

AU – EU High Level Policy Dialogue
On
Research and Innovation for Food and Nutrition Security and
Sustainable Agriculture

2027 – 2036 Roadmap towards a jointly funded
AU - EU Research & Innovation Partnership on
Food and Nutrition Security and Sustainable Agriculture

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CEA-FIRST CONSORTIUM

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Executive Summary

The High Level Policy Dialogue (HLPD) between Africa and Europe on Science, Technology and Innovation (STI) was adopted in 2010 with the aim to establish a partnership that will support the accelerated transformation of the food system from a production-dominated one to an integrated climate sensitive food system (agrifood system) in both Africa and Europe to address the challenges set out in the UN Sustainable Development Goal 2 – “*End hunger, achieve food security and improved nutrition and*

promote sustainable agriculture”. This was under the auspices of the African Union & European Union Heads of State and Governments. This yielded the establishment of a long-term AU-EU Research and Innovation (R&I) Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA). The FNSSA R&I partnership is a co-owned and a jointly funded initiative of the AU-EU HLPD. It is embedded in the Joint Africa-Europe Strategy designed to ensure consistency with various policy developments in both Africa and Europe such as CAADP, AU Agenda 2063 and the European Green Deal & Farm-to-Fork Strategy.

To operationalize the partnership, the AU-EU HLPD on Science, Technology and Innovations Senior Officials’ Meeting in 2016 adopted a ten-year roadmap (2016 – 2026) towards a jointly funded AU-EU R&I Partnership on FNSSA. This roadmap was developed through the inputs of various working groups across Africa and Europe. It focuses on four research and innovation priorities funded under the 2016 – 2026 FNSSA Roadmap for Research and Innovation (R&I) through various funding schemes. More than 600 projects were funded and implemented in Africa and in Europe by collaborative research teams.

The 2016-2026 FNSSA Roadmap will end in 2026, The CEA-FIRST project is funded as a Coordination and Support Action by Horizon Europe to support the coordination of the FNSSA priority through support of the FNSSA Working Group and by preparing the ground for the roadmap renewal.

CEA-FIRST Project officially started on December 01, 2023. It will among others, support the development of a new R&I Roadmap on FNSSA for the period 2027-2036. This task co-led by RUFORUM and CIRAD supported by AGRINATURA, SLU, WUR, FARA, ARC, and UH is supporting the update of the 2016-2026 FNSSA Roadmap with new Research and Innovation priorities to guide the AU-EU R&I investments for the period 2027-2036. In September 2024, the team supported by two consultants (one from Africa and one from Europe) completed the review of the eight years implementation of the roadmap 2016-2026 focusing on (i) the synthesis of priorities included in the existing policies and frameworks on R&I in FNSSA in both Africa and Europe, (ii) emerging R&I challenges and prospects, (iii) the outputs and outcomes of the eight years of implementation of the roadmap. Findings are presented in the CEA FIRST Deliverable D2.10. Likewise, the CEA FIRST Deliverable D2.2 led by CIRAD, gave a detailed presentation of programmes and projects implemented under the 2016-2026 R&I FNSSA Road Map implementation.

The team is submitting the present annotated recommendations / draft Roadmap 2027 – 2036 (D2.11.) as part of CEA FIRST support to the development of the new Roadmap 2027 – 2036. CEA FIRST Deliverable D2.11 is based on an analysis of key EU and AU strategic documents related to Science, FNSSA and partnerships; it highlights proposed new R&I priorities in Africa and Europe. The recommendations the team made cover a wide range of issues including priority themes for the new roadmap, policy influence; science - policy interface, alignment with policies, information dissemination, emerging issues, resource mobilization, human capital development to support the roadmap, partnerships and crosscutting issues among others. It is expected to serve as a reference document that will guide AU-EU R&I investments for the period 2027 to 2036.

Acronyms and Abbreviations

Acronyms

AARIEIs	African Agricultural Research, Innovation and Education Institutions
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AGRINATURA	European Alliance on Agricultural Knowledge for Development
AI	Artificial intelligence
AKIS	Agricultural Knowledge and Innovation System
ARC	Agricultural Research Council
CAADP	Comprehensive Africa Agriculture Development Programme
CAP	Common Agricultural Policy
CEA FIRST	Consortium Europe Africa for R&I on Food Systems Transformation
CGIAR	Consultative Group on International Agricultural Research
	Centre de coopération internationale en recherche agronomique pour le développement
CIRAD	
DeSIRA	Development Smart Innovation through Research in Agriculture
EC	European Commission
ERAFRICA	Coordination platform between European and African research funders EU's FP7
FARA	Forum for Agricultural Research in Africa
FOSC	Food Systems and Climate
FP	Framework Programme
HLPD	High Level Policy Dialogue
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IRC	International Research Consortium
LEAP-AGRI	Long term EU-Africa Partnership R&I Partnership on FNSSA
M&E	Monitoring and Evaluation
MEL	Monitoring, Evaluation and Learning
MPC	Mediterranean Partners Countries
PIDA - PAP	Programme for Infrastructure Development in Africa - Priority Action Plan
R&I	Research & Innovation
REA	European Research Executive Agency
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
S3A	Science Agenda for African Agriculture
SDG	Sustainable Development Goal
SLU	Swedish University of Agricultural Sciences
STI	Science Technology and Innovation
STYIP	Second Ten Year Implementation Plan of Agenda 2063
UH	University of Helsinki
UN	United Nations
WUR	Wageningen University and Research
FNSSA	Food and Nutrition Security and Sustainable Agriculture

Context and background

Rationale and objectives

Africa and Europe share a long lasting common vision and objectives on the contributions of scientific and technological research and innovation to social and economic growth. Such shared endeavor was driven by the need for an accelerated transformation of the food system from a production-dominated one to an integrated climate sensitive food system (agrifood system) in both Africa and Europe to address the challenges set out in the UN Sustainable Development Goal 2 – ***“End hunger, achieve food security and improved nutrition and promote sustainable agriculture”***. This culminated to the establishment of the High Level Policy Dialogue (HLPD) between Africa and Europe on Science, Technology and Innovation (STI) in 2010. The HLPD, under the auspices of the African Union & European Union Heads of State and Governments then created a long-term AU-EU Research and Innovation (R&I) Partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA). The aim is to contribute to achieving the SDG Goal 2 above, with expected significant contribution to SDG 1 (No poverty), SDG 3 (Good health and well-being), SDG 8 (Decent work and economic growth), SDG 13 (Climate action) and SDG 15 (Life on land).

The FNSSA R&I partnership is a co-owned and a jointly funded initiative of the AU-EU HLPD. It is embedded in the Joint Africa-Europe Strategy designed to ensure consistency with various policy developments in both Africa and Europe; notably:

- (i) The AU Science, Technology and Innovation Strategy for Africa 2024 (STISA-2024)
- (ii) 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,
- (iii) The European Union’s growth strategy (Europe 2020), the “Innovation Union”, and the EU Programme for research and innovation Horizon 2020 and the current Horizon Europe,
- (iv) The Food 2030 EU R&I Policy Framework, and the bioeconomy strategy
- (v) The EU Common Agricultural Policy, in particular the vision for agriculture and food and
- (vi) The EU development strategy “an Agenda for Change”
- (vii) The Global Gateway Africa-Europe Investment Package

Operationalizing the Partnership

To operationalize the partnership, the AU-EU HLPD on Science, Technology and Innovations Senior Officials’ Meeting in 2016 adopted a ten-year Roadmap (2016 – 2026) towards a jointly funded AU-EU R&I Partnership on FNSSA. This Roadmap was developed through the inputs of various working groups across Africa and Europe. Four research and innovation priorities were funded under the 2016 – 2026 FNSSA Roadmap for Research and Innovation (R&I). They are i) Sustainable Intensification; ii) Agriculture and food systems for nutrition; iii) Expansion and improvement of agricultural markets and trade; and iv) Crosscutting issues (improved coordination between European and African FNSSA R&I projects, supporting innovation processes, strengthening collaborative capacities of R&I communities, and social and cultural contexts of FNSSA production systems). These priority themes were largely funded through the African Union Research Grants, EU R&I Framework Programme 7, Horizon 2020, and Horizon Europe,

but also joint funding schemes with EU and AU Member States such as ERAFRICA, LEAP-AGRI and FOSC and specific funding tools dedicated to international partnerships such as DeSIRA and DeSIRA+, closely linked is PRIMA, the partnership for research and innovation in the Mediterranean Area.

More than 600 projects were funded and implemented in Africa and in Europe by collaborative research teams with a total of one billion € budget, including more than 700 million € European Commission budget.

Information related to these projects are indicated in the CEA-FIRST FNSSA project's data base: https://library.wur.nl/WebQuery/leap4fnssa-projects?record-status=complete&wg_srt_desc=leap4fnssa/@isn

The 2016-2026 FNSSA Roadmap ending in 2026, the AU-EU partnership approved, through the Consortium Europe-Africa for Research and Innovation on Food Systems Transformation (CEA-FIRST) project financing, the development of a new R&I Roadmap on FNSSA for the period 2027-2036.

A key feature of the CEA-FIRST project is the operationalization of the AU-EU International Research Consortium (IRC) Platform on FNSSA, which was launched in September 2022 as part of the Long-term Africa - Europe Research and Innovation Partnership for FNSSA. The purpose of the IRC is to bring together all the relevant stakeholders in the FNSSA domain to jointly define and implement interventions that strengthen food systems and AKIS to address the complex issues surrounding fragmentation, large knowledge gaps, and incoherence in actions. The European Commission through the Horizon Europe R&I Programme (Cluster 6) provided additional financing to operationalize the IRC under the project '*Consortium Europe-Africa on Research and Innovation for Food Systems Transformation (CEA-FIRST)*'.

CEA-FIRST Project officially started on December 01, 2023. It is being delivered through the implementation of seven work packages (WP) as follows:

Work Package 1	CEA-FIRST Project and IRC Start-up
Work Package 2	Consolidation of Knowledge Management & Monitoring, Evaluation and Learning tools and support to the FNSSA Roadmap update
Work Package 3	Strengthening Networking and Stakeholder Engagement
Work Package 4	Knowledge and learning facilitation using information generated from the Knowledge Management Platform and the MEL
Work Package 5	Implementing IRC Functions Through Stakeholder Engagement
Work Package 6	Coordination of CEA-FIRST and IRC Pilots. CEA-FIRST activities will be conducted under the control and guidance of the EC REA Project Officer
Work Package 7	Ethics Requirements

As part of the activities under WP2 - *Consolidation of Knowledge Management and Monitoring, Evaluation and Learning tools to support the FNSSA Roadmap update* Task 2.4 is supporting the update of the 2016-2026 FNSSA Roadmap with new Research and Innovation priorities to

guide the AU-EU R&I investments for the period 2027-2036. Task 2.4 (***Support to the update of the FNSSA Roadmap (M1-M24)***) is co-led by RUFORUM and CIRAD supported by AGRINATURA, SLU, WUR, FARA, ARC, and UH. In September 2024, Task 2.4 team completed the review of the Roadmap 2016-2026 focusing on (i) the synthesis of priorities included in the existing policies and frameworks on R&I in FNSSA in both Africa and Europe, (ii) emerging R&I challenges and prospects, and (iii) the outputs and outcomes of the eight years implementation of the roadmap. The findings are presented in the CEA FIRST Deliverable D2.10.

CEA FIRST Deliverable D2.11 submit recommendations on AU-EU R&I FNSSA Roadmap (2027-2036) highlighting new R&I priorities in Africa and Europe, based on an analysis of key EU and AU strategic documents. It is expected that it will serve as a reference document to support the FNSSA R&I HLPD working group activities and preparation related to the 2027-2036 Road Map, and then will contribute to guide AU-EU R&I investments for the period 2027 to 2036.

Overview of the review process

The 2016 – 2026 Roadmap review took place from June – September 2024 through a participatory approach involving a wide array of relevant stakeholders across the various geographic regions of Africa and Europe. The review team used various scientific methods such as desk synthesis reviews, online surveys and stakeholders' consultation events.

The desk review included a synthesis of FNSSA R&I challenges and future prospects; and an impact-oriented review of the outputs and outcomes of the eight years of implementing the 2016-2026 Roadmap. As far as the synthesis review is concerned, strategic documents from Africa and Europe that target the FNSSA Roadmap such as documents on Policies, Partnerships, Funding mechanisms and Foresight studies were consulted. Regarding the impact-oriented review, it focused on the reports of programmes rather than individual projects funded under the four priority themes. Information for the assessment has been derived from reviewing the work to date of the Monitoring, Evaluation and Learning (MEL) Framework; consideration of the 11 M&E criteria in the Roadmap and the effectiveness of the four research and innovation themes (Sustainable Intensification, Agriculture & Food Systems for Nutrition, Market expansion & improvement, Cross-cutting issues).

The Survey questionnaire was translated in both French and English to cater for a large geographic distribution in Africa and Europe. This translated instrument was piloted by RUFORUM to assess its effectiveness in terms of content accuracy, validity and reliability before full-scale distribution. Data collected through the online surveys were analysed using both qualitative and quantitative primary research methodologies in combination to triangulate information in order to provide a more comprehensive understanding of the outcomes of the FNSSA programme.

On the stakeholders' consultations, a series of six multi-stakeholder consultation workshops were designed and implemented either as webinar or in-person workshops, sometimes delivered in hybrid format in both Europe and Africa. The aim was first to include the voices of the various stakeholders in Europe and Africa in the outputs and outcomes of the eight years implementation of the roadmap; challenges and emerging issues and secondly to validate findings from the various

activities implemented as part of the review process. To account for the language diversity prevailing in both Africa and Europe, workshop concept notes and flyers were developed in French and English and widely disseminated. Likewise, interpretation services were provided during the events in the four RUFORUM languages (French, English, Arabic and Portuguese).

The use of a combination of diversified approach and methodologies provided the review team with opportunities to complement the results of the desk reviews by the analysis by CIRAD of projects and programmes implemented under the “EU-AU FNSSA Roadmap 2016-2026” umbrella as part of the CEA-FIRST project deliverable D2.2. The online survey results and those of the multi-stakeholders consultation events also enriched the reviews’ results. All these ultimately provided avenues for diversified inputs and ideas, dynamic discussions and the generation of actionable recommendations for the new FNSSA Roadmap (2027-2036).

I. Implementation of the EU-AU R&I Partnership on FNSSA: Lessons learnt from the 2016 – 2026 FNSSA Roadmap implementation

3.1. Disseminating and accessing FNSSA information

The approach of information dissemination regarding the call for innovative proposals for FNSSA is central to the reach and spread of FNSSA work and goals. The review findings showed that the majority of organizations received information on FNSSA from colleagues (52%) followed by website (25%) and partners networking information (12%) and others (11%). Based on these results, one can say that the primary channels for disseminating information about FNSSA opportunities to potential partners are through personal networks and online platforms. Therefore, a targeted approach focusing on leveraging existing relationships such as through the IRC Platform and the upcoming AARIEIs / CGIAR platform, and other similar networks as well as utilizing digital resources, is crucial for effectively reaching and engaging potential partners under the new FNSSA Roadmap.

3.2. Alignment of the 2016 – 2026 roadmap with the priorities

included in the existing policies and frameworks on R&I in FNSSA in both Africa and Europe and analysis of key strategic documents for the preparation of the 2027-2036 Road Map

The review looked at the alignment of the roadmap with the global policy frameworks such as the UN SDGs 2030; the Comprehensive Africa Agriculture Development Programme (CAADP), the new 10-year implementation plan of the AU Agenda 2063 (STYIP) covering the period 2024 to 2033, the Africa/Europe – AU-EU Innovation Agenda and the Europe - Green Deal and Farm-to-Fork strategy.

UN SDGs 2030. On this policy, the review found that the roadmap aligned well with the SDGs 2030.

The Comprehensive Africa Agriculture Development Programme (CAADP) is Africa’s policy framework on agricultural transformation, wealth creation, food security and nutrition, economic growth, and prosperity for all. CAADP goal is an agriculture led development that

eliminates hunger, reduces poverty and food insecurity, enabling expansion for exports and higher economic growth path based on sustainable development and natural resources preservation principles. The 2014 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods constitutes a recommitment to the CAADP principles and values through seven commitments. FNSSA roadmap 2016 -2026 is well aligned with CAADP Malabo commitments. This is clearly depicted in the Principles and Values of the CAADP Process in the Malabo Declaration, notably the commitments to implement an agriculture-led growth as a main strategy to achieve targets on food and nutrition security and shared prosperity; to exploit regional complementarities and cooperation to boost growth; the commitment to use partnerships and alliances including farmers, agribusiness, and civil society; and to support implementation at countries levels, and regional coordination and harmonization. The African heads of States during the Kampala Extraordinary Summit held from 9-11 January 2025 adopted a refreshed Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods – The 2025 Kampala CAADP Declaration. Recognizing the complex connections between agriculture, nutrition, economic development, and other sectors, the CAADP Kampala Declaration introduced the agrifood systems approach expected to empower stakeholders to tackle challenges across the entire food value chain, while aligning policies with broader development objectives. The new roadmap shall continue alignment with CAADP to contribute to its long-term impact of *Sustainable and Resilient Agrifood Systems for a Healthy and Prosperous Africa*, which is consistent with Agenda 2063 (towards “the Africa We Want”).

STYIP 2024 to 2033. The review found that STYIP 2024 - 2033 does not specifically mention food and nutrition security and sustainable agriculture per se, though it stressed-out issues such as sustainable development and people-driven development as part of the seven aspirations, showing convergence between the FNSSA 2016 -2026 roadmap and this policy. The new roadmap must embrace the seven core values and goals of 10-year plan for AU Agenda 2063. Focus must be on supporting the science-policy interface. The objective is to facilitate policy awareness, create a better common understanding at the science-policy interface; and promote dialogue, learning and reflection on the content of the agenda so that there are opportunities for IRC to promote the roadmap. The same is needed for all the other policy frameworks in Africa and Europe. The aim is to strengthen the capacity of the IRC to domesticate the policies, which in turn, will enhance the effectiveness of its mission delivery while ensuring alignment of the roadmap with the policies. The IRC must also establish links to the EU’s Knowledge Centre for Global Food and Nutrition Security of the Joint Research Centre of the EC as well as linkages to other priority areas such as energy, climate change and biodiversity conservation.

The Africa/Europe – AU-EU Innovation Agenda. This agenda aims to foster the translation of R&I into tangible positive impact on the ground. It also highlights issues like climate change, entrepreneurship and job creation among others, which should be taken into account in the new FNSSA roadmap.

Europe - Green Deal and Farm-to-Fork

The European Green Deal policy was approved in 2020 as a set of policy initiatives, which aim at making the EU climate neutral in 2050. The policy has implications for Africa. As part of its “Farm to Fork” policy package, the EU aims to become a leader in setting sustainable global food standards

and aims to make food systems fair, healthy and environmentally friendly. Compliance with these standards as a condition for accessing the European market could constitute additional nontariff barriers for African agriculture exports to the EU. The AU-EU partnership can help address these challenges by building the capacity of IRC to domesticate these policies and enhance the effectiveness of mission delivery for impact. This indicates a need to intensify efforts within the theme “Expansion and improvement of agricultural trade and markets”.

“A Vision for Agriculture and Food” February 2025 communication from the Commission

The vision is an ambitious roadmap on the future of farming and food in Europe. This roadmap sets the stage for an attractive, competitive, resilient, future-oriented and fair agrifood system for current and future generations. The Vision calls for devising the right conditions to encouraging future generations to produce food by promoting **fair income**, public support and transparency in the food chain. Europe’s farmers are vital for ensuring food security and providing healthy, quality food to citizens. However, the entire agrifood sector and rural areas are facing multiple challenges:

- Secure farmers’ future to make agriculture financially viable and fighting back unfair practices: attract incomes from multiple sources, foster a fairer position in the food chain to enable farmers to thrive and earn a fair revenue.
- Properly reward ecosystem services.
- Create opportunities for young people in rural areas: encourage future generations to choose agricultural careers, harness the agrifood sector’s entrepreneurial potential for a new wave of innovative agrifood businesses.

To benefit farmers, the agrifood chain and ultimately citizens, the Vision proposes to:

- Review the unfair trading practices rules and common market organisation (CMO) Regulation
- Propose a fairer, simpler and targeted common agricultural policy
- Enhance the EU Agrifood Chain Observatory
- Present a bioeconomy Strategy
- Build an ambitious investment agenda
- Deliver a Generational Renewal Strategy
- Launch an EU Observatory on Farmland

The 6th European Union - African Union Summit: A Joint Vision for 2030

The summit announce an Africa-Europe Investment Package of at least EUR 150 billion that will support our common ambition for 2030 and AU Agenda 2063, composed of an Investment, a Health and an Education Package.

The Package intend to boost large-scale sustainable investments, supported by Team Europe Initiatives, with due consideration to the priorities and needs of the African countries, including:

- i) Investment in energy, transport and digital infrastructure aligned with the PIDA PAP II;
- ii) Energy transition that is fair, just and equitable, taking into account specific and diverse orientations of the African countries with regard to access to electricity;
- iii) Green transition including supporting the implementation of the Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) of African Countries under the Paris Agreement to enhance mitigation and adaptation;
- iv) Digital transformation that supports trusted connectivity through investments in infrastructures and an affordable and enhanced access to the digital and data economy while boosting digital entrepreneurship and skills;
- v) Sustainable growth and decent job creation, including by investing in the establishment of youth-owned businesses in Africa;
- vi) Transport facilitation and efficiency of connected transport networks;
- vii) Human development, notably through scaling up mobility and employability of students, young graduates and skilled workers. It will support industrialisation and the development of sustainable and resilient value and supply chains.

HORIZON EUROPE - EU-Africa cooperation The “Africa Initiative II”

The calls for proposals require or encourage participation of African entities. Topics supported under the Africa Initiative II will span a wide variety of themes, such as; climate change adaptation and mitigation, clean energy and green transition, food and nutrition security and sustainable agriculture, agroforestry and agroecology, food safety and support to food markets and trade, processing and refining of raw materials, earth observation, space-based applications and strengthening of research infrastructures and of Europe-Africa coordination, facilitation and support of collaborative R&I.

It will also enable the implementation of some actions of the new joint AU-EU Innovation Agenda, adopted in July 2023. This Agenda is a flagship initiative of the Global Gateway.

- Support for the implementation of a sustainable platform for the EU-AU cooperation under the FNSSA partnership
- Support to the market and trade of agroecological food products under the FNSSA partnership
- EU-African Union cooperation on agroforestry management for climate change adaptation and mitigation
- Bio-based solutions for humanitarian applications
- EU-AU – towards climate-neutral, social just fair trade food systems
- Reinforcing science policy support with IPBES and IPCC for better interconnected biodiversity and climate policies

The 10th EU Framework Programme (FP) is under preparation, with an expected legislative proposal mid-2025, expected negotiations in Council and at the European Parliament before end of 2027, and a start of the 10th FP in 2028.

The Global Gateway Africa-Europe Investment Package

It is being implemented through Team Europe initiatives: the EU, its Member States and European financial institutions work together to support concrete and transformational projects jointly identified in priority areas.

Biodiversity

Initiatives undertaken under the Investment Package contribute to increasing sustainable use of natural resources and biodiversity protection and nature-based solutions as the basis of a green recovery, including support to the protection of landscapes and ecosystems. Ambition by 2030: Improve the livelihood of 65 million people, capturing carbon, stabilising 3 million km² of land and ensuring water security.

Agri-food systems

The Investment Package supports more sustainable African agrifood systems by creating a conducive and transparent policy environment for sustainable private investments, enhancing investments in support to agrifood and fish-processing, facilitating innovation and boosting improved nutrition. Ambition by 2030: accelerate the sustainable transformation of African food systems, in support of Africa's agriculture, fisheries and food development agenda.

Climate resilience and disaster risk reduction

Africa is particularly vulnerable to extreme impacts of climate change, which threatens to undo decades of economic progress and development. The Investment Package is contributing to building resilience by supporting in disaster risk reduction and climate change adaptation, enhancing disaster preparedness for effective response and in recovery, rehabilitation and reconstruction and strengthening governance to manage disaster risk. Ambition by 2030: Enhance capacity of partner countries to adapt to climate change and substantially reduce disaster risk.

Africa-EU Science, Technology and Innovation Initiative

The EU is committed to step up cooperation with partner countries to improve capacities in science, technology and innovation, upgrade research and innovation facilities, strengthen innovation ecosystems, and increase research collaboration. The Investment Package supports the use of new technologies and knowledge transfers in Africa by leveraging EU Space Programmes and applications. Ambition by 2030: Acceleration of Africa's transition to an innovation-led, scientific knowledge-based economy value chains.

The TSARA joint initiative

The TSARA initiative "Transforming food systems and agriculture through research in partnership with Africa" was launched in March 2022.

Twenty dedicated research and training organizations, building on long-standing cooperation in terms of publications and projects, have decided to build together an ambitious partnership on agriculture, food, and the environment, in order to support the necessary transitions and promote productive, resilient, autonomous and sustainable food systems in Europe, Africa and the rest of the world; they intend thus to contribute to the priorities of the European Union and the African Union in terms of collaboration in research, innovation and training.

The major themes mobilizing research, training and innovation that underpin TSARA's strategic agenda and action plan are the followings:

- Engage in the agro-ecological transition to ensure sustainable agricultural and food production in quantity and quality and better resilience in the face of climatic and health hazards.
- Preserve soils and rehabilitate them by combating desertification.
- Rethinking water governance for better agricultural resilience based on agroecology and multi-actor territorial approaches.
- Promote the adaptation of African (agro)forestry territories to global changes while meeting the needs of local populations.
- Developing the One Health approach.
- Contribute through research, training and innovation to combat the triple burden of undernutrition, dietary deficiencies and chronic diseases due to obesity and overweight.
- Assess the capacity of agricultural systems and sectors to create jobs with quality, decent, fair and remunerative work, particularly targeting young people and women.
- What role does livestock play in the development of Africa and what models to support?
- Contribute to the deployment of equitable digitalizing in agriculture in an accessible to all and inclusive approach by sharing and co-creating knowledge, methods and tools.

Complementary analysis of **FAO Strategic Framework 2022-2031** and of **African Development Bank 2016-2025** give important information on social, economic, environmental drivers faced by the African continent and countries, to the challenges for the coming years, and to R&I priorities to be tackled.

The role of some key bilateral R&I and agricultural cooperation with Africa (and more specifically China, USA, Brazil, India) should complementary be analysed and benchmarked.

3.3. Partnerships

The review found that there was a wide range of partners involved in the projects and these include universities, research organisations/agencies, government bodies, private sector partners and expert networks. Staff at universities and research institutions are driving the design and implementation of the Partnership's research and innovation activities but activities are based on pre-identified shared priorities. This highlights the significant role played by academicians and researchers at being at the forefront of advancing research and development innovations in society. Other key findings were that there was insufficient private sector, farmers, and expert groups' involvement and that project coordination was mainly from Europe partners.

The AU-EU partnership was pivotal in shaping FNSSA projects by enhancing research networks and facilitating joint initiatives. This partnership has improved resource mobilisation and provided significant support for FNSSA projects. However, there remains a need for more balanced participation and addressing disparities between and within Africa and Europe. Continued dialogue and collaboration between the European Union and African Union stakeholders are essential to maximizing the effectiveness of the partnership and achieving FNSSA objectives.

3.4. Emerging R&I challenges and prospects

The FNSSA roadmap 2016 – 2026 review report highlighted a series of inter-linked major trends that prevail globally with a need to follow up to recommendations made by FNSSA projects.

The rapidly changing global and regional environment requires focusing on population dynamics, climate change, sustainable intensification, digital economy, entrepreneurship, and market and trade. Within such framework, the new roadmap shall consider crosscutting issues such as governance and inclusion (women, youth, refugees, and other disadvantaged groups).

Main assumption issued from the analysis of EU, AU and international (FAO, ADB) strategy documents and which should impact EU AU FNSSA R&I priorities for the future are the following:

- Critical African population growth for the coming years, combined to growing urbanization and the need to create decent jobs for the young men and women in agrifood systems;
- Better understanding of climate change interactions with agriculture activities and land use changes, with impact analysis at global and local level;
- Adaptation of agriculture strategies and practices in relation to growing risks linked to climate change, biodiversity decreases, environmental externalities;
- Increase sustainable agricultural production, involving locally adapted agroecological strategies, with specific interest to food crops and local consumption;
- Healthy soils restauration and water optimized uses, at field, farm and watershed levels for increased sustainable food production ;
- Increase local food processing for jobs creation, economical added value and adaptation to evolving populations diets and health;
- Shared and fair use of IT and artificial intelligence tools, including mobiles dedicated apps for farmers benefits;
- Economic and trade analysis to better understand value chains and trade barriers and regulations, and increase local social and economic impact.

3.5. Human Capital development

The new roadmap must put emphasis on Human capital development to ensure capacity for coordination, management, delivery and innovation especially in countries with limited capacity if it is to contribute to the STYIP goals. This include among others:

- MSc and PhD training to contribute to the STYIP goal of training 100,000 PhD in the current decade

- Capacities for data collection and analysis should be developed
- Increased efforts to build administrative capacity of Partnership project support staff
- Build capacity to facilitate policy awareness, create a better common understanding at the science-policy interface; and promote dialogue, learning and reflection on the content of the all major policy frameworks in Africa and Europe so that there are opportunities for IRC to promote the roadmap
- Strengthen the capacity of the IRC to domesticate the policies, which in turn, will enhance the effectiveness of its mission delivery while ensuring alignment of the roadmap with the policies

3.6. Digitalization

FNSSA new roadmap must improve its approaches to digitalisation and data analytics by expanding data collection and dissemination beyond individual projects. It should consider establishing digital communities of practice; encouraging the use of advanced digital tools to create a more interconnected research environment that supports collaborative innovation; adoption of technologies such as artificial intelligence (AI), big data analytics, and precision agriculture that is crucial for enabling data-driven decision-making. Building a robust digital infrastructure, FNSSA can support its long-term goals of sustainable intensification and food security.

3.7. Priority themes

The four priority themes of the 2016-2026 Roadmap were found relevant and can be considered in the new roadmap with the special emphasis on the priority theme “Trade and markets” as this was the least addressed during the roadmap 2016-2026 implementation.

Two new and complementary priority themes to consider are “Climate Change adaptation and mitigation” and “Biodiversity conservation and ecosystem management”, in relation to the growing global and local impacts and interactions of climate change and biodiversity decrease on agrifood systems, and to the implementation of the international agreements (Climate change, Biodiversity conservation, Desertification). Analysis of projects referenced in the CEA FIRST FNSSA projects database (621 projects related to the 2016-2026 Road map) indicate that 268 projects gave reference to climate change in their presentation (including 44 in project title, less than 10%) and 118 gave reference to Biodiversity (including 19 in project title, less than 5%).

As far as crosscutting are concerned; issues like jobs creation, resilience building, reducing food loss along the production and processing value chains and changing lifestyle such as diets are key. Other crosscutting issues such as inclusion (gender, women, youth, people with disabilities, refugees and other disadvantaged groups), entrepreneurship and the future of work issues are increasingly important in relation to social and economic development priorities.

3.8 Projects implementation

Stakeholders meetings discussions, surveys discussions with R&I projects leaders and outcomes of the “Boosting agrifood research and innovation cooperation for impact at scale” conference gave critical proposal in order to improve, to sustain and to scale up the FNSSA R&I projects impact on Agrifood systems.

Recommendations should address both projects implementers and partners (in projects preparation, implementation, partnership, monitoring, and results dissemination and etc.), and to policy makers and global funders (in enabling policy environment, long-term investments, dedicated funding mechanisms, linkage and coherence with national policies, ...).

Key recommendations are:

- The design and management of R&I projects deeply influence their contribution to innovation
- Multi-stakeholder approaches aiming at putting together knowledge and resources are pivotal for co-designing and scaling innovation.
- Policies frame the enabling environment for innovation, requiring specific science policy interfaces to align R&I investments, policy priorities and innovation policy needs.
- Innovation is embedded and supported by agricultural innovation systems and more specific innovation ecosystems

Recommendations for the new roadmap

4.1. The basis for a jointly developed research agenda

It is proposed that the R&I Partnership on FNSSA be organized around a set of six 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. CAP¹ and CAADP² objectives) in relation to enhanced local and global environmental dynamics.
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, resilience and environment.
3. Improved capacity for joint research in both African and Europeans scientific communities.
4. Scalability of research & innovation impact at national and regional scales.
5. Complementarity to existing bilateral and multilateral collaboration.

Research & innovation theme 1: Sustainable intensification, with a specific interest on agro ecology development;

Research & innovation theme 2: Agriculture and food systems for nutrition, in relation to health and malnutrition;

Research & innovation theme 3: Expansion and improvement of agricultural markets and trade, as to support the socio-economic development of countries for the benefit of their populations;

Research & innovation theme 4: Climate Change adaptation and mitigation for a sustainable agricultural development and countries climate strategies implementation,

¹ EU Common Agricultural Policy

² Comprehensive Africa Agriculture Development Programme

Research & innovation theme 5: Biodiversity conservation, ecosystem management in relation to soil and water improved uses,

Research & innovation theme 6: Crosscutting issues

- 6.1. Improved coordination between European and African FNSSA R&I projects
- 6.2. Reducing food losses along agricultural value chains
- 6.3. Human Capital, resilience and changing demographics
- 6.4. Jobs creation and inclusion (gender, women, youth, people with disabilities, refugees and other disadvantaged groups)
- 6.5. Entrepreneurship and the future of work
- 6.6. Digitalization, Big data management and Artificial intelligence

4.2. Selection criteria for activities of the R&I Partnership

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

- Joint interest³ (including co-design and joint scoping), joint governance⁴, 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
- Inclusive of youth, women, disadvantaged groups, farmers, private sector and geographic diversity.

Key success factors for activities scaling out, up and deep are capacity building, including functional dimensions; Institutional strengthening; Funding mobilization and Science Society Policy Interfaces

Short, medium, and long term actions

“We need to define what success looks like in 5, 10, and 20 years – not just in terms of research outputs, but in transforming food systems.” (IRC Strategy consultation participant)

Short term (up to 2028)

As IRC will operationalize the roadmap 2027 – 2036, actions to be considered in the short term include the establishment and operationalization of the IRC (Statutes, governance and institutional framework

³ “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.

⁴ “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.

(IRC council, External advisory committee, and General Assembly), IRC Secretariat, Anchor institutions and functional working groups) and the terms of reference and selection procedures.

Calls will allow identification of the members of the governance bodies and its technical operational arms (FWG and anchor institutions). The purpose is to achieve full readiness to operationalize the IRC, being achieved through the CEA FIRST project. Guidelines for Calls for R&I project proposals are defined, so that IRC could contribute to future Funder's calls.

Concomitantly with the operationalization of the IRC, there will be the joint development of a research agenda building on the annotated recommendations; the crafting the new roadmap and meta mapping is developed under the CEA FIRST project coordination and HLPD WG on FNSSA supervision, with the support of experts from Europe and Africa, building on D 2.2, D 2.10 and D 2.11 findings.

Functional working groups initiate activities and joint interactions, in line with the new 2027-2036 EU AU Road Map on FNSSA priorities implementation.

Medium term (up to 2030)

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.

IRC Functional working Groups activities and interactions contribute to policy makers and Funders mobilization, with the launch of flagships programs dedicated to the EU AU Road Map priorities. Cofundings involving EU and AU countries Fundings partners, in partnership with EU funding support, will be developed in line with the Global Gateway strategy. This will continue and intensify the funding strategy developed as part of the 2016-2026 Road Map implementation, which allowed the mobilization of more than One billion €.

Contribution of Extension and Enterprises Functional working groups will contribute to put emphasis on impact at scale in the R&I cofounded programs, in order to contribute to FNSSA transformation to the benefit of countries and populations.

Long term (2031-2036 and beyond)

Effective Road Map implementation should contribute efficiently to reduced fragmentation across the research and innovation ecosystem and creation of a secure and consistent R&I funding landscape.

Longer term IRC success as a key implementation body of the Road Map relies on the complete establishment and integration into the landscape of the R&I Partnership, supported by its fully operational organisational/governance structure, in order to contribute to an effective transformational long-term action on FNSSA in Europe and Africa.

The IRC and FNSSA R&I Road Map effective implementation is closely linked to its operation in the context of global and bi continental strategies and agendas including: Agenda 2063, STISA, CAADP (particularly the Kampala CAADP strategy), the African Continental Free Trade Area, the European Green Deal, EU Vision 2040, and the Global Gateway, with its Team Europe Approach.

Its effectiveness is also related to sustained mobilisation of public EU and AU funding, in a context of global aid reduction, and to Improved public-private partnerships (including blended finance and private funding).

Funding mechanisms

4.4.1 The EU AU R&I FNSSA 2016-2026 Road map funding

➔ EU AU R&I FNSSA projects

More than 600 EU AU FNSSA R&I projects have been selected and funded as part of the 2016-2026 FNSSA Roadmap implementation, for a total of one billion € budget, including more than € 700 million EC budget. These projects involves more than 40 African and 25 European and associated countries; they mobilize thousands of scientific teams, with direct impact on more than half a million farmers.

Funding mechanisms are quite diversified, nevertheless, main funding source are the European Union funds allocated via the European Commission (*DG Agri, DG RTD, DG INTPA with specific dedicated programmes, such as Horizon 2020 and Horizon Europe for research & innovation activities, DESIRA for innovation at scale, ...*). Cofunding is largely developed, including mainly cofunding from EU and AU countries (*via ministries and dedicated agencies*), but also funding from philanthropy and enterprises foundations (*such as the B&M Gates*) and in kind support from R&I organisations.

Through a Team Europe approach, the Global Gateway intend to bring together the EU, its Member States, and European financial and development institutions to implement initiatives with a transformative impact, including a specific “Africa-Europe Investment Package”.

A majority of R&I projects funded by EC DG RTD (*Horizon 2020 and Horizon Europe*) and by EC DG INTPA (*such as DESIRA, or AURG, African Union Research Grant*) get specific funding from the EC, without EU or AU members states cofunding. For such projects, EC funds are allocated to the R&I project coordinator, which manage the funds in relation to the grant agreement signed with EC and to internal agreements between partners.

➔ Co-funded R&I projects

Nevertheless, R&I project funded as part of the two EranetCofunds programmes, LEAP-Agri (27 projects) and FOSC (22 projects) and one third of the DESIRA R&I projects (24 projects) are based on a cofunding approach.

For the DESIRA initiative, eight EU countries (*Belgium, Finland, France, Germany, Ireland, Italy, The Netherlands, Spain*) cofounded 24 projects (*on a total of 80 projects*) with a total € 60 million cofunding, complementary to the EU € 340 million funding. In some cases, the EC gave a management delegation to the EU member-cofunding agency (*such as the German Deutsche*

Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH or the French AFD, Agence française de développement).

The EraNetCofund programmes LEAP-Agri and FOSC present a very interesting cofunding mechanism. Each R&I project involves at least 4 teams from 4 countries (2 EU and 2 AU), and each EU and AU funding organisation (*ministries or dedicated agencies*) funds directly its national team (*salaries, travels, functioning, ...*) in the R&I project with a specific contract. The complementary EC funding (“Top Up”) is allocated to EU and AU funding agencies when there is insufficient national funding to support all selected R&I projects, with specific allocation rules and agreements.

These two programmes built EU AU Funders alliances, with countries from various regions from Europe such as from Africa, each funding agency sharing equivalent and shared responsibilities and duties; all partners are interdependent and the default of one partner generate problems for all other partners, as could be seen during the LEAP-Agri life, which generated a real “team spirit”. EU and AU cofunding members states and organisations are the following:

- for LEAP-Agri: Algeria (DGRSDT-MESRS), Belgium (FNRS, FWO, BELSPO), Burkina Faso (FONRID), Cameroon (MINRESI), Egypt (MHESR), Finland (JYU), France (ANR, AFD), Germany (DLR, BLE), Ghana (CSIR), Italy (CIHEAM), Kenya (MEST), Norway (RCN), The Netherlands (MNLV, NWO), Portugal (FCT), Senegal (MESR), South Africa (NRF), Spain (INIA), Turkey (TUBITAK), Uganda (MOSTI),
-
- for FOSC: France (ANR); Germany (BLE, BMEL), Italy (CIHEAM), United Kingdom (DEFRA), Belgium (ILVO, FNRS; FWO), Sweden (FORMAS), Egypt (MHESR), Italy (MIPAAF), Hungary (AM, NKFIH), Turkey (TAGEM, TUBITAK), Norway (RCN), Burkina Faso (FONRID), Senegal (MBERRS), Kenya (MOEST), Ireland (DAFM), Netherlands, (LNV), Honduras (FIHA), South Africa (NRF), Algeria (MESRS), Panama (SENACYT).

The LEAP-Agri and FoSC donors (from 18 European and African countries) worked in close interaction with other European and African donors under the leadership of programme coordination. They had to understand and accept the diversity of financial and management rules between countries and organizations, and deal with the – rather complicated – rules of the EC as signed in the grant agreement. They faced unexpected problems, such as the Covid 19 pandemic, as well as significant delays or budget reductions from some donors; nevertheless, the “LEAP-Agri” and “FoSC” spirit made it possible to overcome these problems and to complete all of the co-financed research projects thanks to the involvement and strong motivation of the research teams and the support of EC and REA.

The Partnership on Research and Innovation in the Mediterranean Area (PRIMA) is a public-public institutionalised “Article 185” European Partnership between the European Union and Participating States. Two funding modalities are implemented within PRIMA, with section 1, with EC funds allocated to EU countries and to MPC (Mediterranean partners countries), and section 2, with funds allocated by countries to their teams in the R&I projects. At present, 238 projects

have been funded, for a total allocated budget of 349,6 M€, half budget coming from EC and half budget allocated by countries.

PRIMA is focused on the Mediterranean regions and countries, and 18 AU, EU and EU associated countries are involved in the initiative: Algeria, Croatia, Cyprus, Egypt, France, Germany, Greece, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Portugal, Slovenia, Spain, Tunisia, Turkey. Nevertheless, the PRIMA management model (foundation), funding system (combining two modalities, EC funding and countries funding), monitoring and reporting tools, programme and projects flexibility, and its country partners diversity could be models of great interest for the future EU AU FNSSA IRC.

Complementary to the more “classical” EC funding and EC + EU & AU members states cofunding, a few various other funding schemes are present in the funding of EU AU FNSSA R&I projects. One example is the “one planet fellowship initiative”, managed by the French “Agropolis foundation”, with cofunding from Bill & Melinda Gates Foundation (7.5M US\$); BNP Paribas Foundation (7.5M US\$); IDRC (1.2M Ca\$); Agropolis Fondation (0.2 M€) and the European Commission (Desira initiative: 3 M€).

4.4.2 Funding mechanisms for the future FNSSA Road Map

➔ A moving context:

EU and AU policies are revamped in relation to the new EC (*A Vision for Agriculture and Food*”; February 2025 communication from the European Commission) and AU (CAADP Strategy and Action Plan: 2026-2035, January 2025) strategies.

More generally, the international situation has evolved rapidly, following the United States' decision to significantly reduce its international aid. The situation within the EU and some of its Member States has also evolved, with a possible, even probable, reduction in their international aid over the coming years. This, combined with the revision of strategic and geopolitical priorities, could have a significant impact on the level and nature of funding for future EU international partnerships (NDICI, Multiannual Financial Framework, FP10, Global Gateway) and generate significant uncertainties.

Discussions are also underway, at some European and African levels, on shifting from an "aid" to an "investment" approach.

➔ The critical need to maintain present funding sources and mechanisms:

As already emphasized, and in relation to growing environmental, demographic, social, and economic challenges, there is a critical need to continue and scale up dedicated research and innovation impacting EU and AU food and nutrition and sustainable agriculture situation.

There is a need to sustain present funding sources and mechanisms as already used for the 2016-2026 Road map implementation, with combination of EU and AU members funding.

The “EragnetCofund” model is a very inspiring model, due to its partnership modalities and shared responsibilities between EU and AU funders and teams, which could be adapted in order to better take care of EU and AU member’s states situations and internal rules. DESIRA is another very effective programme, combining impactful R&I strategies and diversified stakeholders; this programme should be continued on a long-term approach, via the DESIRA + programme, while developing a “scaling up” (scaling up, down and deep) strategy.

The 2024 “*Annual report on the Implementation of the European Union's External Action Instruments in 2023 - The Staff Working Document*” gives precious information about EU external funding instruments and mechanisms, several of which contribute to the challenges of FNSSA.

There is also a need to take in account international and national evolving situations, and to mobilize complementary funding sources, which may in some cases be more related to defined objectives (*impact at scale, involvement of private sector, social and economic impact, ...*).

➔ Enlarging funding sources and blended finance

The “FNSSA R&I funding ecosystem” is quite diversified, including EU funding, EU and AU members state funding, non EU bilateral funding, private and philanthropy foundations, international and small and medium enterprises, commodities funding, development banks, commercial banks and investments funds, United Nations bodies.

The coming 4th International Conference on Financing for Development (FFD4, 30 June to 3 July 2025, Spain), may be an important step for such discussions, as FFD4 aspires to “*build a renewed global financing framework that will unlock greater volumes of capital at a lower cost through a renewed global financing framework, in order to deliver an SDG investment push and to reform the international financial architecture to enable the transformative change that the world urgently needs*”.

Discussion during the meeting of the “Africa-Europe Strategy Group on agri-food Systems” (April 2025) addressed the financing challenges within agri-food systems, noting the need for innovative financial instruments, including leveraging remittances and engaging Public Development Banks (PDBs) to fill the large investment gap in agriculture. The necessity for African countries to mobilise domestic resources for agri-food systems was underscored, moving away from reliance on external funding and focusing on transformation through national planning. Furthermore, the role of private capital and impact investment was also highlighted as crucial for supporting agri-food entrepreneurs and scaling up successful initiatives. It was observed that scaling financial solutions in agriculture remains more difficult than in other sectors.

Blended finance is defined as “the strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets”, resulting in positive results for

both investors and communities. Blended finance implies the mixing of both public and private funds through a common investment scheme or deal, with each party using their expertise in a complementary way. Such mechanisms offers the possibility to scale up commercial financing for developing countries and to channel such financing toward investments with development impact, in order to support progress towards the Sustainable Development Goals (SDGs).

Since 2018, the EU has invested € 200 million in four blended trust funds financing SME and financial institutions active in agrifood systems across developing countries. These funds invested in 120 sustainable agrifood projects, for a total cumulative signed projects amount of € 530 million (2019-2024). Food and nutrition, sustainable agricultures, global agrifood systems, should then still be a key “target” for the future blended funding, with the critical necessity to integrate dedicated R&I components in the funded projects.

Mapping more specifically the financial possible mechanisms supporting innovation at scale (horus-df.com) presents the variability of financial categories, including:

- The grant based financing mechanisms (*Grant-based innovation funds, incubators & accelerators, research-oriented awards and prizes, foundation, state budget, R&D tax credits, national or local development funds, carbon/biodiversity finance*);
- The equity-based financing mechanisms (*impact investing funds, impact venture capital funds, local private equity funds, corporate venture capital*);
- The credit-based financing mechanisms (*National public development banks & funds, commercial banks, microfinance institutions, value chain finance, ...*).

➔ Desira Lift recommendations

As part of the global conference “*Boosting agrifood research and innovation cooperation for impact at scale*” (Brussels, March 2025), and as preliminary conclusions, recommendations for policy makers/global funders were given by the “Desira Lift” evaluation team :

- Support R&I projects by providing an enabling environment for partnerships and by better linking research organisations to innovation processes led by private and non-private actors;
- Invest in long-term and equal R&I partnerships. Design institutions and funding mechanisms that support long term R&I partnerships or fund projects at different periods with the aim to maintain the successful R&I partnerships;
- Facilitate the combination of different types of investments that are necessary for mission-driven and impactful agricultural innovation systems;
- Foster inclusive policy dialogues based on participatory and consultative approaches (e.g., foresight, civil society dialogues), mobilising evidence-based lessons and models to build a common vision for innovation;
- For the EU, align international R&I investments with partner countries’ policy needs and food system transformation objectives;
- Support the design and implementation of innovative funding mechanisms mobilising public and private actors (banks, philanthropy, etc.) to support innovation from start up to scale up;

- Regarding EU contribution, maintain long-term support to R&I in partner countries to contribute to the Global Gateway strategy, and ensure a better articulation between the different EU mechanisms and funding to support innovation from knowledge production to prototyping, incubation and impact at scale.

Monitoring and Evaluation

A rigorous monitoring and evaluation system will be put in place to ensure effectiveness in the implementation and expected impact of the roadmap and the IRC. The aim is to come up with evidence on agreed-upon indicators for both the roadmap and the IRC, that will guide the AU-EU HLPD FNSSA R&I partnership in decision making. Regular monitoring and evaluation will also ensure the requisite secondary data is available. This is crucial as it represents source documents for the final review of the implementation of the roadmap.

As part of the CEA FIRST WP2 activities, Task2.2 is working towards the development and completion of the FNSSA Partnership MEL framework, building on the FNSSA Partnership Theory of Change (ToC) developed by the LEAP4FNSSA project. The framework includes the policy objectives & priorities of the EU and AU. Systems and tools developed will include summative and reflexive multi-level output and outcome-oriented indicators that enable in-depth evaluations of Partnership progress and highlight impactful research products & gaps, and opportunities for scaling of innovation. The MEL framework will provide structures that examine how R&I align with needs of FNSSA stakeholders, how scaling is achieved, and what capacities are improved by the Partnership.

As far as the IRC is concerned, CEA FIRST WP2 is also working through participatory workshops with stakeholder representative groups of IRC members to strengthen the IRC's narrative of outcomes & its required change making processes. Mapping of outcomes, internal and external enabling environments will identify the capacities, partnerships and changes required for CEA-FIRST to fully operationalize the IRC. Following this outcome mapping and the articulation of CEA-FIRST's impact pathways, Task 2.2, through a participatory monitoring, evaluation and learning framework will develop monitoring indicators to document progress towards the operationalization of the IRC.

Task2.2. has completed the development of these MEL and IRC frameworks and details are found in the deliverables D2.3 (FNSSA Partnership MEL Framework) and D2.4 (CSA MEL Framework). Therefore, it is expected that the team of experts from Africa and Europe to synthesize these deliverables to come up with an updated monitoring and evaluation system including indicators for the FNSSA R&I partnership and the IRC.

As far as the 2016-2026 roadmap is concerned, focus was on the following 11 R&I partnership indicators:

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

Conclusion

The first roadmap 2016 – 2026 of the AU-EU HLPD R&I partnership on FNSSA was implemented during the past eight years (2016-2024) covered by the review. It is expected to conclude in 2026. During the 8 years implementation period, more than 600 projects were funded and implemented in both Europe and Africa. Through the mobilization of various funding schemes, and more specifically EU and EU&AU member countries cofunding, the funding portfolio reached over one billion Euro.

In overall, the roadmap implementation has been successful. Among others, FNSSA empowered researchers, agronomists, policymakers, technicians, and other key stakeholders to drive agricultural innovation and respond effectively to emerging challenges (such as development of new crop varieties; improved pest and disease management strategies; advanced techniques in soil health management; institutions, farmers and technicians capacity building; economic and governance improvement in agricultural products value chains; ...). This success illustrates the broader potential of targeted research to deliver sustainable agricultural systems that bridge the gap between scientific innovation and real-world application. There are areas of improvements that have been identified by the review such as regional balance, inclusion of farmers, private sector and expert groups, and coordination between Africa and Europe.

The task 2.4 team built this draft roadmap taking into consideration, the new developments that transpired during the past years of implementation of the 2016-2026 Roadmap and the EU and AU concerns and revised strategies. They include population dynamics and jobs creation, climate change and biodiversity concerns, sustainable intensification, digital economy, entrepreneurship, and market and trade among others. Within such framework, we have included crosscutting issues covering the range of the issues highlighted above.

Rigorous monitoring and evaluation of the partnership goals and IRC outcomes through agreed upon indicators should be designed and implemented at both project and programme levels and globally.

Annex 1: Summary of the Mapping Between Recommendations, Challenges, Policies and Funding Mechanisms

The recommendations for the 2027–2037 AU–EU FNSSA Roadmap were developed through a systematic review of evidence from the 2016–2026 roadmap implementation (Deliverable D2.10), the analysis of FNSSA research projects (Deliverable D2.2), and a comprehensive assessment of AU and EU policy frameworks. To ensure coherence, relevance, and actionable guidance, each recommendation area has been explicitly mapped against (i) the key challenges identified during the review process, (ii) the strategic priorities of AU and EU frameworks, and (iii) the most suitable funding and investment mechanisms available under the FNSSA partnership and the broader AU–EU cooperation landscape.

The review highlighted persistent constraints such as low productivity, climate vulnerability, fragmented research coordination, weak market access, demographic pressures, and limited inclusion of marginalised groups. These issues are addressed in the new roadmap through six major research and innovation themes. Each theme responds directly to documented needs while reinforcing alignment with continental and global

policy commitments. For example, the recommendation to strengthen sustainable intensification and agroecology is rooted in the observed degradation of soil and water resources and the limited scaling of ecological approaches; it directly links to the CAADP frameworks, Agenda 2063, the EU Green Deal, and the Farm-to-Fork Strategy, and can be effectively supported through Horizon Europe, DeSIRA+, and co-funded EU–AU mechanisms.

Similarly, recommendations on food systems for nutrition and One Health respond to rising malnutrition, dietary-related disease burdens, and food safety challenges identified during the review. These align strongly with the AU Agenda 2063, STISA-2024, and the EU’s 2025 Vision for Agriculture and Food. They can draw on dedicated nutrition and health research windows under Horizon Europe and AU Research Grants.

The expansion of agricultural markets and trade addresses the persistent structural barriers faced by African producers in accessing regional and international markets, including the impact of new sustainability-based non-tariff measures. These recommendations reinforce AfCFTA, CAADP market development priorities, and the EU Farm-to-Fork agenda. Emerging financing tools such as blended finance facilities, value-chain investment platforms, and the Agrifood Chain Observatory offer targeted support for implementation.

Two new priority areas—climate change adaptation/mitigation and biodiversity conservation—are essential to address intersecting climate, land degradation, and ecosystem pressures in relation to long term sustaining of African and European population nutrition. These recommendations are anchored in the IPCC and IPBES evidence bases, and in AU and EU climate and biodiversity strategies. They can be operationalised through Horizon Europe Missions, Global Gateway climate instruments, and funding from the Green Climate Fund and bilateral donors.

Cross-cutting recommendations on coordination, food loss reduction, human capital development, inclusion, entrepreneurship, and digitalisation tackle structural bottlenecks identified across the 600+ projects and stakeholder consultations. These reflect commitments under the AU Digital Transformation Strategy, the AU Youth Charter, the EU Gender Action Plan, and Agenda 2063’s implementation goals. They are supported by a diverse mix of funding opportunities, including Erasmus+, Intra-Africa Mobility, digital innovation financing, gender-responsive research calls, and SME-oriented blended finance schemes.

Overall, the mapping demonstrates that the recommended priorities are tightly linked to the real-world challenges documented in the review, to AU–EU strategic commitments, and to concrete, accessible funding pathways. This ensures that the proposed research and innovation agenda is actionable, coherent, and aligned with both continental ambitions and the evolving global context. It also provides a practical basis for the FNSSA Working Group, IRC partners, and national stakeholders to mobilise investment and coordinate interventions throughout 2027–2037.

Mapping Between Recommendations, Challenges, Policies and Funding Mechanism

Recommendation Area	Challenges Identified (from D2.10/D2.2)	Relevant AU & EU Strategic Frameworks	Potential Funding Mechanisms
1. Sustainable Intensification & Agroecology	• Low productivity and soil degradation • Climate change stresses and biodiversity losses • Limited scaling of agroecological practices	• CAADP & 2025 Kampala Malabo Declaration • Agenda 2063 • EU Green Deal • Farm-to-Fork Strategy • Food 2030	• Horizon Europe (Cluster 6) • DeSIRA & DeSIRA+ • LEAP-AGRI/FOSC cofunding model • Global Gateway Africa-Europe Investment Package • National AU/EU funders via IRC

2. Food Systems for Nutrition & One Health	• Malnutrition and diet-related NCDs • Limited integration of One Health • Post-harvest losses	• AU Agenda 2063 • STISA-2024 • EU Green Deal • EU “A Vision for Agriculture and Food” (2025)	• Horizon Europe Africa Initiative II • AU Research Grants • DeSIRA Food Systems Window • EC DG INTPA (nutrition/health programmes)
3. Markets and Trade Expansion	• Trade barriers • Limited value addition • Weak market linkages • Non-tariff barriers from EU sustainability standards	• EU Farm-to-Fork (trade standards) • AfCFTA implementation • CAADP (markets & regional integration)	• EU Agrifood Chain Observatory • Blended finance via EIB, AFD, KfW • Team Europe Initiatives • Value-chain-oriented investment funds
4. Climate Change Adaptation & Mitigation	• Climate shocks increasing • Insufficient evidence-based adaptation options • Inadequate integration of climate policy into agriculture	• Nationally Determined Contributions (NDCs) • EU Climate Adaptation Strategy • IPCC/IPBES recommendations • AU Climate Strategy	• Horizon Europe Climate Missions • Global Gateway climate investments • Green Climate Fund (GCF) • AU-EU Innovation Agenda climate actions
5. Biodiversity Conservation & Ecosystem Management	• Biodiversity loss • Land degradation • Fragmented ecosystem management initiatives	• AU Environmental Strategy • EU Biodiversity Strategy 2030 • UNCBD / UNCCD conventions	• Horizon Europe Cluster 6 • PRIMA (ecosystems & water) • EU Nature-based Solutions financing • Bilateral cooperation (CIRAD, CGIAR, TSARA)
6.1 Cross-cutting: Coordination of EU-AU FNSSA Projects	• Fragmentation across 600+ FNSSA projects • Limited interoperability of outputs • Gaps in project-policy linkages	• AU-EU Innovation Agenda • FNSSA Partnership Roadmap • Agenda 2063 (implementation acceleration)	• IRC Knowledge Platform • Horizon Europe coordination actions • Team Europe cross-country initiatives
6.2 Reducing Food Loss & Waste	• High on-farm and post-harvest losses • Weak storage & processing infrastructure • Limited behavioural and market incentives	• CAADP • Farm-to-Fork (sustainable food chain) • AU Post-Harvest Loss Strategy	• DeSIRA+ • Global Gateway agrifood investments • Impact investment funds for cold chains & logistics • Private Cofunding
6.3 Human Capital, Resilience & Demographics	• Talent pipeline gaps • Insufficient technical training • Limited policy literacy • Demographic pressure on food systems	• STYIP 2024–2033 (100,000 PhDs goal) • AU Youth Charter • EU Skills Agenda	• Erasmus+, Intra-Africa Mobility • AU Research Grants • National HE ministries • IRC training programmes
6.4 Inclusion (Gender, Youth, Refugees, Disabilities)	• Uneven participation in R&I • Gender gaps in access to resources • Refugee/IDP vulnerabilities	• AU Gender Strategy • EU Gender Action Plan (GAP III) • Agenda 2063 Aspiration 6	• Horizon Europe widening schemes • Gender-responsive innovation grants • EU Trust Funds addressing displacement
6.5 Entrepreneurship & Future of Work	• Limited agrifood entrepreneurship • Weak incubation/acceleration ecosystems • Youth unemployment	• AU-EU Innovation Agenda (innovation ecosystems) • AfCFTA industrialisation pillar	• Blended finance for SMEs • EU-Africa SME Catalytic Fund • Agrifood accelerators supported via Global Gateway
6.6 Digitalisation, Big Data & AI	• Limited digital infrastructure • Poor data harmonisation • Weak digital innovation ecosystems	• AU Digital Transformation Strategy • EU Data Strategy • EU Space/Africa Copernicus cooperation	• Digital for Development (D4D) Hub • Horizon Europe digital calls • Private tech investment blended with public R&I