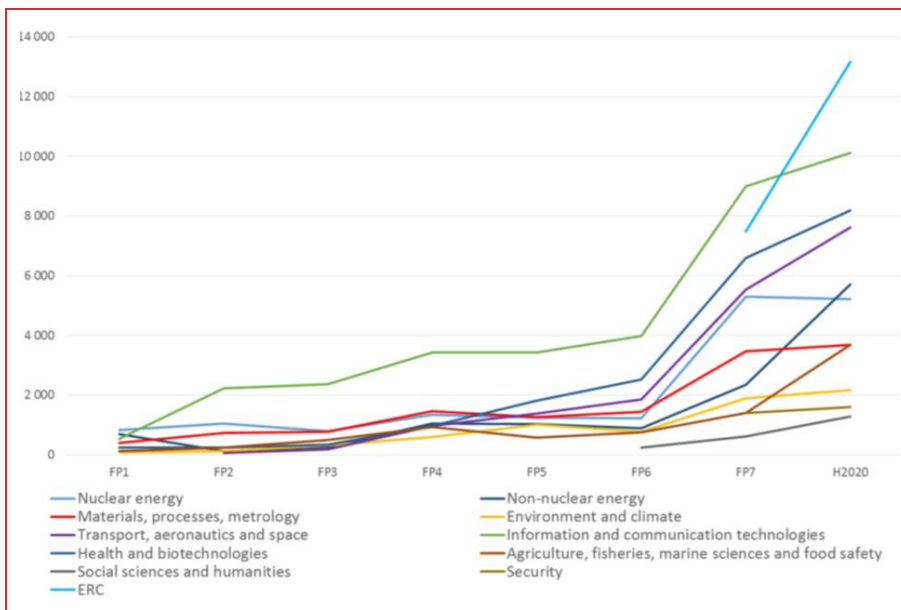


Figure 1 Evolution of FPs in terms of thematic priorities



Source: European Parliamentary Research Service

Horizon 2020 aims to combine direct project funding and leveraging of funding, and policy coordination to maximize effectiveness and efficiency across the continent. In addition, it emphasises to a greater extent the European value of internationalisation beyond the Union's borders, as reflected in the priority "**Open to the World**".

Besides the possibility to participate in most of the Horizon 2020 calls, researchers from third countries can participate in the Marie Skłodowska-Curie Actions (MSCA, Excellent Science Pillar of Horizon 2020). By 2017, MSCA represented half of the third country participation in Horizon 2020.

² European Commission (2017): Interim evaluation of Horizon 2020

The Research and Innovation Staff Action (RISE) under MSCA even has a 32% third country participation rate.

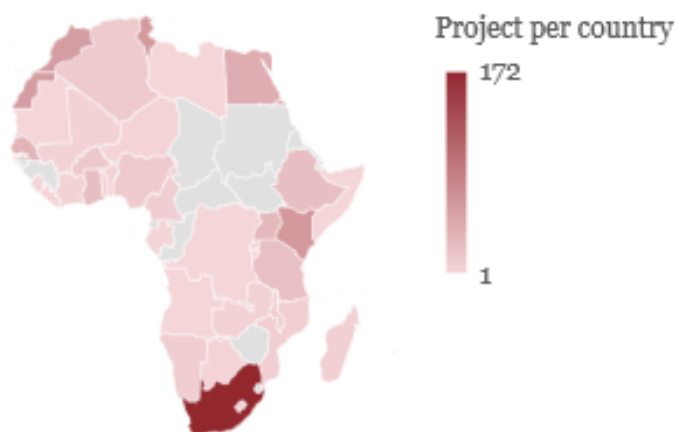
However, **participation by foreign researchers has seen a substantial drop in Horizon 2020** compared to the 7th Framework Programme. As of October 2016, there had been 191 participants from the African Union in 79 projects (€31.2 million) compared to 368 participants during the same period in the 7th Framework Programme. However, DG RTD has emphasized that total international participation in 2018 had increased by 50% compared to the preceding year.

Measures have been put in place to counteract the drop in international cooperation with third countries in Horizon 2020, as compared to the preceding framework Programme. For instance, 30 flagship initiatives have been initiated “of large scale and scope on topics dedicated to international cooperation in areas of mutual benefit, comprising a total budget of over €1 billion”. The Horizon 2020 Work Programme 2018-2020 emphasizes that international cooperation is essential for EU scientific leadership, international competitiveness and global commitments, such as EU external policies, amongst others on development. Flagship initiatives in support of these priorities include: EU-China cooperation in food, agriculture and biotechnology; cooperation with Canada for human data storage, integration and sharing for the purpose of personalised medicine approaches; and the AU-EU Research and Innovation Partnerships on Food and Nutrition Security & Sustainable Agriculture, and on Climate Change and Sustainable Energy.

A network of National Contact Points (NCP) has been organised to provide guidance on all aspects of participation in Horizon 2020. Many NCPs for Horizon 2020 have since been nominated by partner countries, including many in Africa.³

An analysis of the CORDIS-database of Horizon 2020 projects shows that **participation is furthermore unequally distributed** (see the Figure 2 below).

Figure 2 Number of H2020 projects involving African partners, by country (May 2019)



Source: CORDIS, analysis by Technopolis

Besides Horizon 2020 actions, other programmes such as Erasmus+ promote research cooperation through student exchanges in Europe. In the period of 2007-2016, Erasmus+ has funded amongst others the exchange of 4.3 million youth and over 880.000 practitioners.

³ <http://www.idaea.csic.es/sites/default/files/MEDSPRING-Training-H2020-Research-Managers-EC-Int-coop-in-H2020.pdf/>

Horizon Europe

Horizon Europe is the succeeding programme to Horizon 2020 for the period 2021-2027. It is foreseen that Horizon Europe continues largely the line of Horizon 2020, maintaining the three pillars:

- **Excellent Science** is driven by researchers and composed of the mobility programmes and bursaries, research infrastructures, and the European Research Council.
- **Global Challenges and European Industrial Competitiveness** funds research targeting societal challenges and improves the position of industries in Europe. While in Horizon 2020 industry and the societal challenges had different pillars, in Horizon Europe they have been combined. At the current stage, the concept of Missions has been introduced aiming to tackle specific global challenges. Not many details about how this will be implemented are yet available.
- **Innovative Europe** aims to support entrepreneurs in innovative activities through attracting scalable businesses and encouraging co-funding between private and public actors. Financial support will be provided to SMEs through grants and guarantees.

The final legislation on Horizon Europe will be adopted in 2020. It is not expected that specific targets will be set related to the level of cooperation with third countries. However, the Council of the European Union has stated related to international cooperation that: *“the Programme shall ensure the effective promotion and integration of cooperation with third countries and international organisations and initiatives based on mutual benefits, EU interests, international commitments and, where appropriate, reciprocity.”*⁴

3 Key development in R&I Priorities, Policies and Instruments in the AU

The promotion of technological innovation, knowledge production and capacity building has played a crucial part in Africa’s innovation policy. Since the adoption of the **Science and Technology Consolidated Plan of Action (CPA)** in 2005, STI’s role in societal transformations and development processes has gained momentum among governments and policy makers. In 2008, the Executive Council adopted a decision calling on the reconfiguration of Specialized Technical Committees (STC), which merged several STCs into the Specialized Technical Committee on Education, Science and Technology (STC-EST). The committee gathers Ministers of Education, Science and Technology of the African Union Member States.

. Research and Innovation is gaining increased attention in the AU’s policy context as a driver of Africa’s economic development and a tool for sustainable development. **Agenda 2063**, adopted in 2014 by the AU, is a long-term plan to transform the African continent and deliver on the goals of inclusive and sustainable development for Africa and promote Pan-Africanism.

AU R&I priorities

The **Science, Technology and Innovation Strategy for Africa (STISA-2024)**, which succeeded CPA in 2014, is one of the three Agenda 2063 strategies for advancing education and science, technology and innovation priorities. The STISA-2024 is a ten-year strategy aiming to respond to the need for STI to have an impact and address challenges in sectors such as agriculture, energy, environment, health, infrastructure development, mining, security and water.

STISA-2024 has set **six priorities**:

- Eradication of Hunger and Achieving Food Security
- Prevention and Control of Diseases
- Communication (Physical and Intellectual Mobility)

⁴ See European Council, 2019: Confirmed political agreement on Horizon Europe, 27 March 2019, <https://www.consilium.europa.eu/media/38902/sto7942-en19.pdf>

- Protection of our Space
- Live Together- Build the Society
- Wealth Creation⁵

During the 2017 STC-EST meeting, it was recognized that various challenges need to be overcome in order to implement the STISA-2024. A study conducted by the African Capacity Building Foundation regarding the required capacity for implementing the Agenda 2063 indicates that there is a considerable gap in critical technical skills to implement STISA 2024. Particularly, it suggested that Africa could be short of 4.3 million engineers and 1.6 million agricultural scientists and researchers. The role of the STEM pipeline from early childhood must be reinforced. A complicating factor however is that there is a shortage of over 1 million teachers at primary and secondary levels, particularly for STEM subjects and inaccessible regions. This situation is more dire for TVET, which the report of the STC-EST regards as “engine for employability of Africa’s large youthful population”. The STC-EST therefore aims to offer the platform for policy dialogue “on how to channel the complementarity of the two sectors in Africa development.”⁶

STISA-2024 has defined **four pillars** to support achievement of the strategy:

- Building and/or upgrading research infrastructures
- Enhancing professional and technical competencies
- Promoting entrepreneurship and innovation
- Providing an enabling environment for STI development⁷

Spending on research and development in Africa reached 0.45% of GDP prior to the adoption of the STISA-2024, which was up from 0.36% 6 years prior. ⁸ A target of 1% of GDP was endorsed at the Eighth Ordinary Session of the Executive Council of the African Union in Khartoum in 2006, in order to ensure available funds to implement programmes and projects. The United Nations Economic Commission for Africa (UNECA) in 2018 estimated the gross expenditure on research and development (GERD) to stand at roughly 0.5%, concluding that even the “seemingly modest target of raising GERD to 1 per cent of GDP remains elusive”.⁹

According to current (limited) data collated by UNECA, Malawi is the only country in the AU to have reached the 1 per cent target. Kenya, South Africa and Tunisia are currently allocating over 0.7% of GDP to research and development and Uganda declined sharply from 1.1 per cent of GDP in 2008 to 0.23 per cent of GDP in 2014. Expenditure for many African countries has either remained stable in this period (Ghana, Malawi, Namibia, and Senegal) or has accelerated (Egypt, Ethiopia, Kenya, and Mali).

The UNESCO Institute for Statistics has combined data from various sources to produce Figure 3 below, which differs slightly from the figures of UNECA.¹⁰

⁵ https://au.int/sites/default/files/newsevents/workingdocuments/33178-wd-stisa-english_-_final.pdf

⁶ https://au.int/sites/default/files/newsevents/conceptnotes/33178-cn-st20675_e_original.pdf

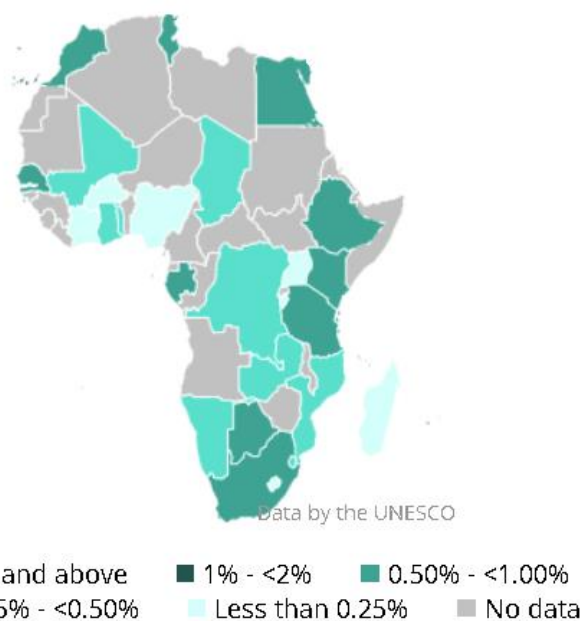
⁷ https://au.int/sites/default/files/newsevents/workingdocuments/33178-wd-stisa-english_-_final.pdf

⁸ https://www.unece.org/sites/default/files/PublicationFiles/eca_policy_brief_beyond_funding-the_research_and_development_rev1.pdf

⁹ https://www.unece.org/sites/default/files/PublicationFiles/eca_policy_brief_beyond_funding-the_research_and_development_rev1.pdf

¹⁰ Note the UNESCO figure indicates no data for Malawi.

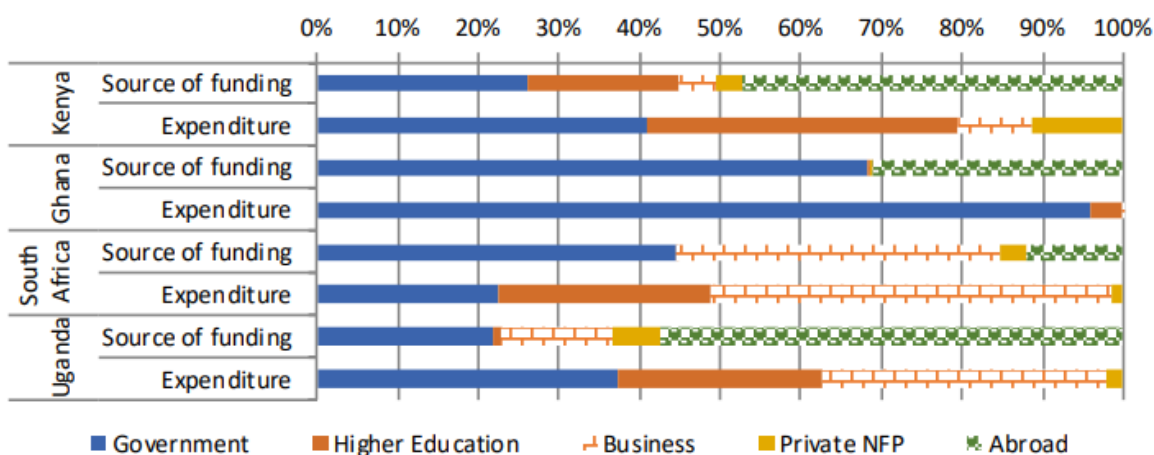
Figure 3 R&I Spending in Africa as percentage of GDP (2016)



Source: UNESCO Institute for Statistics

Most research and development activities in Africa occur at universities and public research institutions, whereas the private sector invests less than half of GERD. The number of researchers in Africa furthermore is roughly 12 times smaller per capita than the global average.

Sources of research and development funding and sectors of performance (expenditure) also vary significantly for various African countries, see the example below:



Source: UNECA. ECA Policy Brief (no. ECA/18/004)

To reach the target of 1% of GDP spending on research and development UNECA recommends various actions:

- “Establishing clear public funding mechanisms for public and private research and development projects
- Looking for public research and development contracts for their domestic research and development institutions
- Encouraging technology commercialization through clear national policies

- Supporting the emergence and growth of technopoles as drivers of research and development expenditure”

4 Progress on EU-AU policy collaboration & synergy in thematic areas

Collaboration between the EU and Africa has been guided by the Africa-EU Partnership, which has been established at the Africa-EU Summit in Cairo in the year 2000. At the 2nd Africa-EU Summit in Lisbon in 2007, the Joint Africa-EU Strategy (JAES) was adopted which guides strategic cooperation between the two continents. The strategy emphasises the importance of technologies to achieve the Sustainable Development Goals. The JAES is implemented through multiannual Roadmaps and Action Plans.

Since 2010, the HLPD functions as the “**platform for regular exchanges on research and innovation policy and aims to formulate and implement long-term priorities to strengthen Africa-Europe cooperation on science, technology and innovation**”. As such it is an important component of the JAES. The HLPD brings together representatives of the respective member states and is co-chaired by the EU (DG RTD of the European Commission) and the AU (chair of the African Ministerial Council on Science and Technology).

The 4th EU-Africa Summit (2014) recognised the **steering role of the HLPD in the Africa-EU STI partnership**, which was working towards activities in areas of mutual interest. Under the HLPD, the Research and Innovation Partnerships on Food and Nutrition Security and Sustainable Agriculture (FNSSA) and on Climate Change and Sustainable Energy (CCSE) have been formed, respectively in 2016 and 2017.¹¹

At the third meeting of the HLPD in April 2016 in Addis Ababa, senior officials adopted the Roadmap towards a jointly funded EU-Africa Research & Innovation **Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA)**. The Roadmap, discussed below, details the implementation of the FNSSA and relevant priorities.

In 2016 the HLPD Bureau started the development of a proposal for a second Research & Innovation **Partnership on Climate Change and Sustainable Energy (CCSE)**. A roadmap for this new partnership was adopted by senior officials at the HLPD in October 2017 (discussed below), and this was approved at the AU-EU Summit in November 2017. Activities have been realised under Horizon 2020 to implement the two roadmaps.

EU-Africa Innovation Partnership

At the 5th African Union – EU Summit, on 29th of November 2017 in Abidjan, Côte d'Ivoire, both parties agreed to a “**paradigm shift to an even stronger, mutually beneficial partnership in the spirit of shared ownership, responsibility, reciprocity, respect and mutual accountability and transparency**”. This included a commitment to increase in efforts for research and innovation for sustainable development and to deepen collaboration between researchers and innovators was agreed. To this end, the European Commission is funding the **Africa-Europe Innovation Partnership**, which will run until May 2021. The Africa-Europe Innovation Partnership aims to support and connect innovation and technology incubators and accelerators in tapping into new markets, find trusted partner across the Mediterranean as well as build new perspectives, knowledge and networks.

The Africa-Europe Innovation Partnership recognises that **incubators, accelerators and technology transfer offices** play a key role in fostering development of innovative enterprises.

¹¹ https://ec.europa.eu/research/iscp/pdf/policy/eu-africa_research_innovation_relations_factsheet_en.pdf

They allow start-ups and SMEs to engage in (new) business opportunities by providing support, guidance, mentorships and coaching, as well as access to essential network contacts. To harness the benefits of disruptive innovation and technology, the Africa-Europe Innovation Partnership seeks to build mutually beneficial partnerships and networks between the two continents by addressing both issues faced by entrepreneurs pursuing growth internationally and challenges in harnessing funding opportunities.

The European Commission launched the Africa-Europe Innovation Partnership on 12 and 13 September 2019 in Nairobi, Kenya.



Launch of the Africa-Europe Innovation Partnership on 12-13 September 2019 in Nairobi, Kenya

4.1 AU-EU Research and Innovation Partnership on FNSSA

An African-European Expert Group supported the development of the **Roadmap towards an AU-EU R&I Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA)**,¹² based on the inputs from

- An Expert Working Group to provide scientific input;
- An HLPD Working Group which produced a landscape analysis of potential instruments for implementing the partnership.

The roadmap, which was adopted by HLPD Senior Officials during their meeting in Addis Ababa in 2016, proposed the basis for the joint research agenda's short-to medium term actions (2014-2016) and on long-term options (2018-2020). The roadmap is structured around **four main pillars**:

- Sustainable intensification
- Agriculture and food systems for nutrition
- Expansion and improvement of agricultural markets and trade
- Cross-cutting issues, including improved coordination, supporting innovation processes, strengthening collaborative capacities, and social and cultural contexts of agricultural and food productions systems.

Over the longer term, the FNSSA should **integrate capacity-strengthening and upgrading** (human, institutional and research infrastructures) and innovation processes. In the short to medium term, the FNSSA seeks to draw upon bi-regional, regional and member state projects, programmes and support mechanisms, with the aim of **aligning this array of initiatives with the FNSSA**.

Currently, the FNSSA is in the phase of novel mechanisms and approaches and setting up of a structure to support implementation of its ambitions. The FNSSA should operate throughout **all stages of the value chain**, linking research to innovation and a wide range of stakeholders.¹³

¹² https://ec.europa.eu/research/iscp/pdf/policy/eu-africa_roadmap_2016.pdf

Direct investments of €70 million were made in the first period (2014-2016). There are a range of regional or multilateral mechanisms supporting the Partnership:¹⁴

- EU's Research Framework Programmes (FP7, Horizon 2020): For the current period (2018-2020), **€90 million of Horizon 2020 funds have been earmarked**.¹⁵ Of this €27 million will be provided from the ERA-NET Cofund, RIA Innovation, RIA Earth Observation, and CRA RI,
- Development Cooperation Instrument (DCI) and the Pan Africa Programme (PAP) within the DCI,
- African Union Research Grant (AURG) programme: €17.5 million
- LEAP-Agri programme: €20 million contribution from AU and EU member states.¹⁶

An AU-EU FNSSA Working Group provides oversight to the partnership, supported initially by the Research and Innovation Network for Europe and Africa (RINEA),¹⁷ to ensure coordination between different instruments and stakeholders.¹⁸ At its kick-off meeting in Addis Ababa in March 2017, the Working Group agreed on **principles for monitoring and evaluation** of initiatives within the Partnership. The Working Group Activities of the FNSSA primarily cover:

- Research in the three priority areas and cross-cutting issues;
- Innovation activities; capacity development, collaboration between stakeholders (trade);
- Women and youth empowerment; policy-development, guidance and alignment;
- Collection and analysis of relevant information and data.

Expected **outcomes** of the Partnership are:

- *Research and innovation agenda designed and executed by African and European scientists to promote development;*
- *Knowledge produced in the areas of food and nutrition security and sustainable agriculture;*
- *Novelty: products, processes, organisational, marketing, social and public;*
- *A functional information system for relevant R&I indications & indices.*¹⁹

According to the Roadmap, success of the Partnership will require an “optimised organisational backbone, with local, national, regional and bi-regional elements”.²⁰ An initial **evaluation** of the FNSSA Partnership in 2017 highlights the difficulties in adapting traditional research funding mechanisms to the goal of integrating research and innovation.²¹ Two **challenges** stand out from the evaluation:

¹³ https://ec.europa.eu/research/iscp/pdf/policy/eu-africa_roadmap_2016.pdf

¹⁴ https://www.africa-eu-sti-portal.net/media/content/ME%20Chapter_Cherry_Konte.pptx

¹⁵ <https://www.africa-eu-sti-portal.net/en/1144.php>

¹⁶ LEAP AGRI is a network encompassing African and European funders and ministries which jointly engaged in strategic and funding measures to support the implementation of the first partnership on FNSSA.

¹⁷ RINEA (2015-2018) was a Horizon 2020 funded consortium encompassing 13 partners of which six European and 7 African, led by the German Aerospace Center (DLR); <https://www.fct.pt/apoios/cooptrans/csa/rinea/index.phtml.en>

¹⁸ https://ec.europa.eu/knowledge4policy/publication/eu-africa-research-innovation-partnership-food-nutrition-security-sustainable_en

¹⁹ https://www.africa-eu-sti-portal.net/media/content/ME%20Chapter_Cherry_Konte.pptx

²⁰ https://ec.europa.eu/research/iscp/pdf/policy/eu-africa_roadmap_2016.pdf

²¹ <https://www.africa-eu-sti-portal.net/media/content/FNSSA%20light%20evaluation%20report.pdf>

- The need for concerted efforts to both “expand the diversity of implementing initiatives and to improve their interconnectedness”.
- Overcoming a perception on the part of a various stakeholders that the Partnership needs a clearer vision of its added value in an already crowded landscape of initiatives in this thematic area.

This suggests exploring further institutionalisation of the Partnership, as suggested in another recent review by researchers.²²

4.2 AU-EU Research and Innovation Partnership on CCSE

The **Roadmap for a jointly funded AU-EU Research & Innovation Partnership on Climate Change and Sustainable Energy** envisions a “long-term, jointly funded, and co-owned partnership” and consists of two pillars:

- Climate action for adaptation and mitigation (Pillar 1) established three domains for actions – two related to climate services and one on an “integrated approach that supports informed decision-making and implementation for a low-carbon and climate-resilient development”.
- Sustainable Energy (Pillar 2).

The CCSE Partnership will focus on supporting actions related to **renewable energy, energy efficiency and cross-cutting issues** related to climate change and sustainable energy (such as human capital development). Momentum is derived from various global agreements, such as the Paris Agreement and the 2030 Agenda for Sustainable Development (SDGs). CCSE will be the framework for cooperation on R&I activities and stimulate alignment of R&I activities related to climate change and sustainable energy. The Roadmap recognizes that although African countries are not major greenhouse gas-emitters, it is important to avoid “development paths that are carbon-intensive”.

The Roadmap is divided into **three phases**:

- Establishment of enabling environment/capacity/regulations
- Conducting joint research in priority areas
- Commercialisation and utilisation of research results

One of the projects that had been initiated to give shape to the CCSE Partnership is **PRE-LEAP-RE: Preparing for a Long-Term Joint EU-AU Research and Innovation Partnership on Renewable Energy**. The project, which gathered 17 partners from 14 AU and EU countries, has been finalised in August 2019. This consortium was tasked to:

- Identify and analyse initiatives between Africa and Europe in the field of renewable energy, to establish synergies and avoid duplication. It also serves as a way to identify issues that are underserved.
- Design a research and innovation agenda.
- Elaborate organisational and funding principles for the management of EJP (European Joint Programming).
- Build a multinational network of various stakeholders.

²² Albergel, Jean, Arlène Alpha, Nouhou Diaby, Judith-Ann Francis, Jacques Lançon, Jean-Michel Sers, and Johan Viljoen. “Bi-Regional Scientific Cooperation on Food and Nutrition Security and Sustainable Agriculture.” In *Africa-Europe Research and Innovation Cooperation: Global Challenges, Bi-Regional Responses*, edited by Andrew Cherry, James Haselip, Gerard Ralphs, and Isabella E. Wagner, 65–79. Springer International Publishing, 2018. https://doi.org/10.1007/978-3-319-69929-5_4.

5 Emerging issues

Collaboration on research and innovation between Africa and the EU is both widening and deepening. And at the same time, the R&I arena is becoming **multipolar** and **more decentralized**. There is a growing array of initiatives in this maturing ecosystem. This suggests ongoing attention to possible synergies and coordination opportunities. Some of the relevant examples are (in no particular order):

- **Mission Innovation:** an international initiative working to accelerate clean energy innovation and thus of relevance to the CCSE Partnership; members include Morocco, the EU (and also separately EU members, Austria, Denmark, Finland, France, Germany, Italy, the Netherlands, Sweden and the UK), in addition to other countries.²³
- **Global Monitoring for Environment and Security (GMES):** an initiative of the EU and the European Space Agency, with monitoring and analysis in the areas of food security and climate change, among others.²⁴
- **UN Technology Bank for Least Developed Countries:** a UN initiative to support least developed countries build science, technology and innovation capacity.²⁵
- **Technology and Innovation Support Center (TISC):** a programme of the World Intellectual Property Organization (WIPO) to provide innovators in developing countries with access to locally based, high-quality technology information and related services, with an emphasis on management of intellectual property (IP).²⁶
- **Altadeva:** an organisation currently with primarily French and European partners that seeks to enhance transfer of existing technologies to meet the needs of poor populations.²⁷

Some **philanthropic organisations**, such as the Bill and Melinda Gates Foundation, have become large actors in the research and innovation landscape in Africa.

One positive aspect of this increasing diversity is the likely stimulus to **linking research to innovation and application**. At the same time, there are challenges for established frameworks of collaboration, including the HLPD and the thematic partnerships in ensuring exchange, coordination and efficient use of human capital, which although growing is still a scarce resource.

6 Conclusions and recommendations

The scope of this briefing is very broad and its purpose is largely informative. Nonetheless a few concluding observations and recommendations may be made:

- New partnerships on FNSSA and CCSE, as well as the EU-Africa Innovation Partnership mark a **continuing maturing** of the relationship between Africa and the EU.
- Both unions consist of a wide range of member states and large diversity of actors. Innovative approaches will therefore be helpful in enhancing **exchange and coordination** across a wide array of activities and initiatives in research and innovation. This also applies to the increasing array of multilateral or philanthropic initiatives of a more global nature.

²³ <http://mission-innovation.net>

²⁴ <https://www.africa-eu-partnership.org/en/success-stories/gmes-and-africa-making-development-sustainable>

²⁵ <https://www.un.org/technologybank/>

²⁶ <https://www.wipo.int/tisc/en/>

²⁷ <https://altadeva.org/>

- There may be opportunities for **mutual support between the FNSSA and CCSE thematic partnerships and the EU-Africa Innovation Partnership**²⁸, which would enhance the much-needed links between research and innovation. For example, FNSSA research has historically concentrated on agricultural production and devoted less attention to post-harvest and whole value chain approaches. Possibilities that might be explored include the participation of coordinators and key actors from the thematic partnerships in start-up events envisaged in the Innovation Partnership. A needs assessment could be undertaken among researchers and/or innovators for some kind of matchmaking service or simply information platform to connect start-ups with research players.

²⁸ SF(19)