GFA CONSULTING GROUP

Advisory Services for Resilient Agri-Food Systems

The DeSIRA Global Monitoring and Evaluation Framework

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Annual Global Report 2024 of the EU-funded initiative "Development Smart Innovation through Research in Agriculture" (DeSIRA)

FINAL REPORT

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DeSIRA
PARTNERSHIPS FOR INNOVATION

Advisory Service for Resilient Agri-Food Systems

MISSION 52
Annual Global Report 2023 of the EU-funded initiative "Development Smart Innovation through Research in Agriculture" (DeSIRA)

FINAL REPORT

Prepared by: Pascale Debord & Karen McHugh

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Address

GFA Consulting Group GmbH
Eulenkrugstraße 82 ▪ D-22359 Hamburg
Germany
Phone: +49 40 60306 – 250
Fax: +49 40 60306 – 119
E-mail: gfa-ard@gfa-group.de

Your contact person

within GFA Consulting Group GmbH is
Carine Malardeau – ASRAFS Team Leader

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AE	AgroEcology
AEAS	Agricultural Extension and Advisory Services
AFAAS	African Forum for Agricultural Advisory Services
AFD	Agence Française de Développement
AGR	Annual Global Report
AIS	Agricultural Innovation Systems
AICS	Agenzia Italiana per la Cooperazione allo Sviluppo
AKIS	Agricultural Knowledge Innovation System
AR&EO	Agricultural Research and Extension Organisations
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CAADP	Comprehensive Africa Agriculture Development Programme
CAADP AR&EO	Agricultural Research and Extension Organisations
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza
CCARDESA	Centre for Coordination of Agricultural Research and Development for Southern Africa
CD	Capacity Development
CDAIS	Capacity Development for Agricultural Innovation Systems
CGIAR	(formerly) Consultative Group on International Agricultural Research
CIAT	International Centre for Tropical Agriculture
CID	(EU) Commission Implementing Decision
CIHEAM-IAM	Centre International de Hautes Etudes Agronomiques Méditerranéennes - Mediterranean Agronomic Institute of Bari
CIP	International Potato Centre
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CORAF	Conférence des Responsables de Recherche Agronomique Africains (or WECARD)
CC	Climate Change
CSA	Climate Smart Agriculture
DARS	Department of Agricultural Research Services (Malawi)
DeSIRA	Development Smart Innovation through Research in Agriculture
DeSIRA LIFT	Leveraging the DeSIRA Initiative for Agri-Food Systems Transformation
DG INTPA	Directorate-General for International Partnerships of the European Commission

ECOWAS (CEDEAO)	Economic Community of West African States
ENABEL	Belgian Development Agency
FAO	Food and Agriculture Organisation
FARA	Forum for Agricultural Research in Africa
FO	Farmers' Organisation
FoN	Friends of the Nation
GDI	Global DeSIRA Indicator
GFAR	Global Forum on Agricultural Research and Innovation
GIZ	Gesellschaft für Internationale Zusammenarbeit
GM&EF	Global Monitoring and Evaluation Framework (of the DeSIRA initiative)
GRET	Groupe de Recherche et d'Echange Technologique
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IICA	Inter-American Institute for Cooperation in Agriculture
ILRI	International Livestock Research Institute
IICA	Instituto Interamericano de Cooperación para la Agricultura
IUCN	International Union for Conservation of Nature
KM	Knowledge Management
LFM	Logical Framework Matrix (or Logframe Matrix)
M&E	Monitoring & Evaluation
MSME	Micro, Small & Medium Enterprise
MSIP	Multi-Stakeholder Innovation Platform
NARI	National Agricultural Research Institute
NARS	National Agricultural Research System
NUS	Neglected and Underutilized Species
P-I / P-II	Pillar I / Pillar II (DeSIRA initiative)
R&I	Research and Innovation
SEBRAE/PA	Serviço de Apoio às Micro e Pequenas Empresas do Estado do Pará
SNV	Netherlands Development Organisation)
STI	Science, Technology and Innovation
TAP	Tropical Agricultural Platform
TEAGASC	Agriculture and Food Development Authority (Ireland)
UOM	University of Mauritius
WECARD	West & Central African Council for Agricultural Research & Development
WUR	Wageningen University & Research

1 Executive summary

The DeSIRA initiative contributes to the climate-relevant, productive and sustainable transformation of agriculture and food systems in low and middle-income countries in Africa, Asia and Latin America. It supports Research and Innovation (R&I) projects and strengthens research capacities and governance, involving key actors at the national, regional, and international levels. It comprises 82 projects, with an estimated EC contribution of € 340 million, and € 60 million from EU Member States.

The Directorate-General for International Partnerships of the European Commission (DG INTPA) has developed a Global Monitoring and Evaluation Framework (GM&EF) for the DeSIRA initiative. The GM&EF is a methodological tool to identify and inform initiative-level, Global DeSIRA Indicators (GDIs). Its purpose is to steer and monitor the DeSIRA initiative in order to determine the extent to which its overarching objectives are being achieved, and to report and communicate effectively on new approaches to agricultural R&I. The GM&EF comprises 6 outputs, 4 outcomes and one overall objective (impact), and 28 GDIs. It is not relevant at project level and is not designed to reflect the diversity of projects or the complexity of innovation processes at project level. Owing to the diversity of DeSIRA projects, each project contributes to certain global results (i.e. at initiative level), but not to all.

Building on the GM&EF, progress reports and interviews with implementing partners, an Annual Global Report (AGR) has been produced since 2022. AGR 2024, the third AGR, is based on the results of 79 DeSIRA projects having at least 2 years of implementation as of December 2023. This includes 72 R&I projects (Pillar I or P-I) and 7 institutional projects focused on strengthening the institutional capacities of regional and international organisations engaged in agricultural research and innovation (Pillar II). R&I projects are categorized into Group 1 (G1, 22 projects covered since AGR 2021/22), Group 2 (G2, 17 projects covered since AGR 2023) and Group 3 (G3, 33 projects first covered in AGR 2024). AGR 2024 covers the implementation period 2019-2023, with cumulative data.

In total, 2,855 researchers (743 women, at least) have been involved in the implementation, including 1,992 (70%) from target countries. Many organizations (1,663) have played an active role in the DeSIRA initiative, including 368 research institutes, 404 Farmers' Organisations (FOs), 358 technical or territorial organisations (e.g., ministries, local authorities), 6 United Nations agencies, 298 NGOs (25% of them are international NGOs), 166 private sector entities, and 63 networks, fora or platforms. The increase in the number of organisations involved in the older (G1 and G2) projects is significant, especially FOs and private sector entities, suggesting the multiplication of partnerships to facilitate the dissemination of innovations.

Output 1 focuses on Multi-Stakeholder mechanisms such as Innovation Platforms (MSIPs). They enable research bodies to engage with a broad range of actors. At the national level, they support coordination, information sharing, and strategy validation. Locally, they emphasize stakeholder involvement and interaction (e.g., research institutions, FOs, NGOs) and the co-creation of innovations. Over the reporting period, 61 R&I projects have supported 563 MSIPs (18, 91 and 454 respectively at regional/international, national and local/subnational levels). The significant increase (38% i.e. from 254 to 352) reported by P-I G1 and P-I G2 projects (combined) since AGR 2023 reflects efforts to recover from initial pandemic-related delays in supporting multi-stakeholder mechanisms. In terms of sustainability, pre-existing mechanisms have an advantage over those initiated from scratch by the projects. Their role in scaling innovations is crucial, but many still need reinforcement to be fully effective. The institutional projects (Pillar II) have contributed to 105 MSIPs (29 international, 73 national, and 3 subnational), with five projects targeting Agricultural Research

and Extension Organisations (AR&EOs) predominantly accounting for these numbers. For institutional projects, multi-stakeholder mechanisms emphasize regional dialogue with a policy or Capacity Development (CD) focus on topics like Climate Smart Agriculture (CSA) and Knowledge Management (KM). National MSIPs are either policy-oriented or focused on value chains.

Output 2 focuses on the development and availability of innovations at farm level and beyond farm level. The support to innovation, including participatory co-design and deployment, is a key feature of DeSIRA projects. Most R&I projects reported innovations for both levels, mainly on farm level (1,577). The diversity of farm level innovations is large (products, technologies, agricultural practices, farming systems, services, decision-making tools, etc.), with crop varieties being one of the most common innovations claimed by projects (at least 600 were identified). Many projects introduce known innovations to new contexts, often with the support of global research institutions. Furthermore, many DeSIRA projects aim to bring earlier innovation efforts that were not successful due to time limits, to the next level. The climate-relevant approach is explicit in most projects. Besides, 44 projects promote agroecological innovations, though their commitment to the agroecological concept and principles vary widely. Most R&I projects (67) also claim a contribution to innovation beyond farm level (368), including institutional innovations, mainly aimed at strengthening partner organisations. The growing number of innovations beyond farm level in older project groups (G1 and G2) suggests a gradual transfer of the innovation support function to local and national stakeholders supporting farmers, value chain actors, or the territorial management of natural resources. Institutional projects reported a slight rise in institutional innovations (10 against 8 in AGR 2023).

Output 3 examines how R&I initiatives reach farmers and develop capacities beyond farm level. DeSIRA expands the access of smallholder farmers to technical and scientific knowledge. Over 410,000 farmers have been reached by R&I projects, with three projects accounting for 53% of this total. However, 18 projects reached fewer than 500 farmers, as R&I projects primarily focus on generating knowledge and co-designing innovations, while supporting other actors in scaling efforts. Many projects emphasize training lead farmers for peer-to-peer learning and strengthening FOs, NGOs, and advisory services for extension. Over the reporting period, DeSIRA projects have contributed to strengthening the capacity of at least 3,661 researchers (including at least 705 women) and 34,060 technical or development staff. Training on data collection, management and analysis is central to many CD plans. Not all projects have dedicated plans for researchers and capacity changes are usually not measured. Nevertheless, partners report positive individual progress, as researchers develop their skills and broaden their perspectives through project involvement. Backed by research institutions (55 European and 119 from target countries), R&I projects have supported 681 Master's and 314 PhD students, including respectively 266 and 107 women. The vast majority of students are from DeSIRA beneficiary countries, mainly in Africa. Either professionals seeking higher degrees or younger individuals, they play a crucial role in project implementation, while pursuing academic degrees.

Output 4 highlights DeSIRA's contribution to education through the development or upgrading of curricula or training packages. It also underscores DeSIRA's potential value in an area that is not an explicit objective of the initiative. A total of 28 projects (half from G3) have played a key role in revising or creating 116 educational outputs (98 from R&I projects, 18 from institutional projects), including academic modules or training material for diverse beneficiaries. Curriculum updates often incorporate topics such as climate adaptation and mitigation, agroecology and knowledge management.

Output 5 highlights the full deployment of the DeSIRA initiative through the ever-increasing production of science-based knowledge and evidence for a diversity of actors. Over the reporting period, at least 3,752 communication and knowledge products were generated (86% from R&I projects) for all audiences. This includes: communication products (2,091; 56%), technical reports (1,152; 31%; including Master's theses), guidance manuals (247; 7%), databases (69; 2%; fully developed, for external use) and peer-reviewed scientific publications (193; 5%; already published). Combined, G1 and G2 projects have recorded a strong overall increase (+162%) in the total number of knowledge and communication products since AGR 2023, with each category also experiencing significant growth. With 314 PhD students currently supported, a further rise in scientific publications is expected. Key challenges include translating research into accessible and useful knowledge products for various audiences and ensuring sustainable knowledge management systems for dissemination.

Output 6 focuses on policy outputs. The level of policy engagement at output level varies across DeSIRA projects but most of them (69 out of 79) have planned policy activities and/or objectives. R&I projects have produced 81 policy briefs and 87 policy dialogues, with topics as diverse as the innovations under co-development. As expected, policy activities have intensified for G1 and G2 since the last reporting period (from 54 to 112 policy outputs, both dialogues and briefs). This is driven by the need to scale solutions through an enabling environment and facilitated by an increase in knowledge production. While policy activities are likely to benefit from no-cost extensions granted to most of the older R&I projects, the risk of them being side-lined due to capacity gaps in policy engagement highlights the importance of strong science-policy interface and related skills, to support policy innovation or to inform policies. In comparison, the 'new' G3 projects have performed rather well, with 56 outputs after only two years of implementation. Institutional projects have continued engaging stakeholders at the regional level and increased their policy outputs by 50% (from 70 to 105) since AGR 2023, focusing on CSA and KM. Agroecology is emerging as a policy topic.

Outcome 1 captures the transformation of outputs into changes at farm level, focusing on the capacity and resilience of smallholder farmers as they take up new products, technologies, models or services. Since the start of the DeSIRA initiative, farmers have taken up an estimated 621 climate-smart or agroecological innovations, representing 40% of all innovations developed or in progress, for farm-level use. This ratio has doubled since AGR 2023 (20%), driven by progress in 'older' R&I projects (G1 and G2), and the faster advancement of innovation processes in 'new' G3 projects, which benefit from more favourable implementing conditions. Keeping in mind that most R&I projects do not aim to reach a large number of farmers directly, they reported 265,000 smallholder farmers using these innovations (against 90,000 in AGR 2023), with 2 large regional projects accounting for 64% of this figure. This increase is explained by a sharp rise in the number of farmers reported by G1 and G2 projects -despite 11 projects not yet contributing to Outcome 1- and the addition of G3 projects. The number of beneficiary women farmers is still not systematically reported. Dissemination and scaling strategies of R&I projects are highly relevant to the overall objective of DeSIRA. Implementing partners claim that 70% of R&I projects (50 out of 72) have such a strategy, including 29 G1 and G2 projects (combined), up from 19 in AGR 2023. They rely on various methods, partnerships and support to policies to increase the effectiveness of dissemination and to scale innovations.

Outcome 2 focuses on strengthening institutional and innovation capacity at the organisation level. All but 4 R&I projects are strengthening (62 of them) or intend to strengthen (6) the capacities of FOs, NGOs or advisory services, which is key for co-innovating and scaling innovation. While all DeSIRA projects strengthen researchers' capacities in partner countries, some also contribute to the institutional

capacities of research organisations. Over the reporting period, the DeSIRA initiative has contributed to enhancing the capacities of 1,440 organizations, including 607 FOs and 223 national research entities, in addition to extension services, ministries, local NGOs, community-based organisations (etc.). National research entities have improved capacities through training and participation in research activities using up-to-date methods, enabling advanced scientific achievements. Their participation in DeSIRA also reshapes research approaches by emphasizing stakeholder interactions. Institutional partnerships contribute to institutional CD. However, for R&I projects, attribution remains difficult. Their true influence at institutional level cannot be fully captured as institutional CD is often implicit and because they lack the methodology to measure institutional changes. One institutional project builds capacity in 5 key African AR&EOs, including four regional and one pan-African organisation. Annual capacity assessments show significant structural and operational progress, facilitated by improved cooperation and also evident in the multi-stakeholder partnerships these AR&EOs are able to establish. Additionally, their ability to support regional organisations and national (member) entities by promoting the use of institutional tools and good practices has increased, though the outcomes are not systematically reported.

Outcome 3, on support targeted at the private sector and value chains, is clearly addressed by some R&I projects. While the main focus of a majority of R&I projects is on sustainable production or natural resource management, the number of projects targeting downstream and upstream actors is increasing, with a view to facilitate the deployment of innovations at scale. As of December 2023, 41 Pillar I projects were supporting a total of 165 Value Chains (VCs) in 45 countries. They had strengthened or created a total of 1,357 agriculture and food-related MSMEs (including 808 from a single G3 project in Latin America, and 375 for G1 and G2, up from 183 in AGR 2023). Innovations targeted at the private sector include environmentally-friendly inputs, improved processing equipment and technologies, new food and other consumer products, models and tools aiming to improve the equity and efficiency of transactions between value chain actors (e.g. new business models linking services to smallholder farmers, blockchain-based tools to enhance traceability). Project approaches to value chain support differ and are either holistic i.e. consider the whole value chain (including dialogue with all value chain actors, access to markets and services) or are more narrowly targeted at specific value chain segments (including support to incubators for start-ups, support to MSMEs).

Outcome 4 examines the extent to which projects are able to transform policy-related knowledge products (dialogues, briefs) into tangible outcomes (policy, strategy, or plans under development, or endorsed). Since AGR 2023, policy involvement has increased, especially within Pillar I. In total, 60 projects aim to improve the enabling environment for scaling the innovations they promote and 42 claimed a tangible policy outcome over the reporting period. DeSIRA projects contributed inputs to 184 new or revised policies (170 from Pillar I), mainly at national and subnational levels. Policy outcomes achieved by partner organisations were not consistently emphasized or well documented in project reports, making it difficult to fully capture DeSIRA's policy influence in the context of the GM&EF. However, DeSIRA LIFT has conducted a learning review to assess the impacts of the DeSIRA initiative at policy level. Besides, efforts are underway to equip project partners with the skills needed to strengthen the science-policy interface.

Impact prospects are difficult to frame at the scale of the initiative because of the projects' diversity and because innovation processes in the agriculture sector take time. Besides, participatory R&I initiatives facilitate the co-creation of innovations but depend upon development and policy actors to scale and disseminate those innovations. For most R&I projects, the contribution to socio-economic changes at farm level remains limited, with less than 45,000 farmers reporting a gain in terms of resilience to climate change. The few R&I projects (9) claiming a significant impact over the

implementation period usually include a strong development component or have the capacity to cover broader areas through the involvement of key value chain or territorial actors. A total of 18 R&I projects reported improved agroecosystems, promising future economic and resilience gains at farm level. Wider impact is promising but not tracked. Beyond the target groups, hundreds of thousands of smallholder farmers might benefit from the dissemination or scaling of innovations, through partnerships, communication campaigns, extension services, peer-to-peer learning (etc.). The inclusion of 33 R&I projects in AGR 2024 confirms a previous finding that the objective of gender equality has not been sufficiently mainstreamed in the design of many R&I projects, notwithstanding a few well-designed gender-focused initiatives. Over the longer term, several projects have the potential to have an impact on system transformation, the overall objective of the DeSIRA initiative. Strengthened by DeSIRA, 31 organisations (31) have started taking steps in this direction. As innovation is a long process, significant policy shifts, especially toward new models (e.g. agroecology) require time. Identifying and documenting the impact of DeSIRA-influenced policies, strategies or plans on agriculture and food systems is possible, but requires a long-term perspective and specific methodologies to better assess programmatic impact due to multiple small project-based interventions.

2 Background

The objective of the DeSIRA initiative (Development Smart Innovation through Research in Agriculture) is to contribute to the climate-relevant, productive and sustainable transformation of agriculture and food systems in low and middle-income countries in Africa, Asia and Latin America. The initiative aims at supporting research and innovation projects and strengthening research capacities and governance, involving key actors at the national and international levels. It was launched in 2017 at the One Planet Summit and has been operationalised through three Commission Implementing Decisions (2018, 2019 and 2020). The first contracts were signed in 2019. The total number of projects to date is 80, with an estimated EC contribution of 340 million Euros, and 60 million Euros of EU Member State funds. Information on the DeSIRA initiative and projects already under implementation can be found at https://europa.eu/capacity4dev/desira.

2.1 The three pillars of the DeSIRA Initiative

There are three categories of DeSIRA projects clustered under "Pillars".

Pillar I - Research and innovation in agricultural and food systems (Source INTPA/F3)

Pillar I encompasses projects focused on research and innovation in agricultural and food systems. These projects target a variety of production systems (crop and animal production, agroforestry) and natural resources (forest, pasture, water, soil), and associated services (innovation support services, advisory services), many of them with a value chain perspective and/or agroecological approach, in the context of climate change. In line with the underlying principles of the DeSIRA initiative, these projects have common characteristics: they strive to address major economic, social and environment-related challenges with a view to promoting Food and Nutrition Security and Sustainable Agriculture (FNSSA); they design and promote innovation processes via a multi-stakeholder approach that builds on science and brings together communities of farmers, the private sector, research institutions, technical and development bodies and grassroots organisations; they aim at increasing knowledge, changing behaviours, skills and technical and management practices, and contributing to policy making.

Pillar II - Research infrastructure conducive to innovation (Source INTPA/F3)

Pillar II interventions focus on strengthening the capacities of regional and international organisations that play a key role in research and advisory services, especially in Africa: Conférence des Responsables de Recherche Agronomique Africains (CORAF), Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA), Forum for Agricultural Research in Africa (FARA), African Forum for Agricultural Advisory Services (AFAAS). They contribute to the capitalization of experiences related to innovation systems (the Global Forum on Agricultural Research & Innovation-or GFAiR-) or to building research capacities through the training and mentoring of young African researchers (One Planet Fellowships). Each project is designed and monitored with an impact pathway approach for research institutions based on a plausible theory of change with a climate change perspective.

Pillar III - Knowledge and evidence to feed policy design (Source DeSIRA LIFT)

Pillar III is comprised of two interventions, the DeSIRA Global Monitoring and Evaluation Framework (GM&EF) and DeSIRA LIFT "Leveraging the DeSIRA Initiative for Agri-Food Systems Transformation" which provides services to DeSIRA Initiative's implementers under three service areas:

Service Area 1 - Support to the country-based DeSIRA projects to enhance their impact by promoting Agricultural Innovation Systems (AIS) thinking and the use of developmental evaluation approaches.

Service Area 2 - Support to African apex organisations for research on agricultural development, extension and higher education, and add value to the global initiatives TAP (Tropical Agriculture Platform) and GFAR.

Service Area 3 - Support to co-create knowledge and evidence to feed policy dialogues and programming on agri-food systems in the Global South.

2.2 The theory of change of the DeSIRA Initiative

Responsible innovations for the productive, sustainable and inclusive transformation of food systems in low and middle-income countries must build on both science and local knowledge. The theory of change of the DeSIRA initiative postulates that by mobilising academic research and participatory action research, and by valuing local knowledge, evidence is generated to inform future interventions and policies, and to co-design and disseminate new climate-smart and agroecological solutions that will be taken up by farmers and organisations. Strong partnerships between multiple stakeholders, the openness of farmers to new ways of working, engagement by the private sector, and interactions with policy makers are the core assumptions required to translate this knowledge into action and to support innovation. Multi-stakeholder approaches developed by DeSIRA projects bring together communities and farmer organisations, grassroots organisations, NGOs, private sector actors, research institutions, and technical and development bodies in pursuit of the common goal of Sustainable Aquatic and Agri-food Systems (SAAFS). The initiative draws on mechanisms for inter-institutional cooperation supported by European, international, and national expertise, that underpin the joint design and development of climate-smart and agroecological innovations, at farm, territorial and value chain levels, targeting a diversity of production (crops and animal production) and farming systems (mixed farming, agroforestry, pastoralism, etc.). Specific attention is paid to landscapes and territories to improve natural resource management, to value chains to facilitate access to markets, and to policies to foster a more enabling environment. Capacity development is the essence of the DeSIRA initiative. Interventions to support innovation are complemented by the strengthening of technical and functional capacities, at the individual and organisational levels, and the strengthening of relevant education and training programmes. This strategy is expected to contribute to reinforcing the links between research and innovation, and to stimulate and develop the capacity to innovate of a large range of actors.

Positive changes are expected at multiple levels. At farm level, the capacity and resilience of smallholder farmers will improve as they make better informed, evidence-based decisions, and take up new climate-smart or agroecological products, technologies, models or services. At institutional level, the innovation capacities of research, technical and development institutions, of farmers' organisations, and of private sector actors to support agricultural innovation processes will be strengthened. A key actor in the functioning of value chains, a strengthened private sector is expected to facilitate the uptake of innovations by farmers and scale up their use among farming communities. These organisations are expected to continue working together and innovating once projects are over, thus ensuring sustainability. Institutional partnerships on agriculture and food systems are also expected to multiply, triggered by DeSIRA projects. The institutional capacity development of regional agricultural research and extension organisations, more specifically in Africa, will enhance the governance of research and extension services. Support to regional and international research and innovation networks, fora or platforms will boost the capitalization and sharing

of experiences and the elaboration of policies, with an Agricultural Innovation Systems perspective. In parallel to research and innovation processes, policy-related activities involve subnational and national stakeholders with a view to increasing their ability to design or improve relevant integrated policies, strategies and plans to address the transformation of food systems, including mitigation and adaptation to climate change and the agroecological transition.

At multiple levels, the DeSIRA initiative is expected to contribute to impact regarding the climate-relevant, productive, and sustainable transformation of food systems in low and middle-income countries. At farm level, target groups will benefit from socio-economic gains and a positive impact on agroecosystems. They will be better equipped to cope with climate change-related shocks and make use of agroecological or nature- based solutions. The status and role of smallholder female farmers or female food entrepreneurs will improve. Through dissemination and a diversity of scale up strategies, smallholder farmers who are not part of target groups will benefit from innovations developed by DeSIRA projects. At territorial level, agroecosystems will benefit from the introduction of sustainable innovative practices, including institutional arrangements, on agricultural and pastoral land and related to soil and water management. At institutional level, a growing number of organisations involved in the implementation of DeSIRA projects will be able to demonstrate a positive impact on the transformation of agriculture and food systems at national or international level. The policy environment will improve as a result of the endorsement and implementation of relevant policies, strategies or plans supported by DeSIRA projects.

3 Overview of the methodology underlying the global Monitoring and Evaluation Framework

From October 2021 to November 2022, with the technical assistance of ASRAFS (Advisory Services for Resilient Agri-Food Systems, GFA Consulting Group), the Directorate-General for International Partnerships of the European Commission (DG INTPA), developed a Global Monitoring and Evaluation Framework (GM&EF) for the DeSIRA initiative. The GM&EF is a methodological tool to identify and inform initiative-level indicators, also called Global DeSIRA Indicators (GDIs). Its purpose is to steer and monitor the DeSIRA initiative, in order to determine the extent to which its overarching objectives are being achieved, and to report and communicate effectively on new approaches to agricultural innovation and research. The main beneficiary and user of the GM&EF is DG INTPA (F3). Projects and EU Delegations are also potential users.

The GM&EF operates **at Initiative level**, i.e., it is not relevant to individual projects but rather aims to capture what the EU is achieving at global level through the combined efforts of **all DeSIRA projects**. It consists of a global Logframe Matrix (LFM), which comprises a results chain (see figure below), as well as 28 GDIs at output, outcome, and impact levels, designed through a bottom-up approach. The GM&EF provides a definition for each GDI.

A brief summary of the methodology for the data collection is as follows: every year, project progress reports are examined to determine whether, and to what extent, a given project contributes to the GDIs. This exercise is carried out without the need for any additional data collection by Implementing Partners (IPs). Subsequently, for each DeSIRA project, an interview is conducted with the main IP. If the project contributes to a GDI, a link is created between the project and this GDI. A link can be explicit (a project indicator, similar to the GDI, exists), or implicit (the project contributes to a GDI, but this is not captured by an indicator at project level). Each project is thus linked to the GM&EF through a specified number of links aimed at capturing the project results -explicit or implicit- that contribute to expected results at global/initiative level. **Each project contributes to**

X number of GDIs, not to all GDIs. For instance, a project that does not have a policy dimension is not linked to any of the GDIs on policy and is not expected to contribute to these policy related GDIs. For each link, a quantitative value is attributed. This is the quantitative contribution of a given project to a given GDI. Qualitative information is also collected, mainly through interviews, to put the quantitative data into context and clarify the link between the result (project level) and the GDI (initiative level). At GM&EF level, the GDI value is the sum of all project-level contributions to this GDI. Project-level data and GDI values are recorded in the GM&EF. The Annual Global Report of the DeSIRA initiative is then prepared, based on these values and qualitative information gathered during interviews. It is a progress report at Initiative level; it is not an evaluation of the projects. The complete methodology that underpins the development of the GM&EF and its implementation (i.e. the collection of data to inform the GDIs) is available at: "https://capacity4dev.europa.eu/library/methodology-global-monitoring-and-evaluation-framework-desira_en".

It is important to note that the Global Monitoring and Evaluation Framework is not a tool to monitor projects on an individual basis and is not meant to support project-level monitoring processes. Besides, it is not designed to reflect the diversity of projects or the complexity of innovation processes at the project level, even less the complexity of innovation processes related to agriculture and food systems at country or regional levels. Global DeSIRA Indicators do not substitute project-level indicators and are not mandatory at project level.

The collection of data for the GM&EF has its challenges. The quality of the quantitative data at initiative level is tied to the quality of the data at project level, since it sourced from the project's progress reports and monitoring systems. Furthermore, the data needed for informing the GDIs is not always available in projects' progress reports. For instance, results may exist -from an initiative perspective- but may not be properly documented in progress reports. This is why an annual meeting with the IP is needed during the data collection phase to confirm the relevance of a GDI vis-à-vis project results, to identify the relevant data, to capture implicit results and to complement the data with qualitative elements. Besides, certain projects weigh more (quantitatively) than others on the GDI value and may overshadow the results of other projects.

The figure below shows the results chain (outputs, outcomes, impact) at DeSIRA initiative level as well as the articulation between these different results levels.

Figure 1 - The Result Chain of the DeSIRA Initiative

IMPACT
The DeSIRA initiative contributes to the climate-relevant, productive, and sustainable transformation of agriculture and food systems in low and middle-income countries

All Outcomes together contribute to Impact.
Each Output contributes to one or more Outcomes (shape symbol).
Outputs mutually reinforce each other.
Outcomes mutually reinforce each other.

OUTCOME 1 ▬	OUTCOME 2 ▲	OUTCOME 3 ★	OUTCOME 4 ●
The capacity and resilience of smallholder farmers improve as they take up new climate-smart or agroecological products, technologies, models or services	Innovation capacities of research, technical and development institutions as well as capacities of farmers' organisations to support agriculture innovation processes are strengthened	Private sector capacities and value chains of agri-food systems are strengthened	The agriculture and food systems policy environment is improved at national or international level

OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5	OUTPUT 6
▬ ▲ ★	▬ ▲ ★	▬ ▲ ★	▬ ▲ ★	▬ ▲ ★ ●	▲ ●
The mechanisms for inter-institutional cooperation and the joint design of climate-smart and agroecological innovations are developed	Innovations linked to agri-food systems are developed and made available at farm and institutional levels	Farmers are reached by research and innovation initiatives and individual capacities are developed beyond farm level, including at institutional level	Education and training programmes responsive to capacity development needs for agricultural innovation at national level are strengthened	Science-based knowledge and evidence are generated and made available to inform research for innovation in agriculture, institutional cooperation and the dissemination of new climate-smart and agroecological solutions	Science-based policy briefs are produced and dialogues on agriculture and food policy development and reform are organized

Based on data collected via the GM&EF, a first Annual Global Report (AGR 2021/22), covering the implementation period 2019-2021, was produced in 2022. It included 29 DeSIRA projects (22 Pillar I and 7 Pillar II) having at least 2 years of implementation as of December 2021. The second report (AGR 2023) covered the implementation period 2019-2022 and the 46 DeSIRA projects (39 Pillar I, and 7 Pillar II) having at least 2 years of implementation as of December 2022, including thus the projects already included in AGR 2021/22.

AGR 2024 includes all 79 DeSIRA projects from the 2018, 2019 and 2020 Commission Implementing Decisions (72 Pillar I and 7 Pillar II). Except for one project, the activities of which started in July 2023, all projects had at least 2 years of implementation/reporting when the data collection exercise was conducted for AGR 2024, from May to December 2024. AGR 2024 covers the implementation period 2019-2023 but the exact cut-off date varies for each project (refer to Annex II). For 31 projects, the reporting period extends until December 2023, while for the others, it ranges from July 2023 to September 2024.

Pillar I projects are divided into:

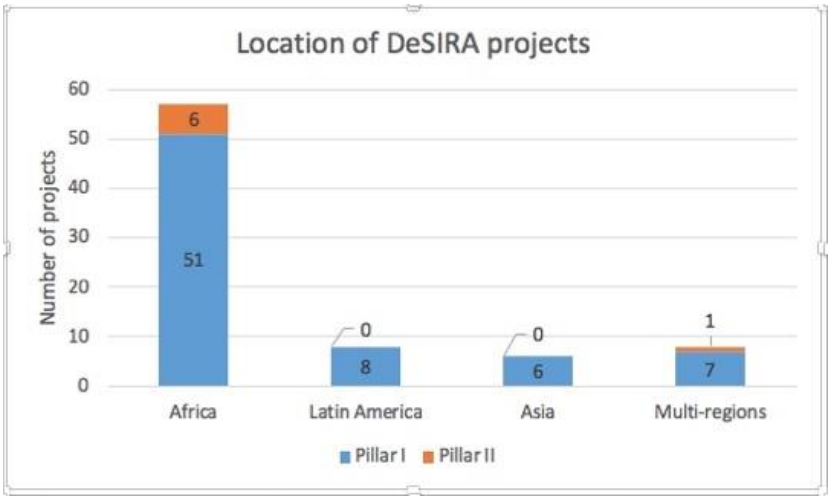
Group 1 (G1): 22 projects included in AGR 2021/22, AGR 2023 and AGR 2024;

Group 2 (G2): 17 projects included in AGR 2023 and AGR 2024;

Group 3 (G3): 33 projects included in AGR 2024.

Pillar II is comprised of 3 main projects. One of them is a large project further divided into 5 sub-projects, for analytical and reporting purposes. Thus, for reporting purposes, it is considered that Pillar II includes 7 projects.

Figure 2 - Location of DeSIRA projects



Out of 79 DeSIRA projects, 57 are in implemented in Africa, 8 in Latin America, 6 in Asia. Among them, many actions cover more than one country, within the region. In addition, 8 projects cover multiple countries spanning across at least 2 regions.

The GDI values presented in the report are cumulative for the period 2019-2023, with the understanding that the period of implementation covered is not the same for all projects: mostly 4 to 5 years for P-I G1 and P-II, 3 to 4 years for P-I G2 and 2 to 3 years for P-I G3. The data was collected from May to December 2024 based on the latest available annual progress report for each project, and an interview with each project IP. To allow for a year-on-year comparison, the cumulative data is presented for two successive implementation periods (2019-2022 ; 2019-2023) and for the following category of projects: P-I G1 and P-I G2 (combined), P-I G3, Pillar II. Quantitative data for G1 and G2 are not presented individually in this report, except in Table 1 on "Researchers and Organisations involved in the implementation of the DeSIRA Initiative over the reporting period 2019-2023". Projects included in AGR 2024 are listed in Annex I.

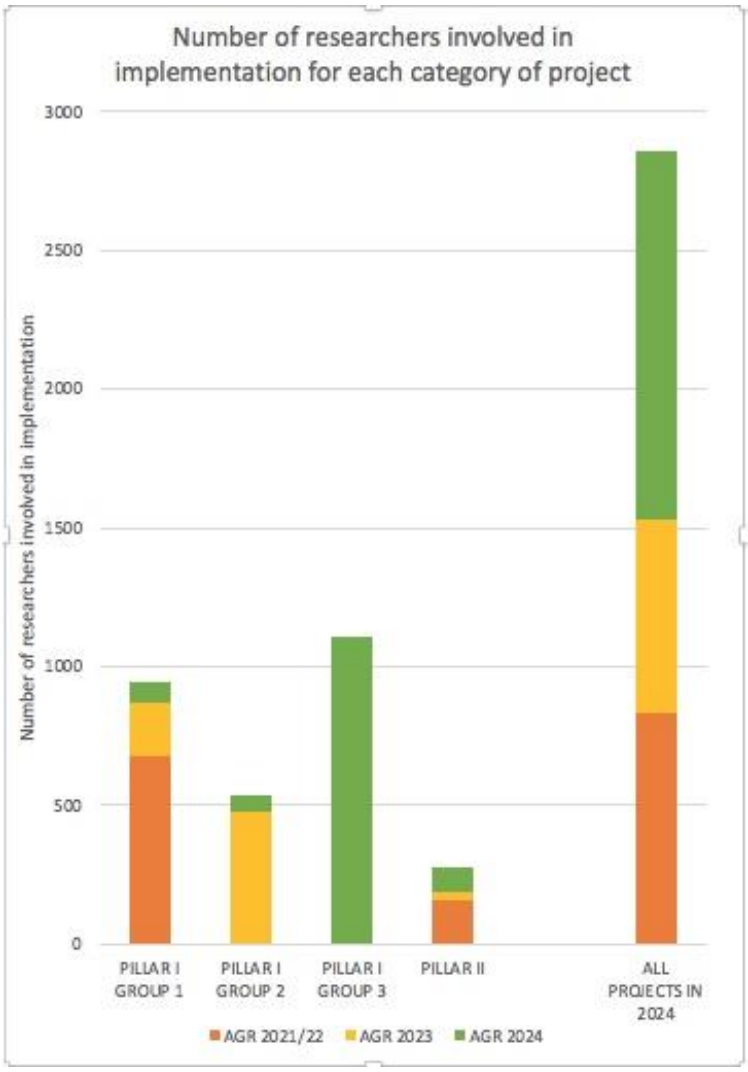
The implementation of 7 projects was over at the time of data collection. This includes one Pillar II project and 6 Pillar I projects, including 3 from G1, 2 from G2, and one from G3.

4 Implementation (input-related data): Researchers and Organisations involved in the DeSIRA Initiative

Implementing Partners have faced a diversity of challenges during the global reporting period 2019-2023. Many projects were delayed by the COVID-19 pandemic, which adversely affected the planning up to and including 2022, and strained cooperation efforts among partners. Other challenges included the disruptions caused by the Russian invasion of Ukraine and the ongoing war (e.g., rising prices, availability issues), as well as the continued deteriorating political and security environment in the Sahel (negative impact on local and regional mobility).

The many requests for a no-cost extension reflect the consequences of the above challenges on the implementation of the DeSIRA initiative. At the time of data collection (May-December 2024), 32 projects (mostly G1 and G2) had already obtained a no-cost extension, ranging from 3 to 18 months (typically 12 months). Among them, 2 had formally requested a second extension (yet to be approved). Besides,13 other projects had formally requested their first no-cost extension (yet to be approved). An additional 20 projects were planning to request a no-cost-extension, including 5 projects which had already obtained a first one-year extension.

Figure 3 - Researchers involved in implementation



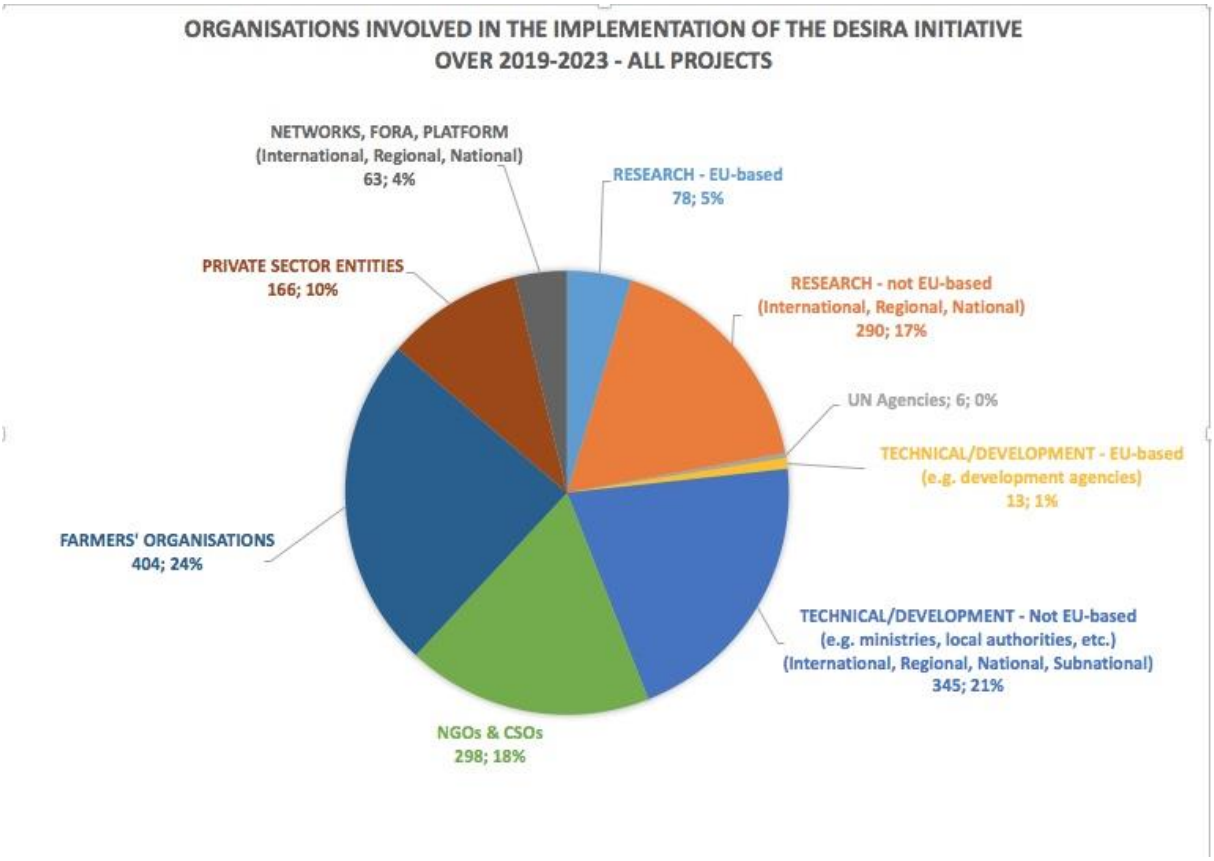
A cumulative number of 2855 researchers has contributed to the implementation of the activities of all DeSIRA projects over the reporting period 2019-2023. This includes the 7 projects, the implementation of which had ended at the time of data collection. This is an increase of 97% over the previous reporting period (1530 researchers), mostly due to the inclusion of 33 Pillar I projects (G3) in the GM&EF in 2024.

Among the 2855 researchers, 70% (1992) are from DeSIRA target countries and at least 26% (743) are women (refer to Table 1, below).

Since the start of the DeSIRA initiative, many organisations (1663) have been involved in the implementation. The figure below disaggregates per category of organisations: 368 research institutes, including 78 European research bodies, 404 farmers' organisations, 358 technical organisations (e.g., ministries, local authorities), 6 United Nations agencies, 298 NGOs (including Civil Societies Organisations), 166

private sector entities, and 63 networks, fora or platforms. Among the 78 European research organisations involved in implementation, 27 are or were involved in more than one DeSIRA project.

Figure 4 – Categories of organisations involved in the implementation of the DeSIRA initiative



There has been a 115% increase in the overall number of organisations involved in implementation since the last reporting period (from 773 to 1663), partly due to the inclusion of 33 Pillar I projects (G3) in the global DeSIRA reporting process. "Partly", because many organisations involved in these "new" projects -especially research institutions- were already involved in other DeSIRA projects. There has also been an increase in the number of organisations involved in G1 and G2 projects, especially in the number of farmers' organisations and of private sector entities, whereas the increase in the number of research institutions has been marginal. This hints at a multiplication of partnerships to encourage and strengthen the processes aiming at facilitating the dissemination of the innovations.

International research organisations (e.g., Centre de Coopération Internationale en Recherche Agronomique pour le Développement, CIRAD), implementing agencies (e.g. Gesellschaft für Internationale Zusammenarbeit, Agence Française de Développement), and global platforms (e.g. Tropical Agricultural Platform - TAP; Global Forum on Agricultural Research and Innovation - GFAiR) have continued playing a key role in structuring synergies between DeSIRA projects. Besides, DeSIRA-LIFT supports DeSIRA projects to manage for impact by reinforcing the projects' synergies through a dedicated Community of Action and Reflection.

The following section provides a summary of the progress of the 79 projects towards the planned results of the DeSIRA initiative i.e., 6 outputs, 4 outcomes and the stated impact.

Table 1: Researchers and Organisations involved in the implementation of the DeSIRA Initiative over the reporting period 2019-2023

Category of project ▶ Pillar I (P-I); Pillar II (P-II) Group 1 (G1); Group 2 (G2); Group 3 (G3)	P-I G1	P-II	Duplicates*	TOTAL No duplication	P-I G1	P-I G2	P-II	Duplicates*	TOTAL No duplication	P-I G1	P-I G2	P-I G3	P-II	Duplicates*	TOTAL No duplication
Annual Global Report (AGR) ▶	AGR 2021/22	AGR 2021/22	AGR 2021/22	**AGR 2021/22**	AGR 2023	AGR 2023	AGR 2023	AGR 2023	**AGR 2023**	AGR 2024	AGR 2024	AGR 2024	AGR 2024	AGR 2024	**AGR 2024**
▶ Researchers from DeSIRA target countries	484	134	0	**618**	590	291	164	0	**1045**	657	343	784	208	0	**1992**
▶ Other Researchers	196	20	0	**216**	279	184	22	0	**485**	286	189	320	68	0	**863**
TOTAL RESEARCHERS	**680**	**154**	**0**	**834**	**869**	**475**	**186**	**0**	**1530**	**943**	**532**	**1104**	**276**	**0**	**2855**
Including Women researchers (at least)	*145*	*17*	*0*	***162***	*189*	*133*	*26*	*0*	***348***	*247*	*146*	*287*	*63*	*0*	***743***
▶ Research organisations - EU-based	46	10	-23	**33**	48	29	13	-46	**44**	56	29	57	35	-99	**78**
▶ Research organisations - Not EU-based (International, Regional, National)	96	47	-33	**110**	116	85	62	-85	**178**	123	98	163	73	-167	**290**
▶ UN Agencies	3	4	-5	**2**	3	4	6	-10	**3**	3	5	11	7	-20	**6**
▶ Technical/Development Organisations - EU-based	3	2	-1	**4**	3	6	3	-3	**9**	3	6	20	3	-19	**13**
▶ Technical/Development Organisations - Not EU-based (International, Regional, National, Subnational)	41	6	-3	**44**	51	57	28	-14	**122**	52	64	214	31	-16	**345**
▶ NGOs (& CSOs)	47	8	-3	**52**	61	37	16	-9	**105**	65	41	212	19	-39	**298**
▶ Farmers' Organisations	42	10	-2	**50**	76	87	33	-4	**192**	197	102	97	36	-28	**404**
▶ Private sector entities	24	1	0	**25**	33	21	17	0	**71**	66	40	54	19	-13	**166**
▶ Networks, Fora, Platforms (International, Regional, National)	9	29	-11	**27**	9	4	56	-20	**49**	11	4	18	57	-27	**63**
TOTAL ORGANISATIONS	**311**	**117**	**-81**	**347**	**400**	**330**	**234**	**-191**	**773**	**576**	**389**	**846**	**280**	**-428**	**1663**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)
Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22
(*) Assumption (not verifiable): there are no duplicates among researchers. The TOTAL columns exclude duplicates.

5 Progress towards Outputs

5.1 Output 1 - The mechanisms for inter-institutional cooperation and the joint design of climate-smart and agroecological innovations are developed

Table 2: List of global DeSIRA Indicators attached to Output 1

GDI #21	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened #21A (Regional or international level) #21B (National level) #21C (Subnational level)

The definition of "innovation platform" varies across DeSIRA projects. Multi Stakeholder Innovation Platforms (MSIPs) have different scopes, levels of implementation (local to international), stakeholder composition, interaction modes (degree of participation of non-research actors, degree of formalisation, regularity of meetings, etc.), and focuses (thematic, mandate), highlighting the concept's flexibility. MSIPs at national level focus on stakeholder coordination, information sharing, and strategy validation, often through technical groups that do not always include farmers. MSIPs at local level focus on stakeholders' involvement and co-creation of innovation. The concept of multi-stakeholder innovation mechanism and associated processes is often an innovation of its own for the targeted stakeholders. This is best illustrated by a presidential decree (July 2023, Uzbekistan), which recognizes the benefits of the DeSIRA project's innovative approach to innovation and its validation by farmers. The decree acknowledges the importance of integrating science, education, and production in agriculture and establishes a legal framework that mandates the formation of innovation groups throughout the country.

Out of 72 **Pillar I projects**, 61 have supported a cumulated total of 563 MSIPs (18, 91 and 454 respectively at regional/international, national and local/subnational levels), including 125 local MSIPs from a single P-I G2 regional project. Many projects support several MSIPs, at different levels. Among Pillar I projects, 11 do not have a formal multi-stakeholder strategy (this includes 3 projects, the implementation of which had ended at the time of data collection).

Innovation mechanisms are typically built or strengthened via thorough consultation with a diversity of stakeholders and demonstrate the capacity of research to work and interact with different types of actors at different levels (local, national, regional, global), which is key to addressing complex issues. In this context, P-I G3 projects, started between May 2021 and September 2022 as the COVID-19 pandemic was receding, hold a distinct advantage over the older G1 and G2 projects. All G1 projects started just before the pandemic (August 2019 to February 2020) and all G2 projects began during the first major global peak of the pandemic (January 2020 to February 2021). Consequently, they faced delays in formalizing and implementing multi-stakeholder strategies. Since the last reporting period, the total number of MSIPs developed or strengthened by P-I G1 and P-I G2 projects (combined) has increased by 38% (254 to 352), with a significant increase in both national and local mechanisms. This increase reflects efforts by many G1 and G2 projects to recover from initial delays in supporting multi-stakeholder mechanisms, although the late-stage implementation raises questions about the true benefits of these delayed efforts.

As compared to P-I G1 projects, P-I G2 projects, designed later and based on clearer terms of reference, tend to emphasize multi-stakeholder innovation mechanisms as a specific result in and of

themselves, rather than simply as project-related processes. This is evidenced by the fact that 87% of P-I G2 projects having a multi-stakeholder approach explicit the use of MSIPs in their reporting against 65% of P-I G1 projects. Interestingly, although the majority of P-I G3 projects have a multi-stakeholder approach (29 out of 33), only 41% of them include an indicator to report on MSIPs.

Properly developed multi-stakeholder mechanisms, even though their implementation process has been time-consuming and prone to delays, promise better MSIP sustainability which, as projects progress, becomes a pressing issue. The pathway towards the sustainability of multi-stakeholder mechanisms is unique to each project, with mechanisms pre-existing DeSIRA projects having advantages over new ones. The role multi-stakeholder mechanisms play in creating the conditions for the dissemination and/or scaling of innovations is a key factor of sustainability of the projects' results. Several projects work at community, as well as at larger/upper administrative levels to assess the potential for scaling innovations, emphasizing a holistic approach, and to take account of sustainability issues. While a few projects indicate that multi-stakeholder mechanisms were established solely for implementation, most strive to create conditions for the long-term sustainability of those they initiated from scratch.

Over the reporting period**, Pillar II** has contributed to 105 MSIPs, comprising 29 regional or international, 73 national and 3 subnational MSIPs. Five projects targeting Agricultural Research and Extension Organisations (AR&EOs) in Africa, predominantly account for these numbers. Since AGR 2023, the growth in the number of mechanisms at regional and national levels supported by Pillar II projects has been substantial (84 to 105) reflecting the continuous efforts of the 5 African regional AR&EO to promote a multi-stakeholder approach. Every AR&EO backs a regional multi-stakeholder mechanism, contrasting with the dominance of Pillar I in local and national innovation platforms. Mechanisms under Pillar II emphasize regional dialogue with a policy or Capacity Development (CD) focus on topics like Climate Smart Agriculture (CSA) and Knowledge Management (KM). New regional mechanisms established in 2023 reinforce these topics, with specific efforts targeted at scaling agricultural technologies. The 73 national MSIPs (15 more than last year) contribute to building capacities at country level and are either policy-oriented or focused on value chains. Newly established national innovation mechanisms include mechanisms focused on CSA and/or agroecology, several communities of practice on KM and Malabo, as well as innovation platforms along the commodities value chain. The capacity, sustainability and outcomes of innovation mechanisms focused on commodities are not known. DeSIRA LIFT provides support to projects to help them to navigate the diverse and complex mechanisms aimed at supporting innovation.

RAIZ "Promoting agro-ecological intensification for resilience building"

Implemented by CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement)

Zimbabwe

Pillar I / Group 3

RAIZ seeks to develop and implement scientifically tested agroecological approaches in Zimbabwe to improve agricultural production and resilience to climate change.

Following a multi-actor approach, the project has developed a 'living lab' on AgroEcology (AE). This is a public and private innovation ecosystem aimed at engaging and coordinating activities between farmers, researchers, government (extension services, local authorities, policy makers) and private sector actors. Together, they co-create AE intensification innovations and assess their sustainability. The mechanism allows to share local expert knowledge and scientific knowledge and to discuss any difficulty or unresolved expectation arising from the

project activities. This is a global rather than a site-specific approach, which is geographically restrictive compared to the concept of a 'living lab'. The focus of the mechanism is on an agroecological region in Zimbabwe, characterized by semi-arid to sub-humid climates, where mixed crop-livestock systems dominate. Farming households face significant yield disparities, high levels of poverty, and considerable food insecurity.

TRANSITIONS Psii "Agroecological Transitions for Building Resilient, Inclusive, Agricultural and Food Systems Program : Private Sector Incentives and Investments"

Managed by IFAD (International Fund for Agricultural Development), implemented by Alliance of Bioversity International and CIAT

Vietnam, Peru, Ethiopia

Pillar I / Group 3

The project is designing private and private-public-sector incentive mechanisms/models to promote the AgroEcological (AE) transition in selected value chains in 3 countries: the wheat value chain in the Oromia region (Ethiopia), the rice value chain in the Mekong River Delta (Vietnam) and the cocoa value chain in the Amazonas and Ucayali regions (Peru).

The project strengthens existing multi-stakeholder innovation mechanisms. All are focused on strategies, incentive mechanisms, business models and tools to support the transition to agroecology. The project brings additional stakeholders, facilitates the creation of partnerships and trains platforms' members on core elements of incentive models and tools to support the transition to AE. Platforms gather government representatives, business actors, researchers, farmers and consumer organizations.

In Ethiopia, the project supports 3 platforms on the following topics: Design of a national agroecology strategy; Use of the incentives to improve the adoption of AE practices; Development of a curriculum for training the next generation of AE professionals.

In Peru, it also supports 3 platforms. One is on training, capacity development and on determining the future of AE practices (the mechanism is called "Vision to action"). The other 2 platforms support two cocoa cooperatives involved in implementation in Peru (Colpa de Loros; Banaqui Curimana). Each platform is focused on using incentive mechanisms and traceability tools to improve the adoption of AE practices. For instance, the project strengthened and expanded an existing collaboration between a private sector company and a cooperative. Researchers from the Alliance Bioversity-CIAT worked with farmers and cooperative representatives, and involved a second private sector company to develop and implement a digital tool for tracing AE practices on cacao farms.

In Vietnam, working with two international partner NGOs, the project supports 2 platforms on the following topics: The use of incentives to improve the adoption of AE practices (with the Netherlands-based NGO Agriterra); Improving capacity for adoption of AE practices and the use of traceability tools (with the Belgium-based NGO Rikolto).

Besides, the project has developed a "framework for analysing agroecological multi-stakeholder platforms, networks, and processes for rice, wheat, and cocoa value chains", with the aim of finding ways of strengthening stakeholder engagement.

Table 3: Summary of cumulative values 2019-2023 for GDIs attached to Output 1

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTPUT 1: "The mechanisms for inter-institutional co-operation and the joint design of climate-smart and agroecological innovations are developed"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024 (*)	# Values > 0 AGR 2024 (*)			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
21	19	**21A**	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (Regional or international level)	7	9	9	**18**	23	**29**
37	34	**21B**	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (National level)	46	60	31	**91**	58	**73**
49	46	**21C**	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (Subnational level)	201	283	171	**454**	3	**3**
			TOTAL	254	352	211	**563**	84	**105**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

(*) Many projects support innovation mechanisms at more than one level.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

5.2 Output 2 - Innovations linked to agri-food systems are developed and made available at farm and institutional levels

Table 4: List of global DeSIRA Indicators attached to Output 2

GDI #22	Number of climate-smart or agroecological innovations under development #22A (At farm level: products, technologies, agricultural practices, farming systems) #22B (At farm level: services, decision making tools, governance mechanisms) #22C (Beyond farm level, including at institutional level)

Innovation is an idea put into action that can be technical or social, incremental or radical. Over the reporting period, all but three projects developed innovations at farm level (for use by farmers) and/or beyond farm level (for use by institutions or private sector entities). Most Pillar I projects reported innovations for both levels.

In AGR 2024, the emphasis is on identifying innovations within the DeSIRA initiative. Annex II summarises the innovations for each project, including those under development, fully developed or already in use. Caution needs to be exercised when aggregating quantitative data about innovations, owing to their diversity (e.g., crop varieties, financing mechanisms), and inconsistencies in reporting on the nature of innovations across projects. Additional innovation is a complex process, which takes place in a trajectory, with a project contributing to this trajectory at one or several phases of the innovation process (initial concept/idea, prototyping, development, dissemination).

Over the reporting period, Pillar I projects reported a total of 1577 innovations for use at farm level: 94% are products (e.g. biopesticides, biofertilizers), crop varieties (e.g. climate-resilient varieties of coffee resistant to pests and diseases), technologies (e.g. livestock identification and traceability system; post-harvest management technologies for storage at farm level.), agricultural practices (e.g. soil amendments for reducing Cadmium accumulation in cocoa beans; the use of essential oils to control bacterial plant diseases), farming systems (e.g. rice-agroforestry system); 6% are services (e.g. a participatory guarantee system label for organic agriculture; new extension service), decision making tools (e.g. a water level app), governance mechanisms (e.g. agreement and mediation committees).

Since the previous reporting period, the number of innovations for use at farm level has increased by 28% (from 866 to 1108) for G1 and G2 (combined). In addition, Group 3 has reported 469 innovations. As of December 2023, two Pillar I projects (one in Niger, one in Vietnam) had not started co-development due to delays. The diversity of innovations is large. Seed varieties is one of the most common innovations claimed by projects, with at least 600 crop varieties identified, either new varieties from DeSIRA-supported breeding programmes, or existing varieties tested in new contexts. Many projects introduce and/or adjust known technologies, practices, systems or services to new contexts, with a participatory approach, underscoring DeSIRA's significant role in adapting innovations developed elsewhere to local contexts, often with the support of global research institutions. Furthermore, many DeSIRA projects aim to finalize or strengthen earlier innovation efforts that were not successful due to time limits.

The climate-relevant approach is explicit in most projects. In addition, 44 Pillar I projects promote agroecological innovations, though their commitment to the concept and principles that underpin agroecology vary widely. Some projects adapt existing practices for changes at farm level while others co-develop comprehensive agroecology strategies for changes at system level. Among the innovative support services, tools and mechanisms under development at farm level (102 out of 1577), many combine financing with marketing and/or input supply.

The vast majority of Pillar I projects (67 out of 72 projects) also claim a contribution to innovation beyond farm level (368 for AGR 2024), including institutional innovations. For Pillar I G1 and G2 projects (combined), the number has increased by 37% since the last reporting period (from 171 to 234). This indicates growing support for stakeholders supporting farmers or value chains, which may be perceived as a step towards a progressive transfer of the innovation support functions to local/national actors. Some of these innovations are suitable for both smallholder farmers and other stakeholders. Pillar II projects report 10 institutional innovations in AGR 2024 (against 8 last year). The majority of these innovations are identified through implicit links i.e., not explicitly emphasized by the projects themselves.

Refer to Annex II for a description of the innovations introduced by each project, including innovations under development, fully developed or already in use.

SUSTLIVES "SUStaining and improving local crop patrimony in Burkina Faso and Niger for better LIVES and ecosystems"

Implemented by AICS (Agenzia Italiana per la Cooperazione allo Sviluppo) & CIHEAM-IAM (Centre International de Hautes Etudes Agronomiques Méditerranéennes - Mediterranean Agronomic Institute of Bari)

Burkina Faso and Niger

Pillar I / Group 3

The project seeks to diversify production systems by introducing NUS (Neglected and Underutilized Species), resilient and locally adapted species with good nutritional characteristics.

NUS are the main innovation for use at farm level. Research and innovation activities include a participatory evaluation and selection of accessions, valorisation (processing), and awareness-raising on their use. From a large collection of accessions/varieties, 8 NUS were selected for evaluation: amaranth, bambara groundnut (legume), cassava, fabirama (carbohydrate-rich tuber), okra, moringa, Guinea sorrel and sweet potato. The evaluation began with characterization and then experimentation (cultivation) under farming conditions. Selection criteria were proposed by both researchers and farmers, particularly women. They can be influenced by the processing conditions of the NUS. For example, for bambara groundnut (also known as voandzou), women suggested the criterion of "cooking time", which affects energy consumption. This approach significantly reduced the number of accessions (initially, there was a collection of 200 varieties or accessions just for bambara groundnut). For each species, at least 3 accessions/varieties were selected. For each NUS, the research process will result in the development of a product specification, supported by an agroecological approach for fertility management, pest control, disease management, etc. As of July 2024, for these 8 NUS, seeds were produced, distributed to and cultivated by 285 beneficiaries (185 in Niger, 100 in Burkina Faso).

ASSET "Agroecology and Safe Food System Transitions in Southeast Asia"

Managed by AFD (Agence Française de Développement), implemented by GRET (Groupe de Recherche et d'Echange Technologique)

Cambodia, Lao PDR and Vietnam

Pillar I / Group 2

The project focuses on strengthening the Agroecology Learning Alliance in South East Asia (ALiSEA) and on promoting agroecology by developing capacities and co-designing territorial innovations with stakeholders.

Besides supporting innovation processes at farm level, the project develops institutional innovations. It is consolidating and integrating existing online resources of ALiSEA into a Knowledge Hub, an interactive, collaborative information-sharing platform on AE issues in the Mekong Region. Under development, this digital service will support the production, valorisation and dissemination of knowledge for a wide range of stakeholders in various languages (Khmer, Vietnamese, Lao, English and French). Also in support of ALiSEA, the project introduced a Small Grant Facility. This institutional tool strengthens partnerships between ALiSEA's members and encourages joint actions. As of December 2023, 16 projects have benefited from this facility: Cambodia (5), Lao PDR (5), Vietnam (5), and Thailand (1). The sustainability of this tool depends on ALiSEA's ability to raise funds beyond the ASSET project. In addition, the project has supported the development of the ASEAN (Association of Southeast Asian Nations) Guidelines on Policies for AE Transition through a multi-stakeholder consultative process. Key objectives include developing policies for AE innovation, fostering knowledge-sharing, and strengthening institutional frameworks to support farmers in transitioning to AE.

Table 5: Summary of cumulative values 2019-2023 for GDIs attached to Output 2

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTPUT 2: "Innovations linked to agri-food systems are developed and made available at farm and institutional levels"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
59	58	**22A**	Number of climate-smart or agroecological innovations under development (At farm level: products, technologies, agri-cultural practices, farming systems)	824	1046	429	**1475**	X	**X**
47	45	**22B**	Number of climate-smart or agroecological innovations under development (At farm level: services, decision making tools, governance mechanisms)	42	62	40	**102**	X	**X**
74	72	**22C**	Number of innovations under development (Beyond farm level, including at institutional level)	171	234	134	**368**	8	**10**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

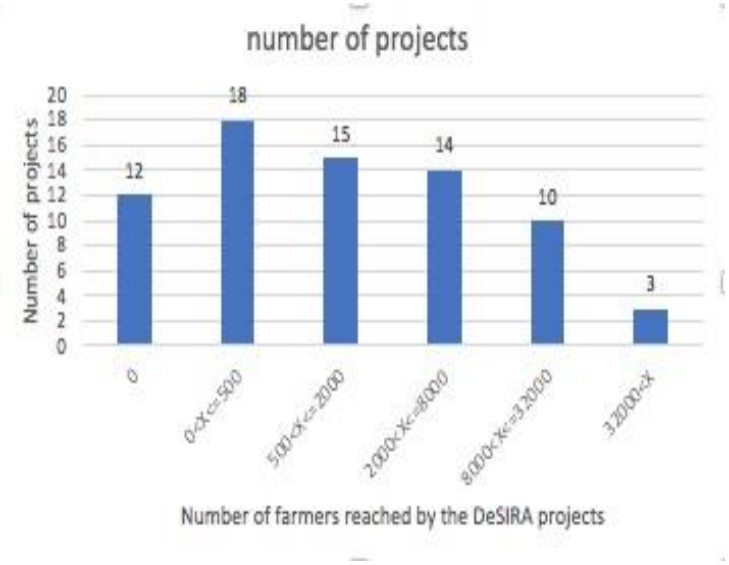
5.3 Output 3 - Farmers are reached by research and innovation initiatives and individual capacities are developed beyond farm level, including at institutional level

Table 6: List of global DeSIRA Indicators attached to Output 3

GDI #23	Number of smallholder farmers reached by research & innovation initiatives
GDI #24	Number of individuals whose capacities are developed #24A (Researchers) #24B (Technical or Development Staff)
GDI #25	Number of individuals supported to earn a post-graduate diploma #25A (Master) #25B (PhD/Doctorate)

It is estimated that at least 410,000 smallholder farmers have been reached directly (trainings, research trials, new extension services, etc) by DeSIRA research and innovation projects since the beginning of the initiative. Three projects account for 53% (217,554) of this figure. The number of farmers reached by G1 and G2 (combined) has more than doubled since the last reporting periods (from 159,218 to 336,189), with most projects increasing their reach substantially. The reasons why a few Pillar I projects (12) have not reached farmers are as follows: they do not work at farm level, or they have faced substantial delays, or they do not report on farmers reached.

Figure 5 - Distribution of DeSIRA Projects by the Number of Farmers Reached



The number of farmers reached directly is larger than the number of farmers engaged in co-developing innovations and in multi-stakeholder innovation mechanisms, which is not tracked in a systematic way. A significant number of projects (18) directly reached fewer than 500 farmers. It is important to note that the primary goal of research and innovation projects is to generate knowledge and co-design innovations, typically through trials with small farmer groups, rather than scaling these innovations.

However, some DeSIRA projects have an explicit development objective and reach a larger number of farmers. Furthermore, the number of farmers reached directly is vastly underestimated because of monitoring and reporting limitations at project level: challenges include difficulties in estimating the number of farmers reached and especially women farmers, double counting, and limited disaggregated data. Project reports confirm at least 73,000 women farmers reached but many projects, including two of the largest P-I projects, did not provide a disaggregated estimate.

Overall, DeSIRA is making significant steps in supporting smallholder farmers and facilitating access to technical and scientific knowledge. The high number of farmers reached by some Pillar I projects is a result of the participation of development organisations (including farmers' organisations) within the project consortium, the inclusion of digital tools, or the release of seeds on a large scale.

Many projects focus on training motivated farmers to promote farmer-to-farmer extension, as well as supporting organisations (farmers' organisations, local NGOs, advisory services) to play an extension role, rather than maximizing the number of beneficiary smallholder farmers. Projects are progressively developing dissemination and/or scaling strategies. However, the effects of Capacity Development (CD) remain unverified until innovations are deployed by farmers.

Regarding other categories of actors, after delays during the COVID-19 pandemic for P-I G1 and P-I G2, the implementation of CD plans continues to make progress. Over the reporting period, the two groups together reported engaging in the CD of 1226 researchers and 27,391 technical/development specialists, a notable increase from 990 (+24%) and 10,059 (+172%), respectively, in 2019-2022 (AGR 2023). A single P-I G2 projects engaged an additional 13,000 "multipliers" in 2023, from value chain organizations, technical institutes, schools, advisory services, or donor organizations. For all other G1 and G2 projects combined, the year-on-year increase in the number of technical staff stands at 39%. Besides, P-I G3 projects engaged in the CD of 1482 researchers and 3,394 technical staff. The contribution of Pillar II projects includes at least 953 researchers and 3,275 technical/development staff. Overall, across all DeSIRA projects, the DeSIRA initiative is estimated to have strengthened the capacity of at least 3,661 researchers and 34,060 technical or development staff.

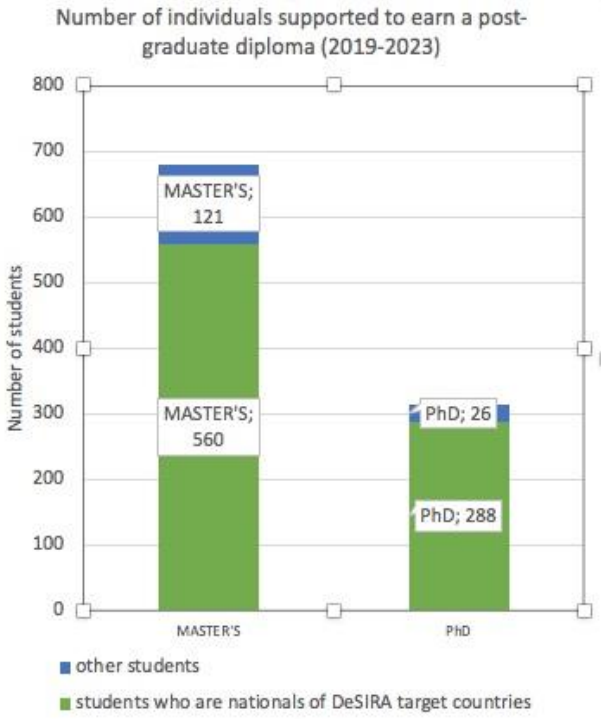
Training on data collection, management and analysis is central to many CD plans, including for researchers. Not all projects have specific CD plans for researchers, but the latter nevertheless enhance their skills and broaden their perspectives through their active role in implementing project activities. While capacity changes in researchers are not systematically measured, most implementing partners of Pillar I projects reflect positively on individual-level changes they have observed. Training for technical staff (public and private) encompasses a diversity of topics, including technical and non-technical topics such as: effective extension service delivery, innovation facilitation, conservation agriculture, agroforestry, organic agriculture, climate-resilient agriculture and agroecology-based approaches, forest and land management, food safety risk assessment, marketing and e-commerce, public policy cycle, social and behaviour change communication, gender and youth inclusion (etc.).

Sex-disaggregated data is often available but not systematically reported, making it difficult to accurately assess the representation of women, which is likely underestimated. Besides, the percentage of women researchers varies across project teams. In the last reporting period (AGR 2023), an estimated 525 women researchers from P-I G1 and P-I G2 projects were capacitated or were in the process of developing their capacities under DeSIRA. P-I G3 projects report capacity changes for at least 180 women, bringing the cumulative total to an estimated 705 women researchers. Overall, the percentage of women in technical staff roles is generally low, with some exceptions.

Post-graduate students play a crucial role in project activities, contributing to research, innovation-related tasks, fieldwork, and knowledge production. They enhance their scientific skills while pursuing academic degrees. Most Pillar I projects support Master's (ranging from 1 to 64) and/or PhD students (1 to 19). Since the last reporting period, P-I G1 and P-I G2 projects have supported an additional 150 Master's and 25 PhD students. P-I G3 has supported 193 Master's and 85 PhD students.

In total, since the start of the DeSIRA initiative, Pillar I projects have supported 681 Master's and 314 PhD, including 266 and 107 women, respectively. Students can be professionals seeking higher degrees or younger individuals. Most are from DeSIRA target countries, with a majority in Africa (51 out of 72 Pillar I projects are located in Africa). Research and education institutions (including 55 European institutions and 119 from DeSIRA target countries) play a significant role in developing the capacities of students and researchers, with several institutions involved in more than one DeSIRA project.

Figure 6 - Post graduate students in DeSIRA projects



BIORISKS « Anticiper et gérer les risques biologiques pour renforcer la résilience des agriculteurs au changement climatique en Afrique de l'Ouest et du Centre »

Implemented by CORAF (Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles)

Benin, Burkina Faso, Cameroun, Côte d'Ivoire, DRC, Gabon, Ghana, Nigeria, Sierra Leone, Togo

Pillar I – Group 1

The project purpose is to anticipate and manage biological risks to strengthen the resilience of farmers to climate change in West and Central Africa.

The project trained a total of 1,460 people (over the reporting period) including 141 extension agents, 197 seed multipliers, and 1,122 cassava farmers. 741 women (51%) and 719 men attended the trainings. A list of beneficiaries is established for each country, the project carefully monitoring this aspect to avoid double counting. The trainings took place in demonstration plots and in farmer's fields and focused on cultivation practices (for instance "roughing", which consists of unearthing sick cassava seedlings) and on how to recognise cassava diseases, both visually and using an App on a smartphone. Extension workers were also trained in participatory surveillance, digital diagnosis of diseases, and sanitation techniques.

Over the reporting period, the project has strengthened the capacity of at least 53 researchers. For instance, it organized an awareness-raising workshop on a coordinated strategy to combat biological risks (armyworm) in Cape Verde in June 2022, attended by more than 40 researchers-entomologists from West and Central Africa. Scientists involved in the implementation of the project were also trained at WAVE headquarters (Central and West African Virus Epidemiology for Food Security, Université Félix Houphouët-Boigny, Côte d'Ivoire).

Individuals supported to earn a post-graduate diploma include one Master's student (a woman) and 13 PhD students (including 6 women), all from the target countries. These are young researchers supported in areas related to the monitoring and management of cassava virus diseases. Research topics include, for instance, the impact of cassava virus pandemics on household socio-economic conditions; the management of viral diseases of cassava and food security; technology adoption.

Table 7: Summary of cumulative values 2019-2023 for GDIs attached to Output 3

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTPUT 3: "Farmers are reached by research and innovation initiatives and individual capacities are developed beyond farm level, including at institutional level"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
68	62	**23**	Number of smallholder farmers reached by research & innovation initiatives	159218	336189	75736	**411925**	338	**358**
71	66	**24A**	Number of individuals whose capacities are developed (Researchers)	990	1226	1482	**2708**	811	**953**
73	62	**24B**	Number of individuals whose capacities are developed (Technical or Development Staff)	10059	27391	3394	**30785**	2820	**3275**
52	49	**25A**	Number of individuals supported to earn a post-graduate diploma (Master's)	338	488	193	**681**	X	**X**
50	48	**25B**	Number of individuals supported to earn a post-graduate diploma (PhD/Doctorate)	204	229	85	**314**	X	**X**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

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Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

5.4 Output 4 - Education and training programmes responsive to capacity development needs for agricultural innovation at national level are strengthened

Table 8: List of global DeSIRA Indicators attached to Output 4

GDI #26	Number of curricula or training packages developed or upgraded

Even though education is not a DeSIRA objective in and of itself, given the instrumental role of education in building individual capacities, a significant number of projects (45 in total, including 40 from Pillar 1) have plans to develop or improve training/education programmes. Among them, 28 have contributed positively to this output over the reporting period, with half of the contributing projects belonging to G3. The contribution of Pillar II projects to Output 4 has increased from 4 to 18, with a key contribution from a fellowship programme: at least 10 fellows having participated in an Advanced Science Training claim they have inserted new training or adapted modules on climate change and agriculture in existing curricula in their home institutions in African countries.

These outputs, mostly by-products of research activities, include the revision or addition of academic modules and the development of several pieces of training or education material from scratch. These outputs cater to a diversity of beneficiaries, such as farmers, technical staff, scientists, bankers, and policymakers, with an emphasis on sustainability to ensure continued use. Non-academic training programmes covered a wide range of topics and audiences, from agribusiness curriculum development for farmers to training in experimental design and data collection for researchers. Support for academic programmes focuses on incorporating concepts related to CSA, agroecology, and Knowledge Management (KM) into curricula.

Additionally, the COVID-19 pandemic played a role in shaping the education and training efforts of DeSIRA projects, leading to the development and mobilisation of online training in response to pandemic-related constraints while highlighting the continued value of in-person education. The current education-related outputs of the DeSIRA initiative demonstrate the value of knowledge and innovations produced and highlight the educational potential of DeSIRA and the role it can play in supporting education to transform agriculture and food systems at national level, owing to the strong partnerships developing between European and African Research and Education institutions. Besides, DeSIRA LIFT supports the Uganda-based Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) in co-certification mechanisms for professional trainings of Agricultural Innovation Facilitator.

ICSIAPL "Integrated & Climate Smart Innovations for Agro-Pastoralist Economies and Landscapes in Kenya's ASAL"

Managed by The Netherlands Ministry of Foreign Affairs, implemented by SNV (Netherlands Development Organisation)

Kenya

Pillar I – Group 2

The project aims to enhance livelihoods of agro-pastoralists communities through improved forage production and livestock husbandry, building on commercialization of climate smart innovations and sustainable landscape management in selected counties.

Improving an existing online platform developed by SNV on technologies used in Arid and Semi-Arid Lands (ASAL), the project developed an eLearning platform that includes modules (34 as of December 2023) divided over 7 themes with visualized skills-based instructional materials for farmers and extension officers. The platform "Livestock Africa" came live in November 2023: https://livestock.africa/. It "offers access to information and knowledge resources generated by projects supporting the development of the ruminant livestock sector in Africa – even after projects have ended." Themes include: Climate Smart Agricultural Practices; Pasture and Rangeland Management; Fodder Management and Conservation; Livestock Supplementary Feeds and Feeding; Economics of Forage Production and Management; Animal Health Management; Animal Breeding, Fertility and Calf Management. The platform is hosted by the private sector Kenyan partner which established it (CellFam Ltd, under the brand name "Cowsoco"). The economic model is based on membership from institutions (including NGOs, private sector, research institutions, etc.) The project would like to expand the reach of the platform to the region.

Robust "Robusta coffee agroforestry to adapt and mitigate climate change in Uganda"

Implemented by CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement)

Uganda

Pillar I – Group 3

The objective is to support the sustainable economic development of Uganda by promoting and improving the Robusta coffee agroforestry farming system.

As of November 2023, the project contributed two training products. With Makerere University and partners (especially the Uganda Coffee Farmers Alliance or UCFA), a course on coffee cultivation (« Robusta certificate ») has been developed as part of a summer university programme (one week of classes, open to everyone). The programme can accommodate 60 individuals but had 300 registrations as of November 2023. The project was also planning to develop an extension of this module, more academically-oriented, to includes a course on the use of a software on scientific statistical analysis. Robusta production handbooks and coffee agroforestry handbooks were distributed to the agroforestry technicians. UCFA submitted materials into the document repository that will be included in the digital platform. Trainers and farmers will be able to access the summarized formats of training materials online from the digital platform.

Table 9: Summary of cumulative values 2019-2023 for GDIs attached to Output 4

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTPUT 4: "Education and training programmes responsive to capacity development needs for agricultural innovation at national level are strengthened"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
45	28	**26**	Number of curricula or training packages developed or upgraded	43	68	30	**98**	4	**18**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

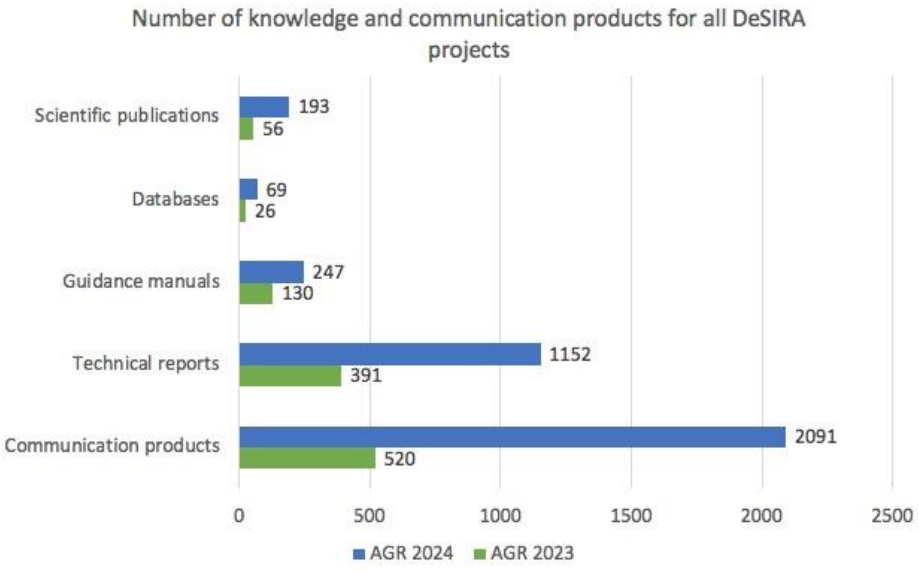
5.5 Output 5 - Science-based knowledge and evidence are generated and made available to inform research for innovation in agriculture, institutional cooperation and the dissemination of new climate-smart and agroecological solutions

Table 10: List of global DeSIRA Indicators attached to Output 5

GDI #27	Number of knowledge & communication products developed #27A (Communication products) #27B (Technical reports) #27C (Guidance manuals) #27D (Databases) #27E (Scientific publications)

Knowledge production and dissemination is at the heart of DeSIRA projects. Combined, P-I G1 and P-I G2 projects have shown a significant increase in all knowledge and communication product categories since the last reporting period : + 170% for communication products (including seminars, videos, flyers, briefs etc.); + 240% for technical reports (including Master's thesis); + 53% for guidance manuals; +100% for databases; + 141 % for scientific publications (from 41 to 123). The inclusion of G3 projects in the reporting period added another 661 products. The total number of communication products amounts to 1848 for Pillar I and 243 for Pillar II. Technical products total 908 for Pillar I and 244 for Pillar II. Since the last reporting period, many Master's degrees have been completed and the corresponding theses have been reported by Pillar I projects. Pillar I and II produced 237 and 10 guidance manuals respectively. Database creation stands at 60 for Pillar I and 9 for Pillar II.

Figure 7 - Number of knowledge and communication products



AGR 2024 only reports databases which have been developed for an external use and are already accessible, even though were still in a Beta version. There is evidence of efforts to facilitate access to scientific knowledge via databases, which requires specific interfaces and equipment.

The cumulative number of scientific publications over the implementation period is 193. The majority are from scientists involved in the implementation of Pillar I projects. Most PhD students are yet to complete their degree. With 314 PhD students presently supported, a significant increase in scientific publications is expected in the

next reporting periods. Additional contributions to sharing of scientific knowledge include participation in national and international scientific conferences or political events like COP27 and COP28.

Knowledge products should continue to increase when the projects come to an end and complete their activities. Knowledge products illustrating the contributions of projects to the deployment of innovations take time to develop, as innovation is a long-term process. Besides, key challenges inherent to DeSIRA include the complexity of translating research into accessible knowledge products for various audiences and ensuring sustainable and efficient Knowledge Management (KM) systems for dissemination. Some of the strategies deployed to overcome these challenges include creating KM systems from scratch, delegating KM to national partners, or integrating project products into existing platforms. DeSIRA LIFT helps projects to communicate more effectively (e.g. participatory videos, stories of change).

LEG4DEV "Legume-based agroecological intensification of maize and cassava cropping systems in Sub-Saharan Africa for water-food-energy nexus sustainability, nutritional security & livelihood resilience"

Implemented by Galway University

Ethiopia, Malawi, Tanzania, Zambia

Pillar I – Group 2

The project develops innovations (technologies, methodologies, equipment, decision making tools etc.) to support the agroecological intensification of legume-based production systems in four targeted countries.

In terms of communication, the project maintains a website (https://leg4dev.org/) and a presence on the following social networks: X (ex-Twitter), LinkedIn. It also issues a newsletter. During the reporting period, it has participated in at least three conferences. For instance, at the Bio-Geosphere Africa (BioGARD) Conference which took place in Germany in September 2023, the project presented research findings entitled "Meta-analysis: Integration of common bean in maize cropping system enhances resilience to rainfall variability in Africa".

As of November 2023, the project had produced at least 11 technical products. Areas of activities at the stage of technical knowledge products included, for instance: Identification & scaling out of rhizobial bio-inoculant packages tailored to specific legume varieties and parallel supply systems for legume bio-inoculants ; Gender focussed consumer/cultural and market acceptance studies to identify highly nutritious legumes for integration into maize and cassava cropping systems ; Climate and water availability modelling for legume integration into maize and cassava systems under future water stress scenarios.

In 2023, the Zambian Ministry of Agriculture invited the project to provide training supports to a National Training of Trainers Workshop for a total of 60 (50 male and 10 female) provincial agricultural officers for scaling Climate Smart Agriculture (CSA). The national CSA manual and training guideline were developed through a participatory process underpinned by a partnership between the Ministry of Agriculture and national and international stakeholders, including the World Bank in Africa and the Global Center on Adaptation.

In addition, at least three scientific papers have been published:
-What climate and environmental benefits of regenerative agriculture practices? an evidence review
E Rehberger, PC West, C Spillane, PC McKeown - Environmental Research Communications, 2023
- What do we know about effectiveness of adaptation in reducing climate risks? A review of methodologies and evidence on adaptations in the agri-food systems
J Koo, L Reymondin, D Ó Fionnagáin, J O'Farrell... - 2023
- Discovery of genomic regions associated with grain yield and agronomic traits in Bi-parental populations of maize (Zea mays. L) Under optimum and low nitrogen conditions
C Kimutai, N Ndlovu, V Chaikam, BT Ertiro, B Das... - Frontiers in Genetics, 2023

Table 11: Summary of cumulative values 2019-2023 for GDIs attached to Output 5

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTPUT 5: "Science-based knowledge and evidence are generated and made available to inform research for innovation in agriculture, institutional cooperation and the dissemination of new climate-smart and agroecological solutions"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
78	77	**27A**	Number of knowledge & communication products developed (Communication products)	440	1187	661	**1848**	80	**243**
76	71	**27B**	Number of knowledge & communication products developed (Technical reports)	169	575	333	**908**	222	**244**
65	47	**27C**	Number of knowledge & communication products developed (Guidance manuals)	126	193	44	**237**	4	**10**
62	41	**27D**	Number of knowledge & communication products developed (Databases)	24	48	12	**60**	2	**9**
67	40	**27E**	Number of knowledge & communication products developed (Scientific publications)	51	123	36	**159**	5	**34**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

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5.6 Output 6 - Science-based policy briefs are produced and dialogues on agriculture and food policy development and reform are organized

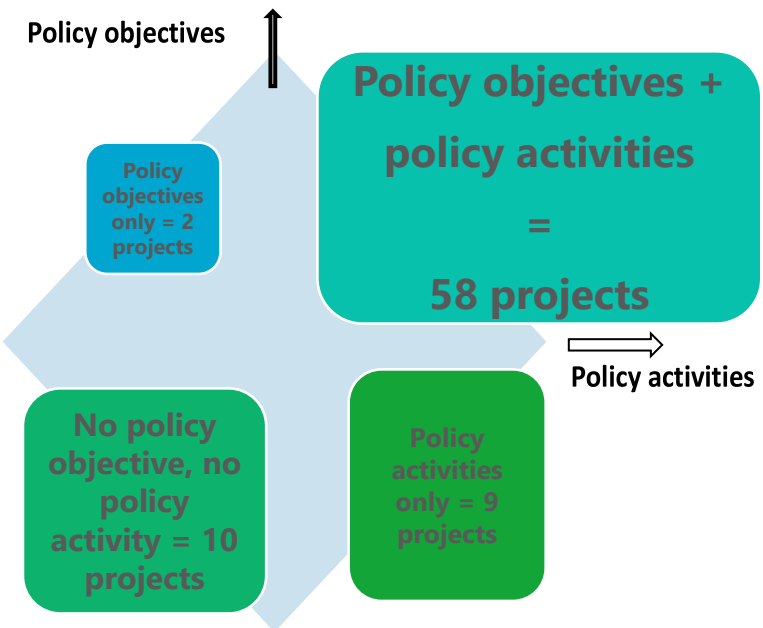
Table 12: List of Global DeSIRA Indicators attached to Output 6

GDI #28	Number of policy-related outputs #28A (Documents) #28B (Dialogues)

There are three categories of DeSIRA projects, based on the level of policy engagement at activity/output level and expectations at outcome level: *1/ Projects with no policy activities and no policy objectives (*10 projects, including 10 Pillar I projects, 6 from G1, 3 from G3); *2/ Projects engaged in policy activities with no specific policy objective (9 projects, all Pillar I), 3/ Projects having a policy objective, explicit or implicit (*60 projects, including 2 with no formal policy activities). Thus a majority of DeSIRA projects have planned policy activities/objectives. Projects with no policy engagement (3 of them were over at the time of data collection) work exclusively at technical level (including capacity development).

In Pillar II, six projects are active in policy work, having increased their output by 37% for policy briefs (52) and 66% for policy dialogues (53) since the last reporting period. The dialogues were mostly convened at regional level, while a few national members of a regional implementing partner were supported to organize policy dialogues in their country. Policy topics focus on Climate Smart Agriculture in relation to the Malabo/CAADP framework. At a more global/continental level, Knowledge Management is a key focus of policy efforts, with numerous policy briefs stemming from an annual pan-African initiative on Knowledge Management for Agricultural Development (KM4AgD). In AGR 2023, agroecology, despite rising interest, was not yet a key policy topic within Pillar II. In AGR 2024, the topic has started emerging in a few communications.

Figure 8 - Categories of DeSIRA projects based on the level of policy engagement



Pillar I G1 and G2 projects, combined, have organized 54 policy dialogues and produced 58 policy products over the reporting period. This substantial increase, respectively 86% and 132%, over AGR 2023, has been driven by a marked increase in the production of knowledge. However, among the oldest P-I G1 projects, 4 projects (out of those which were planning to engage in policy activities) had not produced any policy output as of December 2023,

though the need to scale solutions through an enabling environment becomes more pressing. Similarly 4 P-I G2 projects were yet to produce or validate policy outputs as of December yet. This was planned for the next reporting period Two conditions are nevertheless required: research results need to lend themselves to being translated into policies, which is not always the case, and implementation partners need to have the required knowledge and skills to engage in policy activities, which is a point of attention.

On the policy front, the most recent group of projects (P-I G3) compares favourably with G1 and G2, with only 3 out of 33 projects lacking planned policy activities. After two years of implementation (for most G3 projects), the number of policy briefs and dialogues stood respectively at 23 and 33 in AGR 2024. This surpasses the combined achievements of G1 and G2 (39 Pillar I projects), which, after three years of implementation, reported 25 policy briefs and 29 dialogues in AGR 2023.

The scope of the policy dialogues varies for each project: they may engage stakeholders at local levels (district, province), national levels, or regional levels (multiple countries). The diversity of the topics is linked to the diversity of innovations under co-development (e.g. a brief entitled "Exploring the potential of farmers' organizations for agroecology: opportunities and challenges"; "Critiques of digital tools in agriculture: Challenges & opportunities for using digital tools to scale agroecology by smallholders"; "Multiple Pathways to Capacity Strengthening Toward Agroecological Transition in Vietnam's Rice Sector."). Very few Pillar I projects have a holistic integrated approach to agroecology, but among those which do, agroecology is the focus of their policy advocacy efforts.

There is a risk that the policy activities of Pillar I projects could be side-lined due to the need to build capacities in policy engagement. DeSIRA LIFT provides support to DeSIRA projects interested in building their capacities in this domain. DISSEM-INN, funded by AFD and managed by CIRAD, also contributes to Output 6 by supporting 9 Pillar I DeSIRA projects in policy advocacy. CIRAD's long-term position in the Sahel enables this support, not easily replicable elsewhere. Besides, projects benefitting from a no-cost extension have an opportunity to continue to increase their policy engagement. However, a lack of policy indicators in many Pillar I projects indicates a secondary focus on policy outcomes.

ReDIAL "Research for Development and Innovation Agriculture and Learning Project"

Implemented by FoN (Friends of the Nation)

Ghana

Pillar I – Group 2

Targeting 5 districts and at least 10 communities in each district, the project aimed at reducing land degradation and biodiversity loss, while increasing resilience to climate change.

In its fourth year of implementation, the project produced two policy briefs:
1. Enhancing Soil Fertility in Ghana: insights from the ReDial Project; this was presented and discussed with the Ministry of Food and Agriculture in Ghana to inform their policy decisions.
2. Enhancing Food Security and Farmer Welfare through fairness in Food Crop Trade: a multi-stakeholder approach.

The Action strengthens the capacity of 5 Multi-Stakeholder Dialogue platforms formed in the project zones and supports them to organize local Multi-Stakeholder Policy dialogues at district level (one dialogue in each district). Stakeholders meet on a quarterly basis. Issues emanating from these dialogues and transcending the local level were discussed at two national level multi-stakeholder policy dialogues organized by the project in July 2023, in Accra: 1/ National policy dialogue on sustainable soil nutrient enhancement; 2/ Standardisation of crops and use of agro-inputs). For instance, the national policy dialogue on sustainable

soil nutrient enhancement brought together 76 (64 males; 12 females) policymakers and key stakeholder institutions. The project partners shared their research findings with a view to encourage "the development of a national soil policy that would regulate application of inorganic fertilizers and educate farmers on best practices for sustainable soil nutrient enhancement. Recommendations from the dialogue were shared with the Ghana Fertilizer Expansion Programme (GFEP) which has the mandate of harmonizing all efforts in developing the fertilizer sector in Ghana.»

MAS "Modelos Agroecológicos Sostenibles" : Modelos Pilotos, Horizontales y Sostenibles, de Gestión del Conocimiento y Transferencia de Tecnología en Agroecología

Implemented by the FAO (Food and Agriculture Organisation)

Cuba

Pillar I – Group 3

The project objective is to develop, strengthen and implement an integrated knowledge management system in the agricultural sector in Cuba, with a focus on agroecology.

In collaboration with the National Office of Statistics and Information, the project has developed a set of 12 primary indicators to measure, monitor and track food production in local food systems, in the context of the law. These indicators, yet to be officially approved as of November 2023, are considered "reference indicators". They will be used to monitor the implementation of the Cuban Food Sovereignty and Food and Nutritional Security Law (SSAN Law) passed in 2022.

Table 13: Summary of cumulative values 2019-2023 for GDIs attached to Output 6

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTPUT 6: "Science-based policy briefs are produced and dialogues on agriculture and food policy development and reform are organized"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
61	35	**28A**	Number of policy-related outputs (Documents)	25	58	23	**81**	38	**52**
48	33	**28B**	Number of policy-related outputs (Dialogues)	29	54	33	**87**	32	**53**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

6 Progress towards Outcomes

6.1 Outcome 1 – The capacity and the resilience of smallholder farmers improve as they take up new climate-smart or agroecological products, technologies, models or services

Table 14: List of global DeSIRA Indicators attached to Outcome 1

GDI #8	Number of climate-smart or agroecological innovations taken up by smallholder farmers #8A (Products, technologies, models, systems, strategies) #8B (Services, decision making tools, governance mechanisms)
GDI #9	Number of smallholder farmers who have taken up at least one climate-smart or agroecological innovation
GDI #10	Number of DeSIRA projects for which the expected rate of implementation of innovations by targeted farmers has been met
GDI #11	Number of DeSIRA projects having at least one documented strategy to disseminate or scale up innovations

Outcome 1 captures the transformation of outputs into sustainable changes for the target groups of Pillar I projects. Such changes are supported by project activities (and give indications on the project's performances) but also require an enabling environment (innovation support services, markets, policies), which are outside of the projects' control. Over the reporting period, it was estimated that smallholder farmers had taken up 621 climate-smart or agroecological innovations. This represents approximately 40% of all innovations under development or developed, for use at farm level (1577; refer to Table 5) since the start of the DeSIRA initiative. This ratio has doubled compared to AGR 2023 (20%). The increase highlights not only the (expected) progress in implementing innovations within the "older" projects (G1 and G2), but also the faster advancement of multi-stakeholder innovation processes in the "new" Group 3, as measured after two years of implementation. This difference can be attributed to implementation conditions: unlike G1 and G2, Group 3 has largely avoided the restrictions imposed during the COVID-19 pandemic; Besides, the number of interventions in problematic countries (e.g. those with security issues and/or political instability) is significantly lower in G3, compared to G1 or G2.

The uptake of innovations is based on the analysis of progress reports and verbal claims by implementing partners, who have been careful to only report innovations for which they have evidence that they have been taken up by farmers with an intention to continue using them without project support. These are conservative estimates due to underreporting, as some projects did not provide exact uptake numbers. Besides, the implementation of innovations at system level (e.g. agroecological systems) is expected to be slower as it is more complex than the implementation of a given technique (e.g. composting) or product (e.g. new variety) but may generate greater changes (income, sustainability, resilience).

The total and cumulative number of smallholder farmers using these innovations reached 265,301. Excluding two large regional projects (both from G2) claiming 64% of this figure, the number of farmers reached 94,188. This includes 42,127 farmers from G1 (45%), 14,073 from G2 (15%) and 38,048 from G3 (40%). For G1 and G2, the increase over the number of farmers reported in AGR 2023 is sharp: the number has been multiplied by 4 for G1 (from 10,822 to 42,127) and by 11 for G2 (from 1,199 to 14,073). The number of beneficiary women farmers is not systematically reported.

Changes at farm level are confirmed by IPs, but progress reports lack detailed analysis of changes and sustainability perspectives. In order to capture the effectiveness of innovations from a "use" standpoint, several projects (20) focus on the rate of implementation rather than the number of farmers, with 6 claiming to have met their target rates (others had not measured this rate yet). Slow innovation development mostly accounts for 11 projects from G1 and G2 (out of 39 projects, combined) not contributing to Outcome 1 yet.

At the time of data collection (May to December 2024), 20 no-cost extension had been granted to G1 and G2 projects (combined) and 17 more had been requested (out of 39 projects), providing precious time to finalize innovation processes and engage in dissemination or scaling. Except for some DeSIRA projects with a development perspective and including cases where the project organisations are able to reach a large number of farmers, many DeSIRA projects research and innovation projects are yet to strengthen their partnerships with development organisations (e.g. NGOs, UN organisations, extension services) with a view to scale innovations by directly disseminating them to a wider group of smallholder farmers, or by putting in place the conditions for scaling (involving new actors, strengthening capacities at scale, or contributing to setting up an enabling environment).

It is important to note that dissemination builds on knowledge and communication to spread awareness and information and to ensure that the target audience has access to the information. Scaling goes beyond dissemination by ensuring that innovations are expanded and integrated into regular practice on a broader scale. It includes scaling out with more farmers involved and larger areas covered; scaling up to address the institutional changes required to scale innovation, with the involvement of more organisations in the process; and scaling deep, which assesses the change in actors' values required for the deployment of the innovation.

AGR 2023 began tracking projects with documented strategies for scaling innovations beyond their direct smallholder farmer targets. AGR 2024 reports that 70% Pillar I projects (50 out of 72) now have such a strategy. In AGR 2023, 19 projects from G1 and G2 reported having a strategy, relying on various methods and partnerships to increase the effectiveness of dissemination. In AGR 2024, this number has increased to 29 for G1 and G2 combined, while 21 projects in G3 have either devised and documented a strategy or are in the process of doing so. Among projects having a strategy, 58% (29 out of 50) had designed a scaling strategy, more complex to conceive and to implement than a dissemination strategy. Some had started implementing their scaling strategy, including two projects, which are both integrated into larger development programmes. Other Pillar I projects were either still in the process of developing strategies or lacked one.

Some Pillar II projects include activities and innovation processes for the benefit of smallholder farmers, but they do not monitor changes at the farm level.

GRAPE "Green Resilient Agricultural Productive Ecosystems in Sudurpashchim province and Karnali province, Nepal"

Implemented by the Gesellschaft für Internationale Zusammenarbeit (GIZ)

Nepal

Pillar I – Group 3

The project aims to enhance profitable participation in sustainable, climate-resilient value chains and improve the resilience and sustainability of market-oriented agricultural ecosystems.

The project conducts action research in partnership with local universities and farmers. They have validated several Climate Resilient Agriculture (CRA) solutions as effective. As of April 2024, over 16,000 farmers were implementing at least one innovative CRA technique among the following: Pest control techniques (e.g. push and pull technology, i.e. the use of plants that repel unwanted insects and attract beneficial ones); Soil fertility and/or quality management techniques (e.g. tricho-compost, i.e. manure enhanced with trichoderma -a fungal genus- to boost its nutrient content); Water management techniques (e.g. zig-zag irrigation); Crop management techniques (e.g. seedling raising on leaf bag, i.e. a nursery management technique for raising vegetables).

With a private company, the project is piloting an indemnity-based digital climate risk insurance for potato and citrus crops in 3 municipalities. Digital technology and satellite images are used to monitor the insured crops, eliminating the need for paperwork and travel. The aim is to ease farmers' access to the service by facilitating the process and reducing the cost of the claim settlement (for both parties). As of April 2024, the project had enrolled 139 farmers (including 72 women), insuring 4,311 orange plants in one district. Besides, targeted farmers have access to and use GeoKRISHI, an application introduced (but not developed) by the project. This digital agriculture platform provides extension services, including expert services on crop management and market price. Farmers without a smartphone can send an SMS and use the offline mode.

By sharing good practices and recommendations with parties outside of the project's geographic scope or beyond the actors already involved in the project, the project contributes to scaling up best practices on the provincial and national levels. This is achieved through different means, among which: a community of practice on CRA (established by a project partner, involving practitioners from 50 civil society organizations as of April 2024), CRA media training, Women's Academy for Leadership (an innovative network which promotes female leadership in CRA), students' exchange and autumn school for youths, webinar series on green marketing, CRA technologies demonstration at schools, etc.

SyRIMAO « Système Régional Innovant de contrôle des Mouches des fruits en Afrique de l'Ouest»

Managed by AFD (Agence Française de Développement), implemented by ECOWAS (Economic Community of West African States)

Benin, Burkina Faso, Cap Vert, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo

Pillar I – Group 2

Building on a former project supporting its regional plan for the fight and control of fruit flies and to extend the surveillance system to all its member states, ECOWAS has established the Regional Innovative System for the Control of Fruit Flies in West Africa (SyRIMAO).

The project has developed and tested eco-friendly mass trapping technologies to protect the mango crop from the fruit fly: For instance "Sen-Biotrap" is an essential oil attractant and an insecticide-free trap. In Senegal, the project has established a mass production unit for essential oil (input for the Sen-Biotrap), which started operating in July 2023. In terms of services, the project has developed a model partnership/contract between producers and exporters to guarantee access to pest control products in return for

a delivery of mangoes. The concept is new and was in place in Mali, Côte d'Ivoire, Burkina Faso as of December 2023. Besides, a modified/improved surveillance system is operational, covering 337 orchards in 36 production zones (out of 37) and 14 member countries of the regional community (out of 15). During the 2023 campaign, 106,132 hectares of mango plantations were monitored. An area of 5,783 hectares was deemed infested. 67% of the infested area was treated. It is estimated that 60,000 smallholder mango farmers benefitted from the surveillance system, but the number is underestimated because the data was not available for Senegal. The surveillance system was first deployed in pilot mango orchards in 5 countries (Benin, Burkina Faso, Côte d'Ivoire, Senegal, Togo). Flies are trapped. Every week, technical staff count the flies in the traps, report the information in a database, that generates maps and alerts (SMS, Whatsapp) according to the level of infestation. The grower receives advice on the product to be used and the potential gain if the product is used. Each pilot orchard, through a focal point transmitting information, covers around 10 orchards. In areas not yet covered, brigades and community radios disseminate the information. Beyond the demonstration orchards, the project intends to continue deploying the surveillance system at the rhythm of 10 pilot orchards per country per year, each one impacting 10 surrounding orchards. Initially scheduled to end in September 2024, SyRIMAO has requested a 17-month extension for a (likely) end date in February 2026.

Table 15: Summary of cumulative values 2019-2023 for GDIs to Outcome 1

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTCOME 1: "The capacity and the resilience of smallholder farmers improve as they take up new climate-smart or agroecological products, technologies, models or services"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
57	40	**8A**	Number of climate-smart or agroecological innovations taken up by smallholder farmers (Products, technologies, agricultural practices, farming systems)	161	353	199	**552**	X	X
40	29	**8B**	Number of climate-smart or agroecological innovations taken up by smallholder farmers (Services, decision making tools, governance mechanisms)	28	52	17	**69**	X	X
60	42	**9**	Number of smallholder farmers who have taken up at least one climate-smart or agroecological innovation	90903	227313	38048	**265361**	X	X
20	6	**10**	Number of DeSIRA projects for which the expected rate of implementation of innovations by targeted farmers has been met	2	5	1	**6**	X	X
67	50	**11**	Number of DeSIRA projects having at least one documented strategy to disseminate or scale up innovations	19	29	21	**50**	X	X

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.

 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22

Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023

Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024

Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

6.2 Outcome 2 – Innovation capacities of research, technical and development institutions as well as capacities of farmers' organisations to support agriculture innovation processes are strengthened

Table 16: List of global DeSIRA Indicators attached to Outcome 2

GDI #12	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems #12A (Regional or international) #12B (National or subnational research institutions) #12C (National or subnational technical/development institutions) #12D (National or subnational FOs, NGOs, CSOs)
GDI #13	Number of new institutional partnerships on agriculture and food systems triggered by DeSIRA projects

The "capacity to innovate" refers to the capacity to identify constraints and opportunities and to mobilise resources to adapt and respond to challenges. It includes technical and functional capacities at individual, organisation and system levels. Institutional capacities refer to the capacity of organisations to manage resources to achieve their objectives. Outcome 2 focuses on innovation capacity at the organisation level. An increase in capacity should be the result of strengthening activities in at least one capacity area with project support (e.g. organisation, networking/collaboration, human resources, technical expertise, internal policies, governance, finances, management, monitoring & learning expertise, advocacy, strategic thinking, etc.). In practice, very few Pillar I projects assess (or even plan to assess) the effects of capacity building at organization level and most projects implicitly assume that training and other types of institutional support lead to increased institutional capacities and/or capacities to innovate. The contribution of Pillar I projects to the strengthening of institutional capacities and/or innovation capacities is therefore assessed through the verbal declarations of implementing partners and information (mostly found in progress reports) supporting these declarations.

Many organisations, particularly research institutions, are involved in more than one DeSIRA project, across and within project groups. This leads to duplication when GDI values are aggregated across projects and/or across groups. AGR 2023 only estimated the percentage of duplication by category of organizations. In AGR 2024, duplicates have been removed to provide an accurate total number of strengthened organisations per category.

Over the reporting period, all DeSIRA projects (Pillar I and Pillar II combined) contributed or were in the process of contributing to enhancing the capacities of 1440 organizations, largely Farmers' Organisations (FOs) and NGOs, through Pillar I, and national research -as well as technical- entities via both Pillar I and Pillar II. For all categories of organisations targeted by G1 & G2 projects, there has been an increase in the number of entities supported since the last reporting period, though it cannot be precisely quantified as AGR 2023 provided only estimates. There is evidence of improving institutional capacity across various organizations involved in Pillar I projects, in spite of the lack of an assessment methodology. While information on institutional change is limited and fragmented, interviews with Implementing Partners often confirm that CD enhances institutional and innovation capacities, but this does not fully capture the true, complex and extensive influence of DeSIRA at institutional level, especially of Pillar I projects for which the objective of institutional CD is often more implicit than explicit.

Farmer Organizations (FOs) represent the largest share of strengthened organizations, accounting for 42%. According to the implementing partners, 607 FOs, operating at national or subnational level, were either in the process of being strengthened or had been created with DeSIRA support. Several projects

claim that the FOs they work with better understand their environment and have developed skills to support farmers to innovate, especially in the area of agroecology when projects tackle this issue. Local NGOs (11% ; 157, including community-based organisations) are also gaining from project involvement with new knowledge and methods to support farmers. National research entities (15% ; 223, including research and education institutions) have improved research capacities through training and participation in research activities using up-to-date methods, enabling advanced scientific achievements. Their participation in DeSIRA also reshapes research approaches by placing more attention on stakeholder interactions, especially with farmers. Furthermore, the individual capacities of researchers working for national entities are enhanced, often with support from European research and education institutions, thus indirectly reinforcing the institutional capacity of their own institutions. Institutional partnerships emerging from project activities also contribute to a growing capacity, with the number of such collaborations by G1 and G2 projects having increased by 23% (from 48 to 59) since the last reporting period. This is in addition to the 84 partnerships established by G3 over the reporting period, including 43 under a single multi-country project: These formal cooperation agreement on agroecology links Farmers' Organisation and research institutes to conduct further action research. Such partnerships may underscore a trend towards more sustainable collaborative initiatives, which may contribute to a better co-design of innovation and their scaling.

Interestingly, Pillar I also induces change in several organizations with a regional or international reach, strengthening their capacity to support transformative research in agri-food systems (Innovation System thinking, agroecological approaches, etc.). This includes research bodies (e.g. France-based CIRAD "Centre de Coopération Internationale en Recherche Agronomique pour le Développement"; Netherlands-based WUR "Wageningen University & Research"; Costa-Rica-based CATIE "Centro Agronómico Tropical de Investigación y Enseñanza"), large EU-based NGOs (e.g. AVSF "Agronomes et Vétérinaires sans Frontières »; GRET "Groupe de Recherche et d'Echange Technologique » ; Rikolto), networks of farmers' organisations (e.g. ROPPA "Réseau des organisations paysannes et de producteurs de l'Afrique de l'Ouest").

Over the reporting period, 223 Africa-based research institutions (with national, regional or international reach) either were involved in the implementation of at least one DeSIRA project and/or benefitted from capacity development activities. Of these, 64 were involved in more than one project, including 28 engaged in at least three projects. While institutional CD is not always coordinated among projects supporting the same organisation, cumulative benefits from multiple engagements may point at a broader institutional gain for the targeted institution. A few actors (e.g. CIRAD, FAO, GIZ) play a crucial rural in developing links between the DeSIRA projects in which they participate, strengthening the capacity of the institutions to contribute to changes at scale. In addition, DeSIRA LIFT manages a Community of Action and Reflection, which brings together team members of the Research and Innovation projects of the DeSIRA Initiative.

A large Pillar II action (comprised of 5 projects) aims to build institutional capacity in five key African AR&EOs, including 4 regional organisations and one pan-African organisation. Capacities are measured annually and show significant progress, facilitated by improved cooperation among them. All five organisations are becoming more robust and effective in fulfilling their mandate, even though there is still room for improvement. Owing to enhanced capacity in resource mobilization, these organizations are increasingly involved in major projects with global partners, with a focus on agroecological transition, CSA, and food and nutrition security. Besides, their capacity to support other regional organisations, as well as national entities, by promoting the use of institutional tools and good practices has also increased. The outcomes of their support to national level member organisations (typically research and/or extension organisations) are not reported in progress reports. However, these AR&EOs have noticed improved participation and monitoring capacities among their members and they report that a few regional FOs are

active in CSA alliances, contributing technical expertise. The challenge for the AR&EOs now lies in enhancing benefits for members, fostering ownership, and securing member-generated resources. Besides, there is a risk that institutional changes induced by the support from AR&EOs to their national members may be underreported due to implicit, rather than explicit, capacity gains.

Institutional strengthening of these AR&EOs is also evidenced in multi-stakeholder partnerships. Among them, several partnerships are built with international organisations implementing other DeSIRA projects (e.g. CGIAR, FAO, GFAR, WUR, IICA), reinforcing the overall effectiveness of the DeSIRA initiative.

APSAN "Enhancing crop productivity and climate resilience for food and nutrition security in Mali"

Implemented by ICRISAT (International Crops Research Institute for the Semi-Arid Tropics)

Mali

Pillar I – Group 1

The project focuses on four value chains, each being supported by several selection programmes. It aims to develop and register varieties for the following crops: sorghum, millet, cowpea (niebe) and groundnut.

The project contributes to increasing the institutional capacity of the West and Central Africa regional hub of ICRISAT, which has selection programmes for sorghum, millet, groundnut. It improved the infrastructure for these programmes, built the capacity of new breeders, and updated the technical information material supporting the programmes. An indicator of the improvement in a breeding programme's capacity is the number of generations that this programme can produce in a year: for all crops, the number has increased from 1 to 2 generations per year, though this achievement may not be sustainable without additional resources.

Besides, ICRISAT has established development partnerships with nutrition-focused institutions and relief organizations to distribute seeds as emergency packages and improve community nutrition. Given Mali's ongoing emergencies and nutrition challenges, these issues require long-term solutions. In this context, ICRISAT has Memoranda of Understanding with organizations like FAO, WFP, Care International, International Rescue Committed, and Catholic Relief Services.

In Mali, ICRISAT closely collaborates with the Institut d'Economie Rurale (IER), which also has several selection programmes, for sorghum, cowpea, millet, groundnut. By improving the programmes' infrastructure (e.g. irrigation systems), the project has increased the capacity if IER to conduct the research and to innovate. The project also supported 4 PhD students, all working at IER. Many researchers and technicians participated in trainings in modern breeding tools (e.g. Breeding Management System, a data management software for plant breeders). Besides, the project strengthened 5 farmer's organisations and 2 local NGOs (e.g. trainings in seed production, agricultural practices, cooperative management; demonstration of technologies).

SUPPORT TO CAADP AGRICULTURAL RESEARCH AND EXTENSION ORGANISATIONS

"AFAAS - African Forum for Agricultural Advisory Services"

Managed by IFAD (International Fund for Agricultural Development), implemented by AFAAS

Kenya, Ghana, Mali, Malawi, Madagascar, Liberia, Nigeria, Uganda, Cameroon, Ethiopia, South Africa

Pillar II

The focus of this action is to strengthen the architecture and governance of Africa's continental and sub- regional agricultural research and innovation organizations, enabling them to effectively support national agricultural research and

innovation systems, with the objective of enhancing the performance of these systems towards contributing to the achievement of national food and agriculture development goals and targets.

Outcome 2 is illustrated for AFAAS, one of the 5 organisations targeted by the action.

Changes in institutional capacity are monitored in four areas. The overall capacity of the AFAAS Secretariat has improved from a capacity rating of 63% at project inception to 76% (December 2023): fiduciary capacity was at 90%; organizational capacity at 76%; technical capacity at 74%; MEL at 63%.

As a result of institutional capacity building, AFAAS claims it is now recognized and visible. It has acquired a capacity to establish and sustain working relations with different partners, beyond the 5 CAADP organisations (e.g. FAO, Agrinatura etc.), for which the credit goes to DeSIRA. For instance, AFAAS is a partner in Bio4Africa (Bio-based solutions for sustainable agri-food systems in rural Africa, a project led by CIRAD, with 25 partners from 11 different European and African countries). It is also a partner in CANALLS (Driving agroecological transitions in the humid tropics of Central and Eastern Africa through traNsdisciplinary Agroecology Living LabS, an EU-funded project also led by CIRAD, with 22 partners). AFAAS also has a partnership with the African Union and works on policy issues with the International Research Council.

AFAAS claims it has become a stronger facilitator. Through partnerships and trainings on various topics (e.g. knowledge management, foresight, policy advocacy, resource mobilization), AFAAS contributes to strengthening the capacity of regional networks (e.g. RESCAR "Réseau des Services de Conseil Agricole et Rural de l'Afrique de l'Ouest et du Centre"; SARFAAS "Southern Africa Regional Forum for Agricultural Advisory Service"). It also supports 11 country fora, with spillover effects to members in six additional countries. The outcome of this support is enhanced policy influence, innovation scaling, and stakeholder collaboration. For instance, AFAAS facilitates the scaling of Technologies, Innovations, and Management Practices (TIMPS) among value chain actors. Two examples of this: MaFAAS (Malawi Forum for Agricultural Advisory Services) supported Kusamala Institute of Agriculture and Ecology to promote Permaculture in Malawi; CAMFAAS (Cameroon Forum for Agricultural Advisory Services) has supported women on starting small business in local food processing, and how to make local biopesticides with a protocol documented in the local languages.

At AFAAS level, the protocol to measure capacity changes for the sub regional fora (or the national fora) is identical to the protocol used to measure changes at AFAAS Secretariate level. AFAAS does not directly support Farmers' Organisations but works with them through country fora, which FOs are a member of. Through the national fora, they also benefit from the capacity development tools disseminated by AFAAS.

Table 17: Summary of cumulative values 2019-2023 for GDIs attached to Outcome 2

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTCOME 2: "Innovation capacities of research, technical and development institutions as well as capacities of farmers' organisations to support agriculture innovation processes are strengthened"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All P-I G1+G2+G3	Pillar II	Pillar II	ALL P-I+P-II	ALL P-I+P-II	ALL P-I+P-II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023 (*)	AGR 2024 (*)	AGR 2024 (*)	AGR 2024 (*)	AGR 2023 (*)	AGR 2024 (*)	AGR 2023 (*)	AGR 2024 (*)	AGR 2024 (**)
41	40	**12A**	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (Regional or international)	52	59	53	112	60	96	112	208	**155**
71	67	**12B**	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational research institutions)	135	147	102	249	66	85	201	334	**223**
65	55	**12C**	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational technical/development institutions)	83	116	131	247	45	56	128	303	**278**
63	53	**12D**	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational FOs, NGOs, CSOs)	234	359	408	767	15	52	249	819	**784**
48	44	**13**	Number of new institutional partnerships on agriculture and food systems triggered by DeSIRA projects	48	59	84	143	74	141	122	284	**284**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

(*) Includes duplicates except for GDI #13 (Number of new institutional partnerships)

(**) NO duplicates

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

6.3 Outcome 3 – "Private sector capacities and value chains of agri-food systems are strengthened"

Table 18: List of global DeSIRA Indicators attached to Outcome 3

GDI #14	Number of sustainable or climate-smart innovations taken up by agriculture and food-related MSMEs
GDI #15	Number of agriculture and food-related MSMEs which have taken up at least one sustainable innovation
GDI #16	Number of agriculture and food-related MSMEs strengthened or created
GDI #17	Number of food value chains supported
GDI #18	Number of full-time food industry-related jobs created

The number of Pillar I projects supporting the private sector is not as high as those supporting smallholder farmers because the priority of Pillar I is on research and innovation at farm level or at territorial level. Nevertheless, the overall contribution of Pillar I to Outcome 3 is increasing. Over the reporting period, 41 Pillar I projects (22 from G1/G2 combined, i.e. 5 more projects than reported in AGR 2023; 19 from G3) were supporting a total of 165 Value Chains (VCs) in 45 countries across Africa (30 countries), Latin America (8), Asia (6) and the Pacific (1). This includes 90 value chains from G1 and G2, a significant increase (+55%) from the 58 VCs in the previous reporting period (AGR 2023). The no-cost extensions granted to most G1 and G2 projects are expected to increase the potential effectiveness and sustainability of late starting activities.

Support to VCs may be technical and/or strategic, focusing on the local level or on a broader, national scale. Project approaches to VC support differ and are either holistic i.e. consider the whole chain of value-adding activities, or are more narrowly targeted at specific segments of the VC. For instance, a project implemented in two countries of West Africa (P-I G3) promotes sustainable value chains for Neglected and Underutilized Species (NUS) by addressing production, processing, market integration, and the policy framework. It introduces agroecological approaches for NUS cultivation, develops value-added products (e.g. enriched foods and cosmetics), and strengthens local entrepreneurship through tailored support for start-ups. Seasonal calendars and market information systems enhance supply-demand chains, while innovations like FabLabs and incubator models connect research and entrepreneurship. Sustainability assessments and transition frameworks guide decision-making on scaling NUS as substitutes for major crops. This integrated approach links farmers, researchers, and markets, fostering a resilient ecosystem for NUS-based value chains. Another project (P-I G3) in the Southern Africa region promotes pigeon pea, a multi-purpose resilient cash crop, to combat malnutrition. However, pigeon pea requires long cooking times, unless it is dehulled. In turn, a dehuller requires large quantities to justify its use, which explains why the project promotes pigeon pea at community scale and intends to establish a local value chain, involving private sector actors. In contrast to these holistic approaches to VCs, targeted VC support may focus on designing and manufacturing new equipment or creating new products. For instance, the introduction or intensification of forage production in pastoral systems requires specific equipment to harvest and process fodder crops.

Over the reporting period, 110 innovations contributed by 17 Pillar I projects have been taken up by agriculture and food-related MSMEs. Pillar I Group 3 contributed 34 innovations, with one project contributing 16 innovative products from the transformation of local raw materials (moringa, sweet potato, cassava, yam, roselle) into enriched foods, cosmetics and other consumer products. Pillar I G1 and G2 together contributed 76 innovations with 2 projects contributing 40 innovations:

forage-related technologies and equipment, business models, energy and water saving technologies for processing companies. For P-I G1 and G2 , this is a significant increase (+175%) from 28 innovations reported (together) last year. AGR 2023 highlighted a multiplication of new business models to strengthen MSME (relationships with suppliers, marketing of products, financial flow management), often coupled to financing mechanisms in order to facilitate access to services (new inputs or innovative equipment) by smallholder farmers, whose financial capacity is often limited. In AGR 2024, the projects report new consumer products based on the processing of raw materials. They also report innovations addressing trade dynamics and relationships, aiming to improve the equity and efficiency of transactions between value chain actors, such as: contracts between livestock feed manufacturers, intermediary brokers, and farmers ; blockchain-based tools to enhance traceability and trust within food supply chains ; tools for price incentives and input subsidies designed to support private-sector actors. Other innovations focus on developing inputs that reduce environmental impact or improve productivity while addressing climate-smart agriculture needs (e.g. ecological charcoal made from agricultural waste ; production and marketing of bio-fertilizers).

For instance, in Latin America, a project (P-I G3) develops an innovative traceability tool that integrates metrics to promote agroecological practices and zero-deforestation cocoa production and supply chains. The tool uses blockchain technology, providing a transparent ledger accessible to all actors in the value chain, to track cocoa from production to consumption. This allows cooperatives and private sector actors to conduct their Corporate Social Responsibility reporting and to ensure EU Deforestation Regulation (EUDR) compliance, while allowing consumers to access information on the agroecological practices used in production and on EUDR compliance.

Agriculture and food-related MSMEs such as those involved in the production of inputs or equipment, services (e.g. artificial insemination or machinery leasing), agricultural waste processing, food-processing (etc.) have either been strengthened or created (1357 in total). This figure includes 375 MSMEs from G1 and G2 (up from 183 in AGR 2023) and 982 from G3, including 808 MSMEs supported by a single project in Latin America, focused on strengthening small rural businesses. Among these, 309 MSMEs have taken up at least one innovation. Additionally, over the reporting period, DeSIRA projects supported four existing incubators (e.g. guiding start-ups interested in agroecology and associated enterprises). The relevance of the GDI on VC-related job creation is debatable considering the very limited contribution from DeSIRA projects or the absence of data collection (at project level) related to this GDI.

The contribution to Outcome 3 from Pillar II stems from African regional organizations, which together aim at improving the "effectiveness of African countries' public policies and investments in agricultural research and extension services, and technology development, and for climate change adaptation and mitigation of agriculture and food systems". The contribution from Pillar II is limited to strengthening selected private sector entities (at least 38, against 23 in AGR 2023). The focus is mostly on integrating private sector companies into key roles within national fora and initiatives, by providing targeted training and peer learning opportunities, and by establishing strategies for private sector engagement and innovative partnerships with a view to (for instance) foster cross-border trade and investment in climate-smart technologies, aiming to boost business growth in agriculture. One regional organisation supported the participation of companies in an Agricultural Innovation and Technology Market, facilitating connections between buyers (private sector) and suppliers (often research institutes). Another regional organization focuses on the last mile influence, i.e. the benefit that a strengthened country-level forum is able to provide to its members: e.g. in a Southern African country, a private sector company developed an organic concoction, which the country forum supported for recognition at national level; the Ministry of agriculture awarded this company as an innovator and the forum contributed to scaling up the innovation.

ACCESS « Accélérer les dynamiques d'innovation dans le secteur Agro-alimentaire par le renforcement des Services Support à l'Innovation »

Implemented by CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement)

Burkina Faso

Pillar I – Group 3

The specific objective is to contribute to a more efficient national agricultural innovation system. The project introduces new support approaches, jointly implemented by public research organizations and private incubators. *It operates at multiple levels. At the micro level, it supports two types of innovation carriers: Multi-actor Innovation Partnerships (PIMs) and innovative micro and small entrepreneurs. By applying new support approaches to existing innovation processes carried out by PIMs and entrepreneurs, it contributes to the development of innovations for use by smallholder farmers and private actors in food value chains.*

The project designs, experiments with, and evaluates support approaches for entrepreneurs and PIMs, adapting them to the context of Burkina Faso and to different beneficiaries (it also supports Providers of Innovation Support Services). For entrepreneurs, the tailored approach is centred on individual support, assisted by a coach. For PIMs, the approach is supported by one or two innovation facilitators and allows for the continuation and/or completion of existing innovation projects. Concretely, the support to PIMs aims to strengthen their functional capacities to collaborate, experiment, learn, and manage innovation processes through various activities (diagnosis of capacity building needs for innovation, development of a support plan, involvement of researchers in the implementation of collaborative projects, etc.).

As part of its support to micro and small entrepreneurs (MSEs), the project contributes to several innovation processes related to products for human consumption, agricultural inputs, and services: for instance, nutritional supplements for athletes; teas and infusions made from local plants; baby puree made from local products; eco-friendly charcoal made from agricultural or agro-food waste; production of organic fertilizers. The approach focuses on individual support, guided by a coach with upgraded capacities to connect entrepreneurs with PIMs and with innovation scaling ecosystems beyond country boundaries. As of June 2024, the project had coached or was coaching 12 social entrepreneurs. The process was already successful for 8 of them. Once coaching ends, MSEs can still benefit from other forms of support (e.g. communication, legal and tax support, scientific assistance).

As part of its support to PIMs, the project focuses on two value chains, rice and milk. For instance, it works with the actors of the parboiled rice value chain in Bama, including the Union of Simplified Cooperative Societies for Rice Parboiling of Bama. It supports the innovation process to increase the supply of quality raw materials, improve the quality of parboiling equipment, and enhance the competitiveness of parboiled rice.

SUSTENTA e INOVA "Sustainable and innovative agriculture and value chains in the Brazilian Amazon"

Implemented by SEBRAE/PA (Serviço de Apoio às Micro e Pequenas Empresas do Estado do Pará)

Brazil

Pillar I – Group 3

The project operates in three distinct territories in the state of Pará:
-Marajó Island is known for its complex ecosystems and the presence of traditional communities; activities aim at landscape restoration and sustainable business development.

-Xingu (Transamazônica): in this area, the project focuses on improving the livelihoods of family farmers through sustainable practices, agroforestry systems, and efforts to increase market access.
- Capim River (Belém-Brasília Highway): activities revolve around policy support, sustainable agro-industrial practices, and innovative business initiatives, engaging cooperatives and rural enterprises.

The mission of SEBRAE, the main implementing partner, is to support micro and small enterprises, foster entrepreneurship, and encourage sustainable business practices in Brazil. In the three targeted territories, Sebrae supports entrepreneurs for a period of 12 weeks to transform their ideas into innovative and sustainable formal entities that promote positive impacts and income generation This is part of the Socio-Environmental Impact Business Development Program (NISA "Negócios de Impacto SocioAmbiental »), an initiative of the Humanize Institute aimed at fostering a supportive environment and to contribute to territorial development. In the Brazilian Amazon, NISA is carried out through the DeSIRA project. 22 MSMEs were created under a first round of NISA support in 2023-2024: for instance "EcoPlante » (Sustainable stationery); Rural Tourism in the Trans-Amazon Region and Xingu (Tourism); Odorata Ecosystems (Environmental consulting) ; Bubbles of the Amazon (Natural cosmetics), My Noble Worm Humus (Natural fertilizer) etc. Besides, in the context of its « Amazon Rural Entrepreneurship » programme, SEBRAE trained 774 sustainable businesses over the reporting period. This includes: 120 family farming producers in the Marajo island (training in strategic planning, focusing on enhancing entrepreneurial and managerial skills); 114 rural business owners in the Transamazônica region, who benefited from workshops (e.g. business planning, digital marketing to grow businesses, and financial control for rural properties) ; 540 entrepreneurs in the Capim region (consulting, training, and participation in events). Also in the context of the Amazon Rural Entrepreneurship programme, in partnership with the NGO IPAM (Instituto de Pesquisa Ambiental da Amazônia) the project provided guidance to 19 enterprises in the Xingu region on various topics: e.g. legalization of products (e.g. creating logos, trademark registration, packaging); legalization of factories (architectural projects, facades, and production layouts).

Table 19: Summary of cumulative values 2019-2023 for GDIs attached to Outcome 3

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTCOME 3: "Private sector capacities and value chains of agri-food systems are strengthened"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	All Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
24	17	**14**	Number of sustainable or climate-smart innovations taken up by agriculture and food-related MSMEs	28	76	33	**110**	X	X
21	15	**15**	Number of agriculture and food-related MSMEs which have taken up at least one sustainable innovation	106	260	49	**309**	X	X
46	40	**16**	Number of agriculture and food-related MSMEs strengthened or created	183	375	982	**1357**	23	**38**
50	41	**17**	Number of food value chains strengthened	58	90	75	**165**	X	X
4	2	**18**	Number of full-time food industry-related jobs created	0	1980	0	**1980**	X	X

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

6.4 Outcome 4 – The agriculture and food systems policy environment is improved at national or international level

Table 20: List of global DeSIRA Indicators attached to Outcome 4

GDI #19	Number of policies, strategies or plans, fostered by multi-stakeholder processes, under development or endorsed by the relevant authorities
GDI #20	Number of countries or international organisations developing or having endorsed a policy, strategy or plan which increases their ability to sustainably transform agriculture and food systems and/or adapt to climate change

Output 6 tracks the number of policy products (dialogues, briefs) generated by DeSIRA projects to inform policies and contribute to an enabling environment for innovation. However, the transformation of outputs into outcomes is a difficult process, as this objective usually falls within the sphere of interest of the project but not its sphere of control. Among the 60 projects having policy objectives, 42 claimed a tangible policy outcome (policy, strategy or plan under development or endorsed), including 23 from P-I G1 and P-I G2 (combined), 15 from P-I G3 and 4 Pillar II projects. Together, DeSIRA projects contributed inputs to 184 policies in 39 countries and for 12 regional or international organisations. An issue raised in AGR 2023 remains valid: policy objectives and outcomes achieved by partner organisations are not consistently highlighted or well-documented in project reports, making it difficult to fully capture DeSIRA's policy influence in the context of the GM&EF. However, DeSIRA LIFT has conducted a learning review to assess the impacts of the DeSIRA initiative at policy level.

During the 2019-2023 implementation period, Pillar I projects influenced a total of 170 policies (in 39 countries and for 5 regional or international organisations). Group 1 and Group 2 together accounted for 50% of this figure, having doubled the number of policies, strategies or plans which partner organisations have influenced (85, up from 44 in AGR 2023). Group 3, comprised of the most recent DeSIRA projects, also contributes 50% of all policies influenced (85). Within G3, 3 projects account for 53 policies: all had already 3 years of implementation at the time of data collection and had been very active at local/territorial level. Pillar II reported 14 policy outcomes (up from 10 in AGR 2023). The nature of DeSIRA-supported policy outcomes is broad. Influence is exerted at multiple levels (global, regional, national, municipal, county) with the greatest influence at national and subnational levels. For instance, at regional level: guidelines for the agroecological transition adopted by ASEAN (Association of Southeast Asian Nations). At national level: revision of the Ghana Fertilizer Policy; support to the implementation of the Cuban Food Sovereignty and Food and Nutritional Security Law; Presidential Decree "On Additional Measures to Increase Efficiency Through the Integration of Science, Research, Knowledge, and Production" in Uzbekistan. At subnational level: facilitation of the Low Carbon Agriculture Plan for the State of Pará (Brazil); Participatory Integrated Land Use Planning adopted by six local governments in Ethiopia.

In many countries (19 countries, out of the 39 countries reached in terms of policy influence), several DeSIRA projects were simultaneously active, with partners involved in a diversity of policy processes. For instance, over the reporting period, four DeSIRA projects provided inputs for the following policies in Kenya: National Seed Policy; Regional Development Strategy for water, energy, food and environment of the Lake Basin Development Authority; Kenyan National Agroecology Strategy; livestock sector policy in selected counties.

On the topic of agroecology, over the reporting period, a growing number of projects partners were committed to contributing to policies at national or regional level, to facilitate the agroecological transition: National Strategy for the Development of Agroecology in Burkina Faso; Plan Senegal Emergent (PSE) Vert; National Strategy for the Production of Ecological and Organic Agriculture in Benin (SNAEB, 2022-2030); Kenyan National Agroecology Strategy; Action plan of the National Consultation Framework (CCN) for the agroecological transition in Cote d'Ivoire; National Agroecology Strategy in Ethiopia; National Action Plan for Food Systems transformation in Vietnam; Agroecology guidelines at ASEAN level; Roadmap for the implementation of agroecology in national policies and strategy in Lao PDR; National Agroecology Agenda in Colombia ; National Agroecological Production Plan in Brazil; Cuban Food Sovereignty and Food and Nutritional Security Law.

A few policies, strategies or plans influenced by DeSIRA Pillar I projects are already approved at national level. However, informing policy for influence based on evidence is a long process which takes several years. Besides, the exact status of the policy outcomes of each project is not always known. Information on policy achievements is also lacking for Pillar II projects, which rarely follow up on the outcomes of their support at national level. Therefore, their influence is underestimated.

TAERA « Accompagnement de la Transition Agro-Ecologique par la Recherche Agricole, Benin »

Implemented by ENABEL (Belgian Development Agency)

Benin

Pillar I – Group 1

The objective is to identify and test the conditions for an agroecological transition for rice and vegetable producers.

Benin adopted a National Strategy for the Production of Ecological and Organic Agriculture (SNAEB, 2022–2030) to promote sustainable and ecological farming. The National Framework for Consultation of Agroecology Stakeholders (CNAEB) was established to foster collective actions for agroecological transition, ensure effective implementation of SNAEB, and oversee a research and development agenda supporting this transition. TAERA contributed by participating in the validation of the SNAEB strategy in 2022, reviewing and validating its draft. The project also actively engaged in CNAEB meetings in 2023, including the Agroecology Week, which supported the implementation of the strategy, marking a key role in operationalizing agroecology in Benin.

STREAM "SusTainable Resilient Ecosystem and Agriculture Management in Mongolia"

Implemented by FAO & GIZ (Food and Agriculture Organisation & Gesellschaft für Internationale Zusammenarbeit GmbH)

Mongolia

Pillar I – Group 3

The project has two components, agriculture and forestry. Both aim at increasing the capacity of communities in two provinces to implement sustainable long-term landscape management. This approach includes reducing livestock numbers in the target areas and diversifying production. Implementation was over at the time of data collection (10/2024).

The project has provided inputs and supported the development and approval of 19 plans at territorial level. This includes the Selenge Aimag Land Management Plan, a comprehensive long-term policy document at

provincial level, approved by a resolution of the Citizens' Representative Khural (assembly) in December 2023 and 18 territorial development plans at soum (district) level. These plans were deliberated upon and endorsed at Citizens' Representatives assemblies of each district. They serve as a mid-term policy documents, spanning a period of 5-7 years, for effective land administration and land resource management within the entire district territories.

At national level, the project's land management specialist contributed to amending the Land Law to incorporate responsible rangeland management. As of April 2024, the draft law, including these amendments, had been submitted to Parliament for discussion. Also at national level, international and national Geographical Indication (GI) consultants assisted the national authorities in drafting GI regulations aligned with the country's international obligation under the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The project also provided legal and technical support to the revision of the Law on Forest in 2023-2024.

Table 21: Summary of cumulative values 2019-2023 for GDIs attached to Outcome 4

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators OUTCOME 4: "The agriculture and food systems policy environment is improved at national or international level"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	Pillar I G1+G2+G3	Pillar II	Pillar II	ALL P-I+P-II	ALL P-I+P-II	ALL P-I+P-II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024	AGR 2023	AGR 2024	AGR 2024
59	42	**19**	Number of policies, strategies or plans, fostered by multi-stakeholder processes, under development or endorsed by the relevant authorities	44	85	85	**170**	10	**14**	54	184	**184**
59	42	**20**	Number of countries or international organisations developing or having endorsed a policy, strategy or plan which increases their ability to sustainably transform agriculture and food systems and/or adapt to climate change	35 (*)	61 (*)	19 (*)	**44** (**)	8 (*)	**11** (**)	42 (*)	91 (*)	**51** (**)

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)
(*) Includes duplicates
(**) NO duplicates

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.
 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.
Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

7 Impact prospects

Impact prospects – The DeSIRA initiative contributes to the climate-relevant, productive, and sustainable transformation of agriculture and food systems in low and middle-income countries.

Table 22: List of global DeSIRA Indicators attached to impact prospects

GDI #1	Number of smallholder farmers who claim socio-economic gains, a positive impact on agroecosystems and/or feel better equipped to cope with climate change-related shocks
GDI #2	Number of smallholder farmers expected to benefit from innovations disseminated beyond the projects' target groups
GDI #3	Number of hectares of agricultural or pastoral land where innovative climate-smart or agroecological practices have been introduced #3A (By target groups) #3B (By indirect beneficiaries)
GDI #4	Number of DeSIRA interventions claiming a positive, documented impact on agroecosystems at farm level
GDI #5	Number of DeSIRA interventions claiming a positive, documented contribution to the status and role of smallholder female farmers or female food entrepreneurs
GDI #6	Number of organisations strengthened by DeSIRA projects, able to document a positive impact of the project on the transformation of agriculture and food systems at national, regional or international level
GDI #7	Number of endorsed policies, strategies or plans supported by DeSIRA projects and demonstrating a positive impact on the transformation of agriculture and food systems at national, regional or international level

At the scale of the initiative, it is difficult to frame impact prospects because of the diversity of the projects. Pillar I projects are geared towards contributing to a key GDI at impact level, which measures socio-economic gains and enhanced climate resilience among smallholder farmers who are the direct targets of these projects, especially through the implementation of agroecological practices or systems. However, 20 Pillar I projects (out of 72) are unlikely to contribute to this GDI. Apart from one project that focuses on MSMEs (i.e. not on smallholder farmers) and a few projects targeting farmers, but not intending to measure impact, most of these projects do not work at farm level and/or focus on innovations that do not translate into measurable farm-level impacts (e.g. support to agricultural innovation systems; performance metrics to support agroecological transitions). Among the 52 projects expected to report benefits at farm level, fifteen claim a contribution to impact, over the reporting period. Among them, the contribution is only significant for 9 projects. This includes 6 projects from the older groups (G1 and G2) and 3 projects from G3. These projects usually include a strong development component (training of farmers and service provision at scale by involving development organisations in the consortium, partnering with farmers' organisations) or they have the capacity to cover broader areas through activities involving key value chains actors and/or spanning over several countries (e.g. a regional system to control fruit flies in orchards of 15 West African countries; innovative water and energy solutions in 5 countries of East Africa).

For the large majority of Pillar I projects, the quantitative contribution to socio-economic changes at farm level remained limited as of December 2023. Further clarification is needed to explain this situation. First, the capacity to assess impact varies across projects, as measuring impact is often a challenge (complex methods to be developed, resources to be invested). Second, it takes time to generate impact; therefore a project with a fixed duration often does not provide the appropriate

scope for evaluating the effects of public investments. It would be more relevant to assess the contribution of a group of projects participating in a trajectory of innovation as innovation takes 10 to 20 years to be developed from the initial idea phase to the dissemination phase. Third, research and innovation projects mainly contribute to change by providing knowledge, methods and technologies. By developing participatory research, by implementing multi-stakeholder approaches and by designing a clear strategy for dissemination and scaling, they facilitate the deployment of innovations. Development actors (i.e. other than research organisations and universities, for instance NGOs or farmers' organisations) are then able to scale and disseminate these innovations.

That said, the total cumulative number of farmers claiming a gain in terms of resilience to climate change (typically an increase in revenue, better technical knowledge) amounted to 44,245 over the reporting period. G1 and G2 projects accounted for 75% of this total, with a 60% increase over AGR 2023 (33,500, up from 20,977). Projects reporting the implementation of innovative climate-smart or agroecological practices on agricultural or pastoral land are not necessarily those claiming a socio-economic impact at farm level, yet. 24 Pillar I projects reported more than 150,000 ha, where sustainable practices were introduced over the last reporting period. This roughly breaks down into a third of farmland (e.g. agroforestry, forage production), a third of grazing land, as well as a third of forest land restored of protected for productive use (e.g. non-timber forest products, coffee).

DeSIRA projects generally do not assess wider impacts. However, a GDI was designed to evaluate the extent to which smallholder farmers, beyond the target groups, might benefit from innovations. Over the reporting period, 19 Pillar I projects (15 from G1 and G2, 4 from G3) collectively reported more than 600,000 potential beneficiaries, with one project alone contributing 35% of this total. Wider impacts are validated by development partnerships, campaign reach assessments, or a mandate to serve a specific population of farmers. This number is vastly underestimated given that implementing partners do not track this data, with one exception: a regional African extension organisation, strengthened under DeSIRA (Pillar II) but not reaching farmers directly, strives to track how the innovations are reaching the last mile; It has estimated that about 6 million smallholder farmers benefit from the innovations promoted by the national fora it supports, via extension services (public or private), agri-dealers and FOs, which are the members of these fora.

Forty-eight Pillar I projects claimed they will be able to document -before the project ends- positive effects on agroecosystems. Over the reporting period 2019-2023, eighteen reported improved agroecosystems, promising future economic and resilience gains at farm level, owing to the implementation of innovative agroecological practices. Changes in practices are highlighted, but in most cases, the full consequences of these changes are not documented in progress reports. Some projects have provided measurable results (e.g., soil carbon increase, reduced fertilizer use, yield gains), but broader ecosystem-level impacts (e.g., biodiversity recovery, long-term carbon sequestration) remains to be reported because most project cycles are too short for impact assessment on agroecosystems at farm level. Some projects might face challenging scenarios, like the potential negative effects of solar pumps on water availability, underscoring the strategic complexity and potential dilemmas faced when developing agricultural innovations.

Over the reporting period, 38 Pillar I projects were linked to impact on the empowerment of women. They claimed to have a gender strategy, but very few (7) reported tangible and measurable changes for smallholder female farmers or female food entrepreneurs over the reporting period (e.g. increased gender parity index, reduction in the workload, access to financial resources to compensate for the low ownership of assets). These projects recognize the importance of gender equality. They strive to empower women through engagement in leadership roles and participation in decision-making. They implement gender-specific business and training initiatives, some of which aim at institutionalizing gender strategies among partner organisations. Some projects have hired gender

specialists. However, the integration of gender varies widely across projects, with only a few projects having comprehensive, gender-focused programmes. The review of the newer G3 projects does not change the previous assessment that the contribution by Pillar I projects to women empowerment is likely to remain limited, with scarce evidence of tangible impact: there are a few well-designed gender-focused initiatives, but many Pillar I projects lack a formal gender strategy and many others, among those which claim a gender strategy, acknowledge difficulties in its implementation.

Two GDIs measure the transformative impact of DeSIRA projects on agriculture and food systems. One focuses on organizations that can prove a positive project impact on system transformation, the other seeks to identify the policies that actually transform agricultural systems. Several projects are expected to influence systems, most likely after their completion. In the reporting period, however, nine recorded institutional impact, including 7 from Pillar I (4 from P-I G1, 3 from G3) and 2 from Pillar II. Together, they reported a total of 31 organisations (no duplicates), including 15 from Pillar I and 16 from Pillar II. For instance, 5 organisations strengthened by a G3 project in a Sahelian country were already demonstrating an ownership of the concepts introduced by the project and had started activities aimed at transforming the national agricultural innovation system. The transformative impact of policy changes is even less tangible, with only 2 projects (one from G1, one from G2) claiming such influence. In one example, the ministry of Agriculture of a Sahelian country, which ratified its national strategy for agroecology in 2023, tasked the partners of the DeSIRA project to organize, in coordination with national and international partners, the training of a part of its extension staff in agroecology. In the other example, a regional project in West Africa contributed to strengthening a national centre of specialisation into a regional centre of excellence, allowing research to be conducted at regional level and the harmonization of research protocols. That said, most implementing partners claim that significant policy shifts, especially concerning new development models like agroecology, require more time.

CLIMA-LOCA "Fostering CLIMAte-relevant and LOw Cd innovations to enhance the resilience and inclusiveness of the growing cocoa sectors"

Implemented by CIAT (International Center for Tropical Agriculture)

Colombia, Ecuador, Peru

Pillar I – Group 1

The project aims at reducing the vulnerability of smallholder cocoa producers to the impacts of new food safety regulation (including the EU regulation for Cadmium -Cd- in cacao) and climate change.

By the end of the project, farmers are expected to be better equipped to cope with the effects of the EU regulation for cadmium in cacao and of climate change. As of November 2023, about 800 farmers, members of one of the largest farming cooperatives in Peru (NorAndino has 7,000 members), were already benefitting. The cooperative, located in a region most affected by EU Cd limits in chocolate, has taken up an innovation introduced by the project: X-Ray Fluorescence (XRF) equipment, a real-time technology for rapid and low-cost analysis of Cd in beans to support strategies to comply with Cd regulations in cacao importing countries. This has allowed NorAndino to sell 100% of its stock of fine-flavour cacao, in full compliance with EU regulations. The cooperative paid a better price for cacao, directly benefiting 800 associated farmers in the north and 3,600 indirectly across Peru. Besides, the project works directly with a group of 450 farmers (direct beneficiaries, reached through field piloting and demonstrations) who have tested and/or adopted low Cd and climate relevant management practices on 69 hectares (the project does not distinguish between testers and adopters). The mapping of region-specific information on Cd or climate impact was still ongoing by the end of the reporting period. This will help to determine more precisely the total number of potential final beneficiaries (smallholder cocoa producing families in the three target countries), initially estimated at 50,000 farmers. The project has a gender expert and is active in building capacity on gender and social inclusion.

Artemia4Bangladesh "Introducing Circularity Through Climate-Smart Aquaculture in Bangladesh"

Implemented by Worldfish

Bangladesh

Pillar I – Group 2

The specific objective is to increase the productivity of salt producers and aquaculture farmers linked to Artemia-related innovative initiatives in the Cox ś Bazar area.

In Cox's Bazar, aquaculture contributes 30-60% of the annual income. The project has introduced an Integrated Artemia-aquaculture model for the first time in Bangladesh, targeting clusters of salt farmers. Artemia, also known as brine shrimp, is used as feed for aquaculture. As of February 2024, 2805 farmers had been trained, including a core group of 375 demonstration farmers. A midline survey was conducted in 2023 with three categories of salt farmers (72% male, 28% female): demonstration farmers, farmers trained in at least one technology and non-intervention farmers. An estimated 70% of salt farmers were found involved in at least one technology introduced by the project: Artemia and aquaculture; improved traditional marine aquaculture; homestead aquaculture; shrimp and tilapia culture. The rate of implementation and the productivity was higher among demonstration farmers and trained farmers. Their income from aquaculture was also higher, compared to non-intervention farmers. The average increase in annual income was 85% to 212% (for demonstration farmers, depending on the activity taken up), 66% (trained farmers) and 31% (non-intervention farmers). The project team claims the benefits could eventually spill over to about 10% of the non-intervention population of salt farmers (50,000) in Cox's Bazar, where the project was implemented. An environmental footprint survey conducted over the period 2021-2023 showed the quantity of inorganic fertilizers (urea, triple super phosphate) applied to produce a kilogramme of Artemia biomass was reduced in 2023, compared to the previous two years. In 2023, natural productivity was enhanced through the combined application of organic (cow dung and chicken manure) and inorganic fertilizers.

LIPS-ZIM "Adoption and scaling up of improved livestock production systems"

Implemented by ILRI (International Livestock Research Institute)

Zimbabwe

Pillar I – Group 1

The project aims to promote and scale up climate-adapted, cost-efficient, and science-based livestock production systems, and to reduce climate change-related diseases causing lower productivity and higher mortality.

The project has introduced climate change compliant legume species and grasses. It is estimated (conservatively) that 5000 farmers have used them as feedstuffs. The project has also introduced new animal husbandry practices and developed livestock feed formulas. In 2023, 80% of households reported using innovative fodder production techniques (against 60% in 2022), and 73% reported using innovative animal husbandry techniques (20% in 2022). Farmers' groups have formed and set up small business to produce and commercialize feed formulas. An impact survey highlighted that a growing number of farmers "agree that the quality and availability of fodder has increased" (from 5% in 2021 to 13% in 2023) and 82% of the farmers claimed they were "satisfied with long-term livestock business prospects". The benefits could reach 45,000 farmers, based on the expectation that each target farmer will reach 5 more farmers. The project has also supported the disease control system through the Department of Veterinary Services (DVS) and strengthened some of its provincial laboratories. As a result, the DVS is able to detect diseases at a fastest speed at provincial level. DVS has produced 220,000 doses of theileriosis vaccines (a lifetime vaccine for cattle, against 20,000 before the project intervention): 100,000 doses were used in two of the six provinces, where the project is working.

Table 23: Summary of cumulative values 2019-2023 for GDIs attached to impact prospects

Number of projects Contributing to the GDI		GDI #	Global DeSIRA Indicators IMPACT: "The DeSIRA initiative contributes to the climate-relevant, productive, and sustainable transformation of agriculture and food systems in low and middle-income countries"	Pillar I G1+G2	Pillar I G1+G2	Pillar I G3	Pillar I G1+G2+G3	Pillar II	Pillar II
# Links AGR 2024	# Values > 0 AGR 2024			AGR 2023	AGR 2024	AGR 2024	AGR 2024	AGR 2023	AGR 2024
52	15	**1**	Number of smallholder farmers who claim socio-economic gains, a positive impact on agroecosystems and/or feel better equipped to cope with climate change-related shocks	20977	33500	10745	**44245**	X	X
24	19	**2**	Number of smallholder farmers expected to benefit from innovations disseminated beyond the projects' target groups	333585	493385	116950	**610335**	X	X
39	24	**3A**	Number of hectares of agricultural or pastoral land where innovative climate-smart or agroecological practices have been introduced (By target groups)	45455	61464	96175	**157639**	X	X
1	1	**3B**	Number of hectares of agricultural or pastoral land where sustainable innovative climate-smart or agroecological practices have been introduced (By indirect beneficiaries)	0	13200	0	**13200**	X	X
48	18	**4**	Number of DeSIRA interventions claiming positive, documented impact on agroecosystems at farm level	8	12	6	**18**	X	X
37	7	**5**	Number of DeSIRA interventions claiming positive, documented contribution to the status and role of smallholder female farmers or female food entrepreneurs	2	3	4	**7**	X	X
31	9	**6**	Number of organisations strengthened by DeSIRA projects, able to document a positive impact of the project on the transformation of agriculture and food systems at national, regional or international level	4	4	11	**15**	**0**	**16**
7	2	**7**	Number of endorsed policies, strategies or plans supported by DeSIRA projects and demonstrating a positive impact on the transformation of agriculture and food systems at national, regional or international level	1	2	0	**2**	**0**	**0**

(Source: Global M&E Framework of the DeSIRA initiative, December 2024)

Colour code	GDI Title	AGR 2023	AGR 2024	*(X): no expected contribution*

Each figure is the sum of the values contributed by each DeSIRA project to the GDI.

 # Links AGR 2024 = number of projects (all categories) linked to the GDI as of 12/2023, i.e. expected to contribute a value, as per their design.
 # Values > 0 AGR 2024 = number of projects (all categories) having contributed a positive value to the GDI during the reporting period 2019-2023.

Group 1 (G1) = 22 Pillar I projects included in the GM&EF since 2021/22
Group 2 (G2) = 17 Pillar I projects included in the GM&EF since 2023
Group 3 (G3) = 33 Pillar I projects included in the GM&EF since 2024
Pillar II = 7 projects = 2 projects, plus 5 'sub-projects' (under SUPPORT TO CAADP AR&EO) included in the GM&EF since 2021/22

8 Conclusions

In line with the Annual Global Report (AGR) 2021/22 and AGR 2023, AGR 2024 reports on the extent to which the overarching objectives of the DeSIRA initiative are being achieved. For the first time, the exercise encompassed all DeSIRA projects, including 72 Pillar I projects, focused on Research and Innovation (R&I) in agricultural and food systems, and 7 Pillar II projects, focused on strengthening the capacities of regional and international organisations. Compared to AGR 2023, AGR 2024 includes an additional 33 Pillar I projects, started more recently. It broadly covers the implementation period 2019-2023. However, the cut-off date for reporting varies for each project, ranging from July 2023 to September 2024, with 31 of them ending in December 2023.

The information collected from the 'new' projects confirms the overall relevance of the Global Monitoring and Evaluation Framework (GM&EF) in capturing the contribution of DeSIRA projects to the expected results and the objectives of the initiative. Additionally, the annual review reinforces and expands upon the conclusions reached in AGR 2023.

The GM&EF is specifically designed to apply to all DeSIRA projects. While the differences between the objectives of the Commission Implementing Decisions 2018, 2019, 2020 have led to limited differences between the successive groups of projects, it is mostly the difference in nature, scope and objectives between Pillar I and Pillar II, as well the extreme diversity of Pillar I (R&I) projects -to which the 'new' projects vastly contributes- that explains why each DeSIRA project contributes to certain results at initiative level, but not to all. Within Pillar I, a key difference between projects lies in the balance between research activities aiming at producing scientific knowledge, and development activities aiming at disseminating technologies or strengthening capacities. Besides, differences (in scope, activities) between projects strongly weigh on their comparative contribution (quantitative and qualitative) to certain global results and indicators. Furthermore, while every project explicitly contributes to certain initiative-level objectives, with clear information available in their reporting, all projects -including the 'new' ones- also implicitly contribute to many Global DeSIRA Indicators. Their activities generate outputs of global interest that drive changes relevant to the DeSIRA initiative. However, these outputs and/or outcomes are often not captured by project-level indicators or highlighted in progress reports.

The GM&EF strives to capture and illustrate the broad and potentially far-reaching influence of DeSIRA. For the reporting period covered by AGR 2024, the main conclusions are as follows:

- In many areas, the progress reported by the 'new' Pillar I projects, as measured after two years of implementation, compares favourably with that of the 'older' ones. This can be attributed to implementation conditions, as the 'new' projects have largely avoided the restrictions linked to the COVID-19 pandemic. Besides, the number of 'new' projects implemented in insecure or politically instable countries is significantly lower. Most of the 'older' projects have been granted a no-cost extension to mitigate delays linked to the pandemic;
- The rapid increase in diverse knowledge products for multiple actors, while communication is significantly expanding, demonstrates the full deployment of the DeSIRA initiative;
- The support to innovation, including co-design and deployment, is a key feature of DeSIRA projects. The number of innovations for use at farm level has drastically increased, with two thirds of the increase attributed to the 'new' projects, while the 'older' ones remain strongly committed to innovation processes. Additionally, the ratio between innovations taken up by farmers and those developed or in progress (for farm use) has doubled since the last reporting period, driven by progress in 'older' R&I projects and the faster advancement of innovation

processes in the 'new' projects. Even though they are often implicit and not always documented, innovations targeting institutions or private sector actors are not a secondary activity. Often essential to the deployment of technical innovations, they account for a quarter of all innovations in progress or developed and are present across all DeSIRA projects, demonstrating a growing engagement of stakeholders supporting farmers or value chains;

- To facilitate interactions between actors, projects have invested substantial efforts in developing new or reinforcing existing multi-stakeholder mechanisms and processes and in building the capacity of the stakeholders to participate effectively. The number of multi-stakeholder mechanisms (including innovation platforms or living labs), strengthened or created under DeSIRA, has continued to increase, with about two-thirds of this growth attributed to the 'new' projects. Their structure and operation is tailored to national or local contexts, leading to a diversity of mechanisms. However, a common, often innovative feature of these mechanisms is the close collaboration between researchers and farmers, supported by NGOs, private sector entities, extension services;
- The strengthening of the capacity of organisations to support innovation processes and dissemination is an important hypothesis of the Theory of Change of the DeSIRA initiative. Between the two reporting periods, the number of farmers' organisations, local NGOs and technical services (extension) strengthened under DeSIRA has drastically increased, including for the 'older' projects. Besides, almost all R&I projects strengthen researchers' capacities in partner countries and also claim to contribute to the institutional capacities of research organisations. During interviews, they provide concrete evidence of positive changes, rarely explicit in their reporting. However, while some Pillar I projects do contribute to the institutional capacity of organisations involved in their implementation, most implementing partners lack a methodology to measure these changes, making attribution difficult;
- As clearly stated in the Commission Implementing Decisions, DeSIRA is expected to play a role in promoting gender equality and women's empowerment. Apart from a few projects having comprehensive, gender-focused programmes, this objective has not been sufficiently mainstreamed or made explicit in the design of many Pillar I projects, including the 'new' projects. The overall contribution of the DeSIRA initiative to women's empowerment, especially in the context of climate change, is likely to remain minimal, with scarce evidence of tangible impact;
- While Pillar I projects primarily focus on research and innovation at the farm level, their contribution to value chain development and private sector engagement is increasing. More than half R&I projects now target downstream and/or upstream actors, with approaches that are either holistic (i.e. consider the whole chain of value-adding activities) or are more narrowly targeted at specific segments of the value chains. Nevertheless, the efforts targeted at the private sector may not be sufficient to guarantee the deployment of innovations at scale;
- Driven by the production of knowledge and seizing opportunities to participate in policy reform and development, projects are strengthening their policy involvement, to improve the enabling environment for scaling the innovations they develop. While Pillar II explicitly addresses this dimension, most Pillar I projects now include a policy objective, with a growing number reporting tangible outcomes. However, documentation remains insufficient to fully assess the influence and impact of DeSIRA. Efforts are underway to equip project partners with the necessary skills to strengthen the science-policy interface, but project reports rarely elaborate on these gaps or their capacity to address them.
- Dissemination and scaling strategies of Pillar I projects are highly relevant to the overall objective of the initiative. While R&I projects do not take the lead in scaling innovation, they play a key role in initiating scaling processes, by contributing knowledge, evidence and capacity

strengthening activities. The GM&EF tracks projects with documented strategies for scaling innovations beyond their direct smallholder farmer targets. The number of Pillar I projects reporting having such a strategy has increased, not only due to the 'new' projects but also because most of the 'older' projects now have one. This enhances the prospects of wider impact, i.e. the likelihood that innovations and research-related results will be deployed with the involvement of a greater number of smallholder farmers, value chain and territorial actors (farmers' organisations, NGO, municipalities, etc.) and/or leveraged at an institutional level, with an enabling environment and relevant policies.

- The instrumental role of education in building individual capacities is reflected in the significant number of projects having plans to develop or improve curricula or training programmes. The contribution of Pillar I projects to education is often implicit and typically builds on research and innovation processes, which remain central to Pillar I. It underlines the potential value of DeSIRA in an area, which is not an explicit objective of the initiative.

9 ANNEXES

ANNEXE 1 - List of DeSIRA projects included in the Annual Global Report 2024

Category	CRIS #	Project short name	Contracting entity	Contracting entity (full name)	Project full title	EU Delegation	€ EU contribution	Target Countries
Pillar I Group 1	410172	**ABEE**	CORAF	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles	Renforcement des réseaux et des capacités institutionnelles en amélioration des plantes pour le développement de cultures résilientes répondant aux besoins des paysans d'Afrique de l'Ouest - West African Breeding networks and Extension Empowerment	EUD Senegal	€ 8,000,000	Burkina Faso, Niger, Senegal
Pillar I Group 1	404348	**ACCEPT**	IRED	Institut de Recherche en Elevage pour le Développement	Adapter l'accès aux ressources agro-pastorales dans un contexte de mobilité et de changement climatique pour l'élevage pastoral	EUD Chad	€ 3,000,000	Chad
Pillar I Group 1	410203	**AGRO-INNOVA**	IICA	Instituto Interamericano de Cooperación para la Agricultura	Sistemas Agroforestales Adaptados para el Corredor Seco Centroamericano	EUD Costa Rica	€ 6,000,000	Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panamá
Pillar I Group 1	412627 - 412408	**Agroforestry Rwanda**	ENABEL - IUCN	Belgian Development Agency International Union for Conservation of Nature	Improving resilience of farmers' livelihoods to climate change through innovative, research proved climate-smart agroforestry in the Eastern Province and peri-urban areas of Kigali city	EUD Rwanda	€ 4,000,000	Rwanda
Pillar I Group 1	407715	**APSAN**	ICRISAT	International Crops Research Institute for the Semi-Arid Tropics	Enhancing crop productivity and climate resilience for Food and Nutrition Security in Mali	EUD Mali	€ 4,000,000	Mali
Pillar I Group 1	411531	**BIORISKS**	CORAF	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles	Anticiper et gérer les risques biologiques pour renforcer la résilience des agriculteurs au changement climatique en Afrique de l'Ouest et du Centre	EUD Cote d'Ivoire	€ 5,000,000	Benin, Burkina Faso, Cameroun, Cote d'Ivoire, DRC, Gabon, Ghana, Nigeria, Sierra Leone, Togo

Pillar I Group 1	410794	**BIOSTAR**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Sustainable Bioenergy in Small and Medium Agri-food Enterprises in Western Africa	EUD Burkina Faso	€ 9,400,000	Burkina Faso, Senegal, Mali, Niger, Ivory Coast
Pillar I Group 1	410169	**CASSECS**	ISRA	Institut Sénégalais de Recherches Agricoles	Carbon sequestration in sylvopastoral ecosystems in Cilss States	EUD Senegal	€ 5,000,000	Senegal, Burkina Faso, Niger, Chad, Mali, Mauritania
Pillar I Group 1	407158	**CLIMA-LOCA**	CIAT	International Center for Tropical Agriculture	Fostering CLIMAte-relevant and LOw CAdmium innovations to enhance the resilience and inclusiveness of the growing cocoa sectors	EUD Colombia	€ 6,000,000	Colombia, Ecuador, Peru
Pillar I Group 1	413081	**CLIMAT SMART INNOVATION MALAWI**	CIP	International Potato Center	Climate smart innovations to improve productivity, profitability and sustainability of agriculture and food systems in Malawi through multidisciplinary research	EUD Malawi	€ 6,000,000	Malawi
Pillar I Group 1	412132	**Cocoa4Future**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Sustainability of production systems and new dynamics in the cocoa sector	EUD Cote d'Ivoire	€ 6,000,000	Cote d'Ivoire, Ghana
Pillar I Group 1	411806	**CSARIDE**	TEAGASC	Agriculture and Food Development Authority	Climate Smart Agriculture Research and Innovation Support for Dairy Value Chains in Eritrea	EUD Eritrea	€ 4,000,000	Eritrea
Pillar I Group 1	412095	**FAIR-Sahel**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Fostering an Agroecological Intensification to improve farmers' Resilience in Sahel	EUD Burkina Faso	€ 7,000,000	Burkina Faso, Mali, Senegal
Pillar I Group 1	406180	**Innovation FAREI**	FAREI	Food and Agricultural Research and Extension Institute	Enhancing FAREI's R&D Capacity for Sustainable and Modern Agriculture	EUD Mauritius	€ 2,500,000	Mauritius

Pillar I Group 1	406182	**Innovation University of Mauritius**	UoM	University of Mauritius	Enhancing climate resilience in agriculture for improved food and nutrition security through research, innovation and training in the Republic of Mauritius	EUD Mauritius	€500,000	Mauritius
Pillar I Group 1	411732	**INV-NIGER**	AECID	Agencia Española de Cooperación Internacional para el Desarrollo	Innovations pour l'intensification durable de systèmes agricoles irrigués résilients face au changement climatique au Niger	EUD Niger	€ 5,000,000	Niger
Pillar I Group 1	412107	**IRFFS**	AFRICA RICE	AFRICA RICE	Integrated Rice-fish Farming: A Research and Extension Development Based Initiative to Improve Food Security and Nutrition in Liberia	EUD Liberia	€ 3,500,000	Liberia
Pillar I Group 1	410957	**LIDISKI**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Livestock Disease Surveillance Knowledge Integration	EUD Nigeria	€ 2,500,000	Nigeria
Pillar I Group 1	413069	**LIPS-ZIM**	ILRI	International Livestock Research Institute	Adoption and scaling up of improved livestock production systems	EUD Zimbabwe	€ 5,000,000	Zimbabwe
Pillar I Group 1	412700	**Malmon**	Instituto Agronomia Lisboa	Instituto Agronomia Lisboa	Mangrove, mangrove rice and mangrove people - sustainably improving rice production, ecosystems and livelihoods	EUD Guinea Bissau	€ 3,000,000	Guinea Bissau
Pillar I Group 1	406734	**Support to TAP/AIS**	FAO	Food and Agriculture Organisation	Developing capacities in Agricultural Innovation Systems: scaling up the Tropical Agriculture Platform Framework	INTPA F03	€ 5,000,000	Burkina Faso, Eritrea, Malawi, Rwanda, Senegal, Cambodia, Laos, Pakistan, Colombia
Pillar I Group 1	412605	**TAERA**	ENABEL	Belgian Development Agency	Accompagnement de la Transition Agro-Ecologique par la Recherche Agricole	EUD Benin	€ 1,500,000	Benin
Pillar I Group 2	414811	**Artemia4Bangladesh**	WORLDFISH	WorldFish	Introducing Circularity Through Climate-Smart Aquaculture in Bangladesh	EUD Bangladesh	€ 2 500 000	Bangladesh

Pillar I Group 2	415683	**ASSET**	AFD, then GRET	Agence Française de Développement, then Groupe de Recherche et d'Echange Technologique	Agroecology and Safe food System Transitions in Southeast Asia	EUD Thailand	€ 7 000 000	Cambodia, Lao PDR, Vietnam
Pillar I Group 2	422165	**CDI-Rwanda**	FAO	Food and Agriculture Organisation	Capacity development for innovation in Rwanda: strengthening value chains in six districts	EUD Rwanda	€ 2 000 000	Rwanda
Pillar I Group 2	415029	**DARE**	UNICEF	United Nations International Children's Emergency Fund	Developing innovative food solutions to increase quality of nutritious foods for young children, adolescent girls, pregnant and lactating women	EUD Ethiopia	€ 2 000 000	Ethiopia
Pillar I Group 2	418132	**ESSA**	University of Helsinki	University of Helsinki	Earth observation and environmental sensing for climate-smart sustainable agro-pastoral ecosystem transformation in East Africa	EUD Kenya	€ 5 000 000	Kenya, Ethiopia
Pillar I Group 2	421388	**ICSIAPL**	NL Ministry of Foreign Affairs and then SNV	The Netherlands Ministry of Foreign Affairs and then SNV Netherlands Development Organisation	Integrated & Climate Smart Innovations for Agro-Pastoralist Economies and Landscapes in Kenya's ASAL	EUD Kenya	€ 2 500 000	Kenya
Pillar I Group 2	418193	**IDEAS**	ONFA	Office National des Forêts Andina	Strengthening governance towards Stabilization of the Agricultural Frontier and Sustainability in post-conflict territories of Colombia	EUD Colombia	€ 2 000 000	Colombia
Pillar I Group 2	421401	**IRRINN**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Intensification of agricultural production through upscaling of innovative adapted irrigation practices and technologies	EUD Burkina Faso	€ 2 400 000	Burkina Faso
Pillar I Group 2	418901	**LEG4DEV**	Galway University	Galway University	Legume-based agroecological intensification of maize and cassava cropping systems in Sub-Saharan Africa for water-food-energy nexus sustainability, nutritional security & livelihood resilience	INTPA F03	€ 6 500 000	Ethiopia, Malawi, Tanzania, Zambia

Pillar I Group 2	419433	**LSC-IS**	NL Ministry of Foreign Affairs and then WCDI/WUR	Wageningen Centre for Development Innovation of Wageningen University & Research	Land Soil Crop Information Hubs to support rural transformation and Climate Smart Agriculture in Ethiopia, Kenya, and Rwanda	EUD Kenya	€ 5 300 000	Kenya, Ethiopia, Rwanda
Pillar I Group 2	419988	**MARIGO**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Maraichage Agroecologique périurbain	EUD Cote d'Ivoire	€ 2 000 000	Cote d'Ivoire
Pillar I Group 2	416435	**ReDIAL**	FoN	Friends of the Nation	Research for Development and Innovation Agriculture and Learning Project	EUD Ghana	€ 2 000 000	Ghana
Pillar I Group 2	416105	**ReSI-NoC**	CIFOR-ICRAF	Centre for International Forestry Research - World Agroforestry	Renforcer les systèmes d'innovation agricole en vue de promouvoir des systèmes de production agricole et d'élevage économiquement rentables, écologiquement durables et socialement équitables dans la région du Nord au Cameroun	EUD Cameroon	€ 2 500 000	Cameroon
Pillar I Group 2	417876	**SAFEVEG**	NL Ministry of Foreign Affairs and then WORLDVEG	Netherlands Ministry of Foreign Affairs and then World Vegetable Center	Safe locally-produced vegetables for West Africa's consumers	EUD Benin	€ 8 000 000	Benin, Burkina Faso, Mali
Pillar I Group 2	418764	**SIRGE**	Acted	Acted	Strengthen an Innovative System for the reduction of Greenhouse Gas Emissions and environmental impacts of the nascent beef industry in Uganda in support to rural sustainable transformation	EUD Uganda	€ 2 000 000	Uganda
Pillar I Group 2	417085	**SyRIMAO**	AFD and then ECOWAS	Agence Française de Développement, and then Economic Community of West African States	Système Régional Innovant de contrôle des Mouches des fruits en Afrique de l'Ouest	EUD Nigeria	€ 7 500 000	Benin, Burkina Faso, Cap Vert, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone,Togo

Pillar I Group 2	419478	**WE4F**	GIZ	Gesellschaft für Internationale Zusammenarbeit GmbH	Water and Energy for Food – East Africa Hub	INTPA F03	€ 6 000 000	Kenya, Uganda, Rwanda, Ethiopia, Tanzania
Pillar I Group 3	423487	**ABRIGUE**	SINCHI	Instituto Amazónico de Investigaciones Científicas SINCHI	Strengthening territorial capacities to foster innovations in agroecology, artisanal fishing and circular bioeconomies for climate change adaptation and mitigation in Colombia's coastal zones and forest frontiers	EUD Colombia	€3 320 000	Colombia
Pillar I Group 3	414694	**ACCESS**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Accélérer les dynamiques d'innovation dans le secteur Agro-alimentaire par le renforcement des Services Support à l'Innovation	EUD Burkina Faso	€2 000 000	Burkina Faso
Pillar I Group 3	415751	**AMINATA**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	AMélioration de l'accès aux INnovations Agricoles pour la Transition Agroécologique	EUD Mali	€2 000 000	Mali
Pillar I Group 3	424794	**Climate Smart Innovation Costa Rica**	GiZ	Gesellschaft für Internationale Zusammenarbeit GmbH	Climate intelligent agriculture and value chains in Costa Rica	EUD Costa Rica	€4 150 000	Costa Rica
Pillar I Group 3	422791	**DINAAMIC C**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Démarches INtégrées et Accompagnement pour une Agriculture familiale à Madagascar Innovante et résiliente aux Changements Climatiques	EUD Madagascar	€4 150 000	Madagascar
Pillar I Group 3	428851	**Eco-FoodSystems**	IFAD (and then Univ Galway)	Managed by IFAD , implemented by University of Galway	Climate-resilient agroecological transitions of food systems	IFAD	€4 000 000	Ethiopia, Vietnam, Colombia
Pillar I Group 3	423227	**Five Great Forests**	WCS	Wildlife Conservation Society	5 Great Forests of Mesoamerica: A regional initiative for climate, biodiversity, and people	EUD Costa Rica	€4 150 000	Belize, Guatemala, Honduras, Nicaragua, Panama, Costa Rica, and El Salvador

Pillar I Group 3	428932	**FO-RI**	Agricord	Agricord Alliance	Research and innovation and farmers organizations	HQ Bruxelles	€9 828 422	Africa: Burkina Faso, Mali, Senegal, Cameroon, Burundi, RDC, Madagascar, Tanzania; Asia: Philippines; Pacific Island Countries: Cook Islands, Fiji, Papua New Guinea, Solomon Islands, Tonga; Caribean: Haiti; Latin America: Brazil, Uruguay
Pillar I Group 3	422982	**GRAPE**	GiZ	Gesellschaft für Internationale Zusammenarbeit GmbH	Green Resilient Agricultural Productive Ecosystems in Sudurpashchim province and Karnali province, Nepal	EUD Nepal	€4 150 000	Nepal
Pillar I Group 3	426080	**InACC**	GiZ	Gesellschaft für Internationale Zusammenarbeit GmbH	Integrated Approach to Climate Change in Rice Production	EUD Nigeria	€4 150 000	Nigeria
Pillar I Group 3	425650	**INNOVAC**	CIFOR/ICRAF	Centre for International Forestry Research - World Agroforestry	Améliorer la résilience au changement climatique des populations du Nord Cameroun	EUD Cameroon	€4 150 000	Cameroon
Pillar I Group 3	422432	**MAKIS**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Malagasy Agricultural Knowledge and Innovation Systems	EUD Madagascar	€2 000 000	Madagascar
Pillar I Group 3	413022	**MAS**	FAO	Food and Agriculture Organisation	Modelos Agroecológicos Sostenibles	EUD Cuba	€2 500 000	Cuba
Pillar I Group 3	417846	**OBSYDYA**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Observatoire Pilote des Paysages et des Dynamiques Agricoles du Bénin (Zones Nord et Centre)	EUD Benin	€1 695 000	Benin

Pillar I Group 3	425850	**PRISMA**	ENABEL, AECID, LUXDEV	Belgian Development Agency Agencia Española de Cooperación Internacional para el Desarrollo Luxembourg Development Agency	Projet de Recherche et Innovation pour des Systèmes agropastoraux productifs, résilients et sains en Afrique de l'Ouest	EUD Niger	€6 000 000	Niger, Mali, Burkina Faso
Pillar I Group 3	424815	**Prosilience**	GiZ	Gesellschaft für Internationale Zusammenarbeit GmbH	Enhancing soils and agroecology for resilient agri-food systems in Sub-Saharan Africa	GIZ/HQ Brussels	€8 000 000	Benin, Ethopia, Kenya, Madagascar
Pillar I Group 3	424933	**RAIZ**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Promoting agro-ecological intensification for resilience building	EUD Zimbabwe	€3 320 000	Zimbabwe
Pillar I Group 3	429168	**RE-FARM**	Università degli studi di Firenze	Università degli studi di Firenze	Research on agroecological innovations for increasing resilience to climate change in Cuanza Sul and Benguela	EUD Angola	€1 000 000	Angola
Pillar I Group 3	427759	**Robust**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	Robusta coffee agroforestry to adapt and mitigate climate change in Uganda	EUD Uganda	€4 150 000	Uganda
Pillar I Group 3	426210	**Sankuru AgroForest**	ENABEL	Belgian Development Agency	Democratic Republic of Congo	EUD Congo	€4 150 000	Democratic Republic of Congo
Pillar I Group 3	422694	**SANTES-TERRITOIRES**	CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	La santé (des hommes, des animaux, des plantes) comme levier de développement dans le cadre de la transition agroécologique	HQ Bruxelles	€4 000 000	Senegal, Benin, Laos, Cambodia
Pillar I Group 3	426790	**STAR-FARM**	FAO	Food and Agriculture Organisation	Smart Agro-ecological Transformation of Farming Systems towards Resilience and Sustainability in Middle and Coastal Zones of the Viet Nam Mekong Delta	EUD Viet Nam	€4 150 000	Vietnam

Pillar I Group 3	423942	**STREAM**	FAO & GiZ	Food and Agriculture Organisation & Gesellschaft für Internationale Zusammenarbeit GmbH	SusTainable Resilient Ecosystem and Agriculture Management in Mongolia	EUD Mongolia	€4 150 000	Mongolia
Pillar I Group 3	423636	**SUSTENTA e INOVA**	SEBRAE/PA	Serviço de Apoio às Micro e Pequenas Empresas do Estado do Pará	Sustainable and innovative agriculture and value chains in the Brazilian Amazon	EUD Brazil	€4 150 000	Brazil
Pillar I Group 3	422681	**SUSTLIVES**	AICS & CIHEAM	Agenzia Italiana per la Cooperazione allo Sviluppo & Centre International de Hautes Etudes Agronomiques Méditerranéennes - Mediterranean Agronomic Institute of Bari	SUStaining and improving local crop patrimony in Burkina Faso and Niger for better LIVES and ecosystems	EUD Burkina Faso	€6 000 000	Burkina Faso, Niger
Pillar I Group 3	428851	**TRANSITIONS Metrics (P1)**	IFAD	Managed by IFAD, implemented by the International Centre for Research in Agroforestry (ICRAF)	Agroecological Transitions for Building Resilient and Inclusive Agricultural and Food Systems Program: Holistic performance metrics - Project 1 (P1)	INTPA F03	€7 500 000	Miscellaneous Countries
Pillar I Group 3	428851	**TRANSITIONS ATDT (P2)**	IFAD	Managed by IFAD , implemented by Bioversity International (Alliance of Bioversity - CIAT)	Agroecological Transitions for Building Resilient and Inclusive Agricultural and Food Systems Program: Inclusive Digital Tools - Project 2 (P2)	INTPA F03	NA (see above)	Brazil, Vietnam
Pillar I Group 3	428851	**TRANSITIONS Psii (P3)**	IFAD	Managed by IFAD , implemented by Bioversity International (Alliance of Bioversity - CIAT)	Agroecological Transitions for Building Resilient, Inclusive, Agricultural and Food Systems Program : Private Sector Incentives and Investments (PSii) - Project (P3)	INTPA F03	NA (see above)	Vietnam, Peru, Ethiopia
Pillar I Group 3	427191	**UAKIS**	UNDP	United Nations Development Programme	Supporting an inclusive transition to "green" economy in the Agrifood sector and a "climate-smart" Uzbek Agriculture Knowledge and Innovation System - fostering investments for climate change adaptation and mitigation	EUD Uzbekistan	€4 150 000	Uzbekistan

Pillar I Group 3	425767	**WATDEV**	AICS & CIHEAM	Agenzia Italiana per la Cooperazione allo Sviluppo & Centre International de Hautes Etudes Agronomiques Méditerranéennes - Mediterranean Agronomic Institute of Bari	Climate Smart WATer Management and Sustainable DEVelopment for food and agriculture in East Africa	INTPA F03	€7 500 000	Kenya, Ethiopia, Sudan, Egypt
Pillar I Group 3	427305	**Women, Coffee and Climate**	AECID	Agencia Española de Cooperación Internacional para el Desarrollo	Women empowerment for socio-ecological resilience of coffee value chain against climate change in Ethiopia	EUD Ethiopia	€1 000 000	Ethiopia
Pillar I Group 3	423558	**Yayu Coffee Forest Ethiopia**	HRNS	Hanns R. Neumann Stiftung	Supporting sustainable coffee production and conservation of forest ecosystem through climate-relevant and integrated landscape management of the Yayu Coffee Forest Biosphere Reserve	EUD Ethiopia	€4 150 000	Ethiopia
Pillar I Group 3	429351	**Z4ABC**	CIFOR/ICRAF	Centre for International Forestry Research - World Agroforestry	Zambia for Agroforestry, Biodiversity and Climate	EUD Zambia	€4 150 000	Zambia
Pillar II	406569	**ONE PLANET**	Agropolis Foundation	Agropolis Foundation	One Planet Fellowships Programme (OPFP)	INTPA F03	€ 3,000,000	Algeria, Benin, Burkina Faso, Côte d'Ivoire, Ethiopia, Kenya, Malawi, Mali, Morocco, Nigeria, Senegal, Tanzania, Togo and Zambia
Pillar II	407682	**Support TO CAADP AR&EO / AFAAS**	IFAD	International Fund for Agricultural Development	Comprehensive Africa Agriculture Development Programme (CAADP) ex-Pillar IV- Africa Regional and Sub-regional organisations for Agricultural Research and Innovation - AFAAS - African Forum for Agricultural Advisory Services	INTPA F03	€ 5,110,000	Countries targeted under DeSIRA: Kenya, Ghana, Mali, Malawi, Madagascar, Liberia, Nigeria, Uganda, Cameroon, Ethiopia, South Africa
Pillar II	407682	**Support TO CAADP AR&EO / ASARECA**	IFAD	International Fund for Agricultural Development	Comprehensive Africa Agriculture Development Programme (CAADP) ex-Pillar IV- Africa Regional and Sub-regional organisations for Agricultural Research and Innovation - ASARECA - Association for	INTPA F03	€ 5,370,000	Countries targeted under DeSIRA: Burundi, the Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Mada-

					Strengthening Agricultural Research in Eastern and Central Africa			gascar, Rwanda, South Sudan, Sudan, Tanzania, Uganda
Pillar II	407682	**Support TO CAADP AR&EO / CCARDESA**	IFAD	International Fund for Agricultural Development	Comprehensive Africa Agriculture Development Programme (CAADP) ex-Pillar IV- Africa Regional and Sub-regional organisations for Agricultural Research and Innovation - CCARDESA - Centre for Coordination of Agricultural Research and Development for Southern Africa	INTPA F03	€ 5,370,000	Countries targeted under DeSIRA: Botswana, Eswatini, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe
Pillar II	407682	**Support TO CAADP AR&EO / CORAF**	IFAD	International Fund for Agricultural Development	Comprehensive Africa Agriculture Development Programme (CAADP) ex-Pillar IV- Africa Regional and Sub-regional organisations for Agricultural Research and Innovation - CORAF (WECARD) - Conférence des Responsables de Recherche Agronomique Africains (West and Central African Council for Agricultural Research and Development)	INTPA F03	€ 5,770,000	Countries targeted under DeSIRA: Benin, Burkina Faso, Cameroon, Cape Verde, Central Africa Republic, Chad, Congo, Ivory Coast, Democratic Republic of Congo, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome & Principe, Senegal, Sierra Leone, Togo
Pillar II	407682	**Support TO CAADP AR&EO / FARA**	IFAD	International Fund for Agricultural Development	Comprehensive Africa Agriculture Development Programme (CAADP) ex-Pillar IV- Africa Regional and Sub-regional organisations for Agricultural Research and Innovation - FARA - Forum for Agricultural Research in Africa	INTPA F03	€ 4,835,600	Continental Africa
Pillar II	410670	**Support to GFAR**	FAO	Food and Agriculture Organisation	Re-Connecting the world: The GFAR Partnership transforming agri-food research and innovation for development impact	INTPA F03	€ 5,000,000	Global

ANNEXE 2 - A description of innovations under development or developed for farm-level use and for use beyond farm level, for each DeSIRA project

Annex II is a separate document.