



EU-Africa High Level Policy Dialogue
on
Science, Technology and Innovation

Addis Ababa, 4-5 April 2016



**Roadmap towards a jointly funded
EU-Africa Research & Innovation Partnership
on
Food and Nutrition Security and Sustainable Agriculture**



THE AFRICA-EU PARTNERSHIP
LE PARTENARIAT AFRIQUE-UE

Table of Contents

Preamble	Page 3
Executive Summary	Page 4
I. An innovative initiative: rational and objectives	Page 5
II. Implementation of the EU-Africa Research and Innovation Partnership on Food and Nutrition Security and Sustainable Agriculture	Page 6
II.1 Lessons learned on Africa-Europe Science, Technology and Innovation collaboration	
II.2 Selection criteria for activities of the Research and Innovation Partnership	
II.3 Short, medium and long term actions	
II.4 Funding mechanisms	
III. The basis for a jointly developed research agenda	Page 9
III.1 Research and Innovation theme 1: Sustainable intensification	
III.2 Research and Innovation theme 2: Agriculture and food systems for nutrition	
III.3 Research and Innovation theme 3: Expansion and improvement of agricultural markets and trade	
III.4 Cross-cutting issues	
IV. Monitoring and Evaluation of the Research and Innovation Partnership	Page 12
IV.1 Monitoring and Evaluation criteria	
V. Conclusions	Page 13
Acronyms	

Preamble

Shared vision and common objectives between Africa and Europe regarding the contributions of scientific and technological research and innovation to social and economic growth laid the foundation within the framework of the Joint Africa-EU Strategy (JAES) for the emergence of a High Level Policy Dialogue (HLPD) on Science, Technology and Innovation (STI) in 2010.

It is on the basis of this shared vision and common objectives that our Heads of State and Government at the EU-Africa Summit 2014 invited the EU-Africa High Level Policy Dialogue on Science Technology and Innovation to work towards a long-term, jointly funded and co-owned EU-Africa Research and Innovation (R&I) Partnership on food and nutrition security and sustainable agriculture (FNSSA).

At the same time, the HLPD has an obligation to be consistent with various policy developments in Europe and Africa:

- “On the wings of innovation”, the AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024)
- The Science Agenda for African Agriculture (S3A) developed by the Forum for Agricultural Research in Africa (FARA) in support of the Comprehensive Africa Agriculture Development Programme (CAADP) and the Malabo Declaration
- The European Union’s growth strategy (Europe 2020), the “Innovation Union”, and the EU Programme for research and innovation Horizon 2020
- The EU Common Agricultural Policy
- The EU development strategy “an Agenda for Change”

This roadmap proposes the basis for a joint research agenda, short-to medium term actions towards implementation (2014-2017) and reflections on long-term options for implementation (2018-2020 and beyond) and is based on the input of three different working groups:

1. An expert working group with 5 African and 5 European experts from the domain of FNSSA, which was set up by the High Level Policy Dialogue Bureau following a rigorous selection methodology. This expert working group was tasked to prepare a [scientific input](#) to the roadmap between April 2014 and April 2015. A targeted public consultation phase was launched in February/March 2015;
2. A High Level Policy Dialogue Bureau working group led by the United Kingdom and South Africa that undertook a landscape analysis of potential [instruments for implementing](#) the Research and Innovation Partnership between June and December 2015;
3. A High Level Policy Dialogue Bureau working group led by Burkina Faso and Portugal that developed the [Monitoring and Evaluation](#) framework of the R&I Partnership.

Executive Summary

The development of an EU-Africa Research and Innovation Partnership on food and nutrition security and sustainable agriculture is prompted by the level of global hunger, expanding nutritional imbalances, and the need for food production systems to sustainably respond to the rising demands of a global population. As well as recognising the substantial convergence between the objectives of African and European regional policies in agriculture and in science, technology and innovation and the adoption of the Sustainable Development Goals.

Convinced that some of the challenges of the current cooperation between Europe and Africa on Science Technology and Innovation for food and nutrition security are fragmentation of efforts and knowledge (new and traditional) being insufficiently mobilised to sustain innovation processes.

The objective of the EU-Africa Research and Innovation Partnership on food and nutrition security is to contribute to these challenges in an innovative manner.

Key features of the Research and Innovation Partnership are the enhanced coordination of Food and Nutrition Security and Sustainable Agriculture-relevant research and innovation policies, programmes and funding mechanisms between Europe and Africa, building on past experiences to create synergies and optimise investment and identify gaps; Operating in a food systems approach and across the entire value chain, linking research to innovation, involving all relevant stakeholders for enhanced impact at local level; jointly designed, owned, managed and resourced; taking an integrated approach, recognising the cross-cutting nature of entrepreneurship, research infrastructures and research and innovation capacity building.

Four priority themes are proposed as a basis for a joint research agenda of the EU-Africa Research and Innovation Partnership: 1) Sustainable intensification; 2) Agriculture and food systems for nutrition; 3) Expansion and improvement of agricultural trade and markets; and 4) A group of cross-cutting topics. Across these four indicative themes specific research projects should be identified, drawing on agreed criteria, in a joint consultative process with a broad range of stakeholders.

In the short to medium terms, in order to build momentum, the Research and Innovation Partnership draws on current and new bi-regional, regional and member state projects, programmes and support mechanisms, where goals broadly align with those of the Research and Innovation Partnership. Looking to the longer term, the Research and Innovation Partnership must make use of novel mechanisms and approaches and elaborate a dedicated structure to support the Research and Innovation Partnership's implementation, as well as assuring the vital aspect of monitoring and evaluation. Such a structure would comprise the necessary multi-disciplinary and multi-sectoral actors in food systems, representation of the full value chain, and would include a wide range of partners and funders.

I. An innovative initiative: rationale and objectives

The unacceptably high level of global hunger, the prevalence of undernourishment, and the projected global population growth with associated changes in food habits all underscore the need for world food production to increase and world food systems to change dramatically. Food security implies not only adequate quantity, but also secure access to stable food supplies, food quality beyond its calorific value, and food affordability. In addition reducing food losses and waste is crucial, FAO estimates around one third is lost in the food supply chain close to the farm in Africa and close to the consumer in Europe. Moreover, the burden on society arising from epidemics of obesity and diet-related non-communicable disease in African and Europe speak to the simultaneous need for nutritional security.

Despite increasing investment, achieving food and nutrition security continues to present a challenging target, and all the more so in the light of the complicating factors of climate change, dwindling natural resources, and extremely volatile energy costs. It underpins a number of Sustainable Development Goals of the newly adopted Agenda 2030, most importantly SDG 2 "end hunger, achieve food security and improved nutrition and promote sustainable agriculture".

While the food and nutrition security situations in Africa and Europe differ in detail, substantial convergence exists between the goals of African and European regional agricultural and food production systems as set out by relevant strategies and programmes in both Africa and Europe. Both Europe and Africa for instance share the objectives of producing more with appropriate use of inputs, enhancing income growth, and promoting rural development. The capacity to achieve these objectives very much depends on scientific progress, as well as other conditions such as a favourable political and institutional climate.

Some of the challenges of the current cooperation between Europe and Africa on STI for food and nutrition security are fragmentation of efforts and knowledge (new and traditional) being insufficiently mobilised to sustain innovation processes.

The objective of the EU-Africa Research and Innovation Partnership on food and nutrition security is to contribute to these challenges in an innovative manner.

Key features:

- Enhanced coordination of FNSSA-relevant research and innovation policies, programmes and funding mechanisms between Europe and Africa, building on past experiences in Agricultural Research and Agricultural Research for Development to create synergies and optimise investment and identify gaps.
- Operating across the entire value chain, linking research to innovation, involving all relevant stakeholders from private sector (including farmers), civil society, government and research organisations for enhanced impact at local level, generating locally relevant innovation and exchangeable knowledge and know-how.
- A jointly designed, owned, managed and resourced Research and Innovation Partnership including the Research and Innovation Agenda;
- An integrated approach, recognising the cross-cutting nature of entrepreneurship, research infrastructures and research and innovation capacity building and attention to critical policy and market conditions for sustainable agricultural production and food security

II. Implementation of the EU-Africa R&I Partnership on FNSSA

II.1. Lessons learned on Africa-Europe STI collaboration

The landscape of Africa-Europe STI collaboration comprises a diversity of initiatives, from short term projects to long term networks, with public and public-private engagement, employing a range of collaborative arrangements and financing mechanisms and which focus variously on novel research, on innovation, or on capacity building in the domain of food production and consumption. The experiences of these initiatives offer valuable lessons for the Africa-Europe R&I Partnership on FNSSA. Of particular interest are those initiatives of a longer-term nature, multidisciplinary initiatives addressing research, innovation and capacity building together, and those which have employed co-funding financial models and novel collaborative mechanisms: ERAfrica, EDCTP, JPI Water, and the Grow Africa Partnership are just some of many initiatives that deserve mention. Acknowledging the imperative of broad engagement, the R&I Partnership should be implemented through a portfolio of collaborative arrangements and financing mechanisms, tailored to optimising its activities and participants.

➔ *See annex 2 of the Expert Working Group report and annexes 1, 2 and 3 of the High Level Policy Dialogue Bureau Working Group 1 report for a full analysis of lessons learnt*

II.2. Selection criteria for activities of the R&I Partnership

To be selected as forming part of this R&I Partnership, activities should fulfil the following criteria:

- Joint interest¹ (including co-design and joint scoping), joint governance², joint investment for and by Europe and Africa;
- Promoting a systemic approach to research and innovation;
- Adapted to a programme level partnership;
- Strengthening collaboration between researchers and other stakeholders;
- Novelty and with a potential for leverage;
- Focused on STI but within a vision for impact.

II.3 Short, medium and long term actions

Short, medium and long-term actions are envisaged in developing the EU-Africa R&I Partnership on FNSSA, the timing of which broadly aligns with the milestones as foreseen in ‘The Way Forward’³, with each action building progressively on the previous.

Short term (up to 2016)

Work starts with the joint development of a research agenda by jointly designing a roadmap and meta mapping, building on existing initiatives in developing the R&I Partnership on FNSSA, whose goals and activities broadly align with those of the R&I Partnership. Projects and initiatives such as CAAST-Net Plus (Science, Technology and Innovation Cooperation between Sub-Saharan Africa and Europe), PAEPARD (Platform for African European Partnership on Agricultural Research for Development), ERAfrica (coordination platform between European and African research funders) and ESASTAP (Strengthening Technology, Research and Innovation Cooperation between Europe and South Africa) are each supporting

¹ “Joint interest” could be defined as research leading to applications both in Africa and in Europe, or research on global (like climate change) or bi-continental (like movement of pests and pathogens between Europe and Africa) issues affecting or threatening FNS in both continents.

² “Joint governance” implies the existence of an explicit agreement between African and European stakeholders (including but not limited to research institutes), regarding a common subject to be tackled, a work plan, a monitoring and reporting system (with accountability), a communication and policy outreach strategy.... Such agreement could be of “variable geometry” but with a mid to long term commitment.

³ Annex to the conclusions of the 2013 meeting of the EU-Africa HLPD on STI.

the emerging R&I Partnership during this phase. Competitive calls for joint research and innovation and for capacity building are launched that lead to the establishment of for example RINEA (Research and Innovation Network for Europe and Africa) and ProIntensAfrica. (EU-Africa project with focus on sustainable intensification) Initiatives are clustered and a process of interaction between researchers and, policy makers and the private sector, including farmers, is initiated to achieve impact on the ground. Different actors take part in different parts of the value chain. A dialogue is initiated with STI and development funders in Europe and Africa. Alignment and mutual reinforcement is sought with global partners, such as the CGIAR and the FAO. This must contribute to the integration of research efforts at a higher level of scale.

Medium term (up to 2017)

The medium term actions are those of consolidation, investing in reducing fragmentation in the landscape, in building synergies and clustering, and fostering co-ownership of a range of stakeholders of the value chain and financing mechanism. This phase sees the appearance of a new suite of co-funded EU-Africa initiatives, more explicitly associated to and driven by the R&I Partnership's objectives and its FNSSA focus, such as an ERANET COFUND (Horizon 2020 instrument) and the African Union Research Grants. Work continues on jointly developing a research agenda and reflections start on long-term options for the R&I Partnership. Best practices and conditions for success distilled from earlier bi-regional initiatives will serve as models for future activities and for organisational modalities. Five such conditions are proposed which in addition to the consolidation of joint research agenda started in the short term, include a multi-layered organisational structure, the creation of an accountability framework for monitoring and evaluation against key indicators; a communication strategy; mutually reinforcing activities in terms of pooling of resources and building on each other's strengths (rather than competing); and a suite of funding partners and financing modalities.

Long term (2018-2020 and beyond)

Longer term success relies on the complete establishment and integration into the landscape of the R&I Partnership, supported by its fully operational organisational/governance structure. An optimised organisational backbone, with local, national, regional and bi-regional elements allows for development of mutually strengthening activities of the different partners and their shared ownership while retaining individual identity and goals. The partners would represent the full value chain.

The formal structure would continue the steps started in the short and medium term phases, carrying forward the R&I Partnership's activities, while simultaneously assuring that the key conditions are met and maintained. The process of agenda setting, established in the short term, continues in the longer-term via a dedicated team under the formal organisational structure, assuring legitimacy through broad participation and extensive consultation. The organisational structure also takes on responsibility for measuring partnership progress against a shared vision according to a group of agreed indicators. It assures a funding strategy that draws on pooling of financial resources, and it assures the mutually reinforcing nature of partners' activities at local and bi-regional levels. Regular communication, also feature of successful partnerships and their maintenance, builds trust, transparency and ownership across partner cultures, reinforcing relationships and shared vision of purpose.

As it expands over the next 10 years, the R&I Partnership will also evolve organisationally. A Partnership of variable geometry, without entry and exit barriers, allows the institutional agility to support an array of activities. A consistent approach to governance and to the

relationship with the formal HLPD process, supported by a rigorous administrative and managerial structure that includes project management capacity is also necessary.

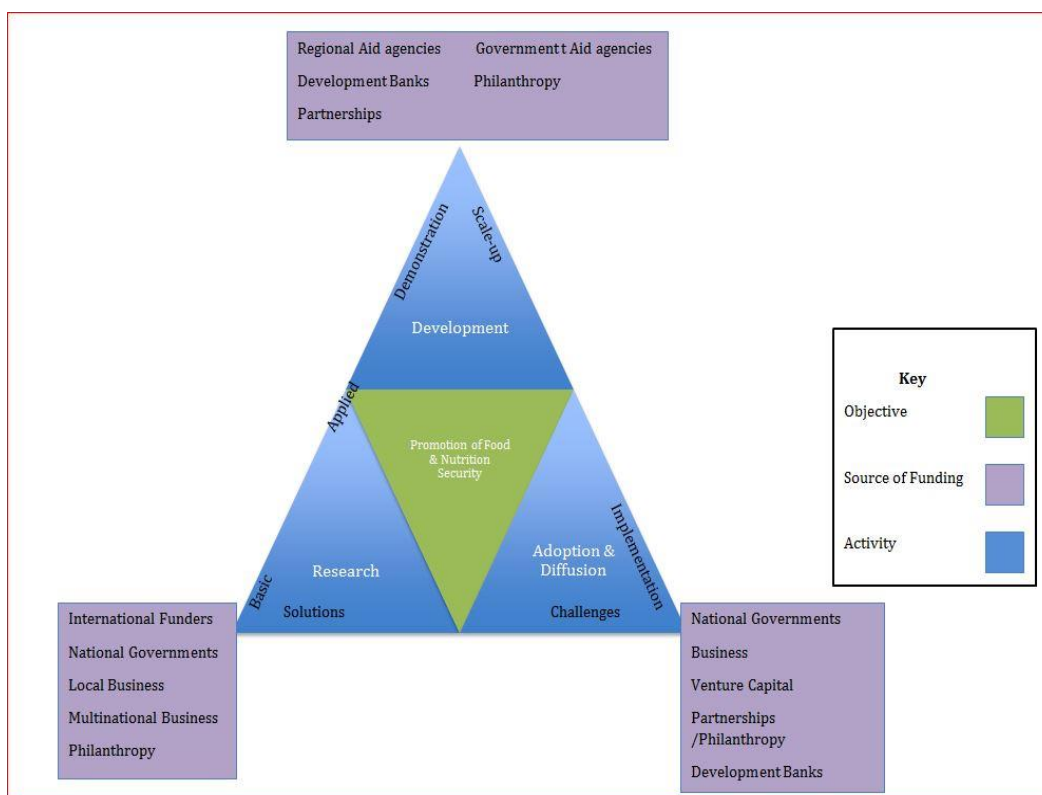
II.4. Funding mechanisms

A core feature of the R&I Partnership is that of co-funding and the co-ownership that co-funding engenders. While individual initiatives may not necessarily all meet the criterion of co-funding, it would be essential to find an overall balance in the R&I Partnership.

Co-funding, and the additional core features of including activities that cover the full value chain, and of integrating research and innovation necessitate recourse to a full suite of funders and mechanisms. That suite should include, but not be limited to at least three broad groupings: (i) conventional research funding agencies (such as continental / regional commissions, national research councils, philanthropic and private sector companies), (ii) development agencies (such as continental and national agencies, development banks, global & national partnerships), and (iii) business investment partnerships including venture capital funds and private sector companies.

The fundraising strategy implemented in the longer term, in addition to contingency on a diversity of funding agencies, would employ an array of mechanisms according to purpose, including but not limited to non-returnable conditional grants, co-funded grants, loans and guarantees, intellectual property, venture capital, targeted commissioning; mobility and exchange programmes; collaboration support tools; workshops. For any individual initiative the support of funding agencies might be contingent on the stage of value chain or the research-innovation spectrum being addressed, with potentially multiple funding resources.

Diagram 2: Representation of funding sources



III. The basis for a jointly developed research agenda

It is proposed that the R&I Partnership on FNSSA be organised around a set of four priority areas. The selection of priority areas is guided by five criteria:

1. Relevance of the research domain to African and European priorities for sustainable agriculture and food and nutritional security (e.g. CAP⁴ and CAADP⁵ objectives).
2. Expected impact of research and likelihood of uptake contributes to solutions and evidence for policy change, to positive agricultural and nutritional outcomes and to significant improvements in economies, wellbeing and resilience.
3. Capacity for joint research in both African and Europeans scientific communities.
4. Scalability of research & innovation impact at national or regional scales.
5. Complementarity to existing bilateral and multilateral collaboration.

Three priority areas are broad themes for research and innovation activities, with the fourth comprising a group of cross-cutting issues. In and across the priority area the R&I Partnership will provide short- to medium-term solutions to challenges in African and European contexts, while also building the relevant R&I capacities for achieving longer-term objectives. Across each of the research themes, while specific European and African interests may vary, the scientific agenda and specific R&I activities, to be developed in collaboration between African and European scientists and other stakeholders, will focus on topics where joint efforts will have greatest benefit.

III.1 Research & innovation theme 1: Sustainable intensification⁶

Africa and Europe share the challenge of producing more food for growing populations while reducing the environmental impact of food production system and their demands on ecosystem services. While the two regions' food production systems and value chains differ substantially in many aspects, for instance in their influence on global food supply, in the access of farmers to knowledge, services, and technologies, in their productivity, in the availability of uncultivated land, and while the demographic trends that are demanding increased production are concentrated in the global South, both regions are aiming for enhanced sustainability of their production systems. At the same time, both regions are facing significant structural and organisational transformations in agricultural and rural settings entailing far-reaching social change, although the trajectories of these changes differ in the two regions.

Possible areas are suggested for joint research and innovation to improve food production, and to reduce environmental impact and resource depletion.

- Ecological intensification approaches which optimise the use of ecosystem services to produce food at low realistic costs and lowest environmental impact.
- The identification and breeding of animals and crops to maintain/increase productivity and resilience under conditions of limited external inputs and increased abiotic and biotic stresses.
- Animal (incl. fish) and crop health, from farm to international scales, to develop sustainable approaches to optimising resource efficiency, minimising production losses and avoiding geographical spreading of diseases/pathogens.
- Appropriate soil, water, land and input management, including improved mechanization, integrated pest management, precision agriculture and good irrigation

⁴EU Common Agricultural Policy

⁵Comprehensive Africa Agriculture Development Programme

⁶ Definition of "Sustainable Intensification": to produce more outputs (not limited to agricultural products) with a more efficient use of all inputs (not only improved seeds and fertilizers but also knowledge and know-how) on a durable basis, while building resilience and the social and natural capitals, reducing environmental damage and improving the flow of environmental services.

practices, with the aim of delivering food and non-food products at low costs and lowest environmental impact.

- Advanced informed marine spatial planning and functioning of marine ecosystems, and aquaculture technologies and systems that are environmental and economically sustainable, towards increased production with minimal impact on ecosystem functioning and reduced environmental footprint.
- Organizational innovations, through new business models, farmer market information systems, insurance, and land use and availability, facilitating uptake of innovations across farms and rural communities.

III.2 Research & innovation theme 2: Agriculture and food systems for nutrition.

While agriculture is the basis for food production and therefore contributes substantially to nutrition, scope exists for research directed at improving agriculture and food systems specifically for improved diets and nutritional outcomes.

Dietary inadequacy takes very different forms but all are linked to limitations in the production, availability, access, affordability and consumption of highly nutritious foods and to social behaviour.

While the average diets and nutritional conditions of Europeans and Africans may differ, and levels of under-nutrition in Europe are below those in Africa, the regions do have common nutritional challenges. Globalization is fostering some convergence of African and European food systems, creating shared challenges and opportunities. Many communities in Africa and Europe for instance have diets high in cheap, energy dense foods such as refined carbohydrates and fats which contribute to obesity and non-communicable diseases (NCD). Both under-nutrition and obesity are associated with micronutrient deficiency, and both continents share a common food future characterized by growing micronutrient deficiency and diet-related NCDs, if agriculture and food systems are not changed.

Research on improving agriculture for nutrition in both Africa and Europe will therefore place particular emphasis on increasing the availability, accessibility and affordability of micronutrient-rich foods through improving sustainable production systems for nutritious crops, livestock and marine and freshwater fish.

A common African and European R&I agenda on nutrition-sensitive agriculture and food systems for improved nutrition could include the following possible areas:

- Improved food value chains (conventional and organic) for delivering and accessing more nutritionally rich food to all (urban, local markets, vulnerable groups) with minimal loss of nutritional value, reduced wastage (along the whole food chain) and a high level of safety.
-
- Improved nutritional value of crops and animal products through advances in breeding and biotechnological innovation, such as bio-fortification as well as new or adapted innovative protein sources for cost-effective and resource-efficient alternatives (proteins of the future).
-
- Understanding consumer behaviour with respect to healthy diets and nutrition, and the role of education and incentive systems, for improved nutrition.
- Public-private partnerships on improved nutritional quality of foods, particularly horticultural products and processed foods, in the marketplace.

- Developing a common methodology for the physiological basis of nutrition, its relation to diets, the microbiome, age and general health and the influence of genotype and personal history on individual nutritional profiles.

III.3 Research & innovation theme 3: Expansion and improvement of agricultural markets and trade.

Enhanced trade within and between the two regions will have benefits for the farmers, consumers, and governments of both. In Africa in particular, agriculture remains a principal mean of economic growth for many African countries. Markets and trade play an important role in future growth at domestic, regional and international levels.

While Africa-Europe agricultural trade is highly asymmetric, a shift is anticipated as African agricultural growth is further enhanced. Europe represents a major growth market for African agriculture while the demand of Africa's growing middle class provides a growing market for European agricultural and food products. Furthermore, Europe's experience of developing intra-regional trade may offer useful lessons for intra-African trade.

A common, but non-exhaustive African and European R&I agenda for improving agricultural markets and Africa-Europe trade could potentially include the following elements:

- Non-tariff trade barriers: Understanding differences of perception about quality and safety attributes for informing evidence-based decisions on non-tariff barriers to trade.
- Surveillance, monitoring and diagnostic systems: Lack of harmonisation of import and export requirements constitutes an impediment to regional and international trade. Collaborative development and broad application of methodologies for food safety issues, standardisation and traceability would permit improved trade in food products.
- Innovation in the bio-economy: Both regions / countries within the regions are developing bio-economy strategies but with differences in their reliance on scientific inputs.
- Food and input price stability and system resilience: The two regions have common interest in reducing price volatilities in national and international markets. Research on agricultural and food markets, institutional arrangements, infrastructure and information systems aimed at reducing price volatility and building resilience will benefit consumers and agribusiness.
- Global value chains and markets: Possible topics for joint research & innovation activity could include, among many others, mechanisms for linking smallholder farmers & rural communities to markets; access to credit and investments; adding value to respond to market opportunities including horticultural, organic, fair-trade and other quality label production and through the processing chain; the impact of urbanisation on trade and rural-urban linkages; and new approaches to food safety.

III.4 Cross-cutting issues

1. Improved coordination between European and African FNSSA R&I projects.

Many projects, funded by a diversity of bilateral and multilateral donors, are currently implementing R&I activities in Europe and in Africa on issues related to FNSSA. Improved coordination of current and future initiatives is proposed through clearing and sorting house mechanisms that would improve linkages and synergies, and that would reduce duplication, fragmentation and inefficiencies in the FNSSA cooperation landscape. These mechanisms aim to stretch out to the initiatives of partners not directly involved in the R&I Partnership too.

2. Supporting innovation processes.

It is a feature of the R&I Partnership that it strives to integrate research and innovation activities. Innovation has been at the centre of many STI initiatives in Europe and Africa. The lessons learned from these and other models of research and innovation integration will assist the R&I Partnership in its aim of better translating research outputs into tangible outcomes, focussing notably on multi-disciplinary and multi-actor proposals.

It is a related feature that the R&I Partnership will address whole value chains in a systems approach. While individual activities may not necessarily address an entire value chain, it is incumbent on the R&I Partnership to ensure an integrated approach to activities that does assure whole value chain coverage and support for innovation processes. It includes that conditions for research uptake are denominated already when designing a programme.

Through innovation activities under the three thematic priorities, and through research into the innovation process itself under this cross-cutting area, notably at diverse levels in the context of the priority themes, the R&I Partnership will generate a broad evidence base for enlightened decision-making by public and private players alike in agricultural, agri-food and rural systems.

3. Strengthening collaborative capacities of R&I communities:

Activities of human, institutional and infrastructural R&I capacity building and gender issues are an important element of the R&I Partnership, helping to build a broader engagement between African and European R&I communities. While activities should primarily target the areas of greater need, both regions will derive benefit from the improved links between continents that will ensue.

4. Social and cultural contexts of FNSSA production systems:

Social and cultural features of food production systems in both continents are determinants of technology adoption and use. This R&I Partnership should therefore include and integrate joint activities of complementary social science research.

IV. Monitoring and Evaluation of the R&I Partnership on FNSSA

A comprehensive, two-layered framework is envisaged using established qualitative and quantitative methodologies for the monitoring and evaluation (M&E) of the R&I Partnership on FNSSA implementation and impact, under the governance of the HLPD Bureau and operationalised via its supporting instruments or external agencies, distanced from and independent of the administration and management of the R&I Partnership organisational structure. As a dynamic tool the M&E plan will evolve with the R&I Partnership in response to changing circumstances and exigencies.

The framework integrates the R&I Partnership's cross-cutting activities of dissemination, networking and preparation in a first layer, with the R&I Partnership's programmes and technical initiatives in a second layer, employing agreed indicators appropriate to each layer.

At the macro level, overall R&I Partnership assessment operates via the continuous monitoring of input and output indicators appropriate to the R&I Partnership's scope and thematic / programme coverage. At the micro-level, individual activities in each of the R&I Partnership's thematic areas / programmes are integrated with and monitored as elements of respective value chains.

IV.1 M&E criteria

Assessment of the implementation of the R&I Partnership, its programmes and its individual projects, will be based on progress, between baseline and final surveys, in input, output, outcome and overall impact indicators driven by the following (non-exclusive) set of R&I Partnership criteria:

1. Advancement of knowledge;
2. Conduct of capacity building and targeted research activities;
3. Uptake of research outputs to scale;
4. Improved coordination of European and African R&I activities;
5. Effectiveness of multi-disciplinary teams in mobilizing stakeholders and sourcing funds;
6. Operationalization of capacity and mechanisms for knowledge and innovation mobilization.
7. Institutional and technical evolution of the R&I Partnership;
8. Enhancement of collaborative capacities of European and African R&I communities;
9. Impact of research on communities;
10. Capacity to inform and influence policy and decision making;
11. Dissemination of knowledge.

The process thus integrates ex-ante, ad-interim and ex-post evaluation processes adapted to the R&I Partnership, its thematic programmes and diverse individual activities, across their varying temporal scales. External stakeholder input should be foreseen, with key M&E outputs being regular reporting and proposals for corrective measures.

V. Conclusions

Since the EU-Africa Summit 2014, the EU-Africa High Level Policy Dialogue Bureau with the support of several experts from Europe and Africa has worked on laying the basis for a truly jointly developed, governed, managed and co-funded EU-Africa R&I Partnership on FNSSA.

Several actions have already been taken. Aside from developing this roadmap, the most important examples are the clustering of existing relevant joint cooperation projects, the launch of targeted calls in the first Work Programme of Horizon 2020 that led to two more relevant projects that joined the cluster; The launch of considerable support to the implementation of the R&I Partnership from Horizon 2020 Work Programme 2016-2017 with a focus on enabling the coordination of African research and innovation programmes and aligned with the basic research agenda (ERANET COFUND), multi-actor partnerships and pilot actions to enhance impact, earth observation services for the monitoring of agricultural production and research infrastructures. Substantial co-funding is expected from African and European countries for the ERANET COFUND. Finally, the African Union Research Grant, which has a capacity-building objective as well as the launch of two calls for collaborative projects will be further supported by the Pan-African Programme.

Investment in developing the R&I Partnership between 2014 and 2017 is expected to be in the range of 70 MEUR.

The next steps are to focus on monitoring the implementation of the short-to medium-term investments and activities and continuing to reflect with a wide range of stakeholders on the

long-term options for the structure of the R&I Partnership. An important forum will be the Stakeholder Conference on 5-6 April 2016 in Addis Ababa.

Longer term success relies on the complete establishment and integration into the landscape of the R&I Partnership, supported by its fully operational organisational/governance structure and generating locally relevant innovation and exchangeable knowledge and know-how.

The complete establishment of the R&I Partnership should occur between 2018 and 2020 with an operational life well beyond 2020.

Acronyms

AU: African Union

AURG: African Union Research Grants

CAADP: Comprehensive Africa Agriculture Development Programme

CAAST-NET Plus: Science, Technology and Innovation Cooperation between Sub-Saharan Africa and Europe

CAP: Common Agricultural Policy

EDCTP: European and Developing Countries Clinical Trials Partnership

EU: European Union

ERAfrica: coordination platform between European and African research funders initiated by the EU's seventh framework programme

ERANET COFUND: Horizon 2020 initiated ERANET action between Europe and Africa with focus on R&I Partnership on food and nutrition security and sustainable agriculture.

ESASTAP: Coordination and support action on Strengthening Technology, Research and Innovation Cooperation between Europe and South Africa

FARA: Forum for Agricultural Research in Africa

FNSSA: Food and Nutrition Security and Sustainable Agriculture

HLPD: High Level Policy Dialogue

JAES: Joint Africa EU Strategy

JPI: Joint Programming Initiative

M&E: Monitoring and Evaluation

NCD: Non Communicable Diseases

PAEPARD: Platform for African European Partnership on Agricultural Research for Development

R&I: Research and Innovation

RINEA: Research and Innovation Network Europe and Africa

ProIntensAfrica: Coordination and support action for Europe and Africa on sustainable agriculture

S3A: Science Agenda for African Agriculture

STI: Science, Technology and Innovation

STISA: African Union Science, Technology and Innovation Strategy for Africa