Annual Global Report 2021 of the EU-funded Initiative "Development Smart Innovation through Research in Agriculture" (DeSIRA)

Summary

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ASRAFS (Advisory Services for Resilient Agri-Food Systems)

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Acronyms

3AO	Alliance for Agroecology in West Africa
AD	Action Document
AEAS	Agricultural Extension and Advisory Services
AFAAS	African Forum for Agricultural Advisory Services
AFD	Agence Française de Développement
AIS	Agricultural Innovation Systems
AKIS	Agricultural Knowledge Innovation System
APAARI	Asia-Pacific Association of Agricultural Research Institutions
APIRAS	Asia-Pacific Islands Rural Advisory Services Network
AR&EO	Agricultural Research and Extension Organisations (CAADP)
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
ATDA	Agences Territoriales de Développement Agricole (Benin)
CA	Collective Action (GFAR)
CAADP	Comprehensive Africa Agriculture Development Programme
CAADP AR&EO	CAADP 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
CEDEAO	Communauté Economique des États de l'Afrique de l'Ouest
CEEAC (ECCAS)	Communauté Economique des États de l'Afrique Centrale
CGIAR	formerly Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CILSS	Comité permanent Inter-État de Lutte contre la Sécheresse au Sahel
CIP	International Potato Center
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CORAF	Conference des Responsables de Recherche Agronomique Africains
CC	Climate Change
CSA	Climate Smart Agriculture
CSO	Civil Society Organisation
CSSV	Cocoa Swollen Shoot Virus
DAECC	District Agriculture Extension Coordinating Committees (Malawi)
DAES	Department of Agriculture Extension Services (Malawi)
DARS	Department of Agricultural Research Services (Malawi)
DeSIRA	Development Smart Innovation through Research in Agriculture
ECOWAS	Economic Community of West African States
DG INTPA	Directorate-General for International Partnerships of the European Commission
ENABEL	Belgian Development Agency
ECCAS (CEEAC)	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EIP-AGRI	European Innovation Partnership for Agricultural Productivity and Sustainability
EUD	EU Delegation
EURF	EU Results Framework
FAO	Food and Agriculture Organisation

FARA	Forum for Agricultural Research in Africa
FAREI	Food and Agricultural Research and Extension Institute (Mauritius)
FNSSA	Food and Nutrition Security and Sustainable Agriculture
FO	Farmers' Organisation
GDI	Global DeSIRA Indicator
GERF	Global Europe Results Framework
GFAR	Global Forum on Agricultural Research and Innovation
GFRAS	Global Forum for Rural Advisory Services
IBP	Integrated Breeding Platform
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFAD	International Fund for Agricultural Development
IICA	Interamerican Institute for Cooperation in Agriculture
ILRI	International Livestock Research Institute
INTPA (DG)	Directorate-General for International Partnerships of the European Commission
IICA	Instituto Interamericano de Cooperación para la Agricultura
IPCC	Intergovernmental Panel on Climate Change
IRED	Institut de Recherche en Elevage pour le Développement (Chad)
ISA	Instituto Superior de Agronomia (ISA) – Universidade de Lisboa
ISRA	Institut Sénégalais de Recherches Agricoles
IUCN	International Union for Conservation of Nature
LFM	Logical Framework Matrix (or Logframe Matrix)
LIFT	Leveraging the DeSIRA Initiative for Agri-Food Systems Transformation (DeSIRA LIFT)
M&E	Monitoring & Evaluation
MEL	Monitoring, Evaluation and Learning
MSME	Micro, Small & Medium Enterprise
MSP	Multi-Stakeholder Platform
MSIP	Multi-Stakeholder Innovation Platform
NARS	National Agricultural Research System
ND	Newcastle Disease
NTFP	Non-Timber Forest Products
P-I / P-II	Pillar I / Pillar II (DeSIRA initiative)
PPR	Peste des Petits Ruminants
RELASER	Red Latinoamericana de Servicios de Extensión Rural
ReNAPRI	Regional Network of Agricultural Policy Research Institutes
SADC	Southern African Development Community
TAP	Tropical Agricultural Platform
TEAGASC	Agriculture and Food Development Authority (Ireland)
UOM	University of Mauritius
UNFCCC	United Nations Framework Convention on Climate Change
VET	Vocational Education and Training
WAVE	Central and West African Virus Epidemiology (Ivory Coast)

Executive Summary

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. DeSIRA encompasses three categories of projects: Pillar I "Research and innovation in agricultural and food systems"; Pillar II "Research infrastructure conducive to innovation" and Pillar III "Knowledge and evidence to feed policy design". **A total of 25 DeSIRA projects - 21 Pillar I and 4 Pillar II projects with at least 2 years of implementation (from the 2018 Commission Implementing Decision) are included in this report.**

A global Monitoring and Evaluation (M&E) framework was developed by the Directorate-General for International Partnerships of the European Commission (DG INTPA) 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 more efficiently on new approaches to agricultural innovation and research. The global M&E framework is underpinned by a Logframe Matrix (LFM) including Global DeSIRA Indicators (GDIs). The methodology for its development and implementation is summarised in this report. Each project is related to the global M&E framework through a specified number of links aimed at capturing the project results - explicit or implicit- that contribute to expected results at the (global) initiative level. A link is a relationship that connects a project result to a GDI. Project-level data and GDI values are reported in the global M&E framework, which is a tool to facilitate the identification of, and reporting on GDIs, but does not and cannot, reflect the diversity of projects or the complexity of innovation processes at project level.

Most projects started a few weeks before the onset of the COVID-19 pandemic, which restricted movement across borders and within countries, causing delays (up to 18 months), sometimes compounded by national political events and administrative issues. Some projects coped better than others to mitigate delays but interactions with farmers were limited for many months. As a result, many projects have requested a no-cost extension.

At the time of data collection (March/April 2022), the 25 DeSIRA projects covered by this report, had involved at least 834 researchers (618 from target countries, of whom 104 were women), 145 research institutes (including 32 European bodies), 51 non research organisations (e.g. ministries, UN agencies), 52 NGOs (including 20 international NGOs), 51 Farmers' Organisations (FOs), 25 private sector entities and 28 networks in their implementation, with most organisations playing a key role. Synergies between DeSIRA projects were still limited, but are developing thanks to the efforts of research organisations (Centre de Coopération Internationale en Recherche Agronomique pour le Développement, CIRAD), global platforms (Tropical Agricultural Platform, TAP) and DeSIRA LIFT.

The first version of the global LFM includes cumulative current values for GDIs for the reporting period, which runs from 2019 to 2021, but varies from one year of implementation for 7 projects up to 3 years in the case of one project. Results and data must be interpreted with some degree of caution: 1/ the quality of data at initiative level depends on the quality of data at project level, and there is room for improvement; 2/ in some result areas, quantitative results of a large Pillar II project overshadow those of the other projects. The following section provides a summary of the achievements of the 25 projects in terms of progress towards the objectives of the DeSIRA initiative broken down by outputs (6 in total), outcomes (4 in total) and impact.

Output 1 - "The mechanisms for inter-institutional cooperation and the joint design of climate-smart and agroecological innovations are developed". Underpinning the co-design of innovative climate-smart or agroecological solutions, Multi Stakeholder Innovation Platforms (MSIPs) are embraced by many Pillar I projects and are often anchored within existing organisations, for the sake of sustainability. A total of 119 MSIPs have been developed or strengthened at international (18), national (76) or subnational (25) level. Subnational MSIPs, all supported by Pillar I projects, have concrete objectives (developing technical solutions) and the participation of FOs is evidenced in annual reports and discussions with Implementing Partners (IPs). Support to national and international MSIPs is dominated by Pillar II projects. Compared to subnational MSIPs,

the focus is on the exchange of information, and the participation of FOs is not always clear. The quantitative result of a large Pillar II project (78 MSIPs supported by one project, out of a total of 119 MSIPs for the whole DeSIRA initiative) is impressive but the lack of detail on the nature and role of the MSIPs it created or supported prevents an effective analysis of this contribution.

Output 2 - "Innovations linked to agri-food systems are developed and made available at farm and institutional levels". With 219 innovations for farm level use, including 182 climate-smart or agroecological innovations still under development by the end of the reporting period (products, technologies, models, etc.) and 37 already developed, achievements are modest, due to delays and possible under reporting. Projects also reported 43 innovations under development for use beyond farm level, including for institutional use, which are eclectic in nature (analytical methods, innovation models, evaluation tools etc.). Progress was under way in the area of agroecology, climate smart agriculture, agroforestry, biological hazards and natural resources management. Several IPs do not plan to disseminate farm-level innovations beyond the target groups (i.e. farmers who participate in the trialling of innovations), claiming their focus is on inherently slow research and innovation processes, whereas the period of implementation is insufficient to achieve and report on substantial progress in the use of innovations.

Output 3 – "Farmers are reached by research and innovation initiatives and individual capacities are developed beyond farm level, including at institutional level ». All Capacity Development (CD) activities have been delayed because of the COVID-19 pandemic, and some CD plans for researchers and technicians were yet to be developed. The contribution of Pillar I projects to CD at farm level (at least 7000 farmers reached by research and innovation initiatives) is underestimated. Most Pillar I projects target smallholder farmers. However, their objective is not so much to maximize the number of farmers reached by the activities as to demonstrate the socio-economic benefits of participatory research, as well as a positive impact on agroecosystems and resilience to climate change-related shocks. So far, Pillar I projects have mostly relied on FOs and extension services, where they exist, to reach the target groups. In terms of individual CD, 765 professionals (researchers, technicians, extension specialists) have been supported during the reporting period, but this does not include some of the contributions from two Pillar II interventions. Numbers are expected to pick up in 2022. Support to the obtention of a post-graduate degree was ongoing (111 PhD students enrolled, the vast majority from Africa, including at least 32 women) with a view to contribute to research activities, strengthen existing professional capacities and develop future generations of scientists. European research & education institutions (16) participate as key partners in the implementation of activities of 15 DeSIRA projects. A few of them collaborate with more than one project: CIRAD from France, University of Ghent, University of Leuven and University of Liege from Belgium, Wageningen University from the Netherlands. African universities (33) are involved in the implementation of 14 DeSIRA projects.

Output 4 - "Education and training programmes responsive to capacity development needs for agricultural innovation at national level are strengthened". Activities related to Output 4 contribute to the institutional capacity of beneficiary organisations, but were delayed, with only 2 curricula and 4 training courses developed over the reporting period. There was no contribution from Pillar II projects. One Pillar I project has produced 2 new curricula, including a Master of Science (operational) and a Bachelor of Science (developed and approved).

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". Over the reporting period, at least 499 knowledge and communication products have been developed, including 295 by one large Pillar II project, which does not clearly disaggregate data by category. And 14 scientific papers had been published; this number will increase, proportionate to the number of PhD students and to the deployment of projects. Databases are likely to multiply, along with data management systems, increasing access to and facilitating the use of knowledge products. The use of existing regional platforms to host and share knowledge products for sustainability purposes was evidenced in several projects. On the negative side, the lack of overview and detail about knowledge and communication products, which each project has generated or intends to generate, combined with the large number of expected

products does not allow for a global analysis of the full value of and potential gaps in the knowledge produced under DeSIRA.

Output 6 - "Science-based policy briefs are produced and dialogues on agriculture and food policy development and reform are organized". Policy activities of Pillar I projects were delayed, with only one dialogue organized and no briefs produced during the reporting period. Pillar II projects have organized 22 policy events and produced 20 briefs. However, there is limited information on topics covered by the policy briefs by one large Pillar II project during the reporting period. Besides, the role and participation of farmers in policy processes is not sufficiently highlighted.

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". The uptake of innovations by smallholder farmers is the most compelling evidence of increased capacity at farm level. It shows targeted farmers have acquired sufficient skills and confidence to apply new solutions and substantially change their way of farming. Two categories of farmers are targeted under DeSIRA projects: a first circle, closely associated with research operations (e.g. farmers who participate in trials) and a second circle (e.g. FO members), who could potentially replicate what the first circle does, with close project support. The limited achievements of a majority of Pillar I projects under Outcome 1 (only 37 innovations taken up by farmers over the reporting period) are due to the severe delays in implementation discussed above, by the inherently long duration of research and innovation processes and the nature of these projects, which -unlike development projects- do not aim at maximising the number of farmers reached. Reporting on the number of farmers taking up innovations is complicated by the fact that many DeSIRA projects logically prefer to report on the rate of implementation of innovations. To overcome the fact that rates (percentages) cannot be aggregated at global level, the global LFM includes a GDI measuring "the number of DeSIRA projects for which the expected rate of implementation of innovations by targeted farmers has been met". To date, only three projects were able to demonstrate increased capacity at farm level, by reporting a positive number of farmers: in total, 1800 farmers have taken up at least one climate-smart or agroecological innovation over the reporting period. Several projects have a dissemination or a scaling-up strategy, yet to be captured by the global M&E framework (a GDI was added after data collection with a view to capturing whether and how other stakeholders are involved and will contribute to multiply and sustain project outcomes). Owing to delays, time is likely to be insufficient to disseminate innovations at scale. No-cost extensions, which most projects have negotiated or are in the process of negotiating, may not fully mitigate the issue. Other projects do not tackle the dissemination of innovations and do not intend to measure the adoption of innovations beyond the first circle of farmers they work directly with.

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 II projects focus on institutional capacities, but most Pillar I projects also have an institutional dimension. Substantial progress was made towards Outcome 2, with 101 national research institutions (51 from Pillar II), 46 national or subnational technical/development institutions (P II: 37) and 100 FOs/NGOs (mostly FOs, P II: 22) in the process of strengthening their capacities. Even though the focus of the DeSIRA initiative is mostly on national organisations, a total of 56 international organisations are also reported as having developed their capacities (PII: 44). Assessing true progress under Pillar I is nevertheless a challenge, given that 1/ many projects explicitly expect an increase in institutional capacity (dedicated indicator), but few have a methodology to measure change in this area; 2/ several projects do not have a dedicated indicator, but nevertheless implement activities inducing positive institutional changes (implicit result). The absence of a measurement methodology or an implicit result does not mean the absence of results and there are many examples of how a diversity of CD pathways combine to strengthen institutions under Pillar I. Pillar II projects intend to develop the capacity of their IPs: two of them demonstrate significant progress towards this objective. Only one large Pillar II project has a comprehensive methodology to monitor the institutional capacity of its IPs. Pillar II projects also intend to develop the capacities of national and subregional organisations in targeted countries, but most of them have made little progress towards this objective (a large Pillar II project has some preliminary results, though). The number of new institutional partnerships (113 including 97 from Pillar II), planned or unplanned, is a sign that institutions believe in multistakeholder

approaches. Outcome 2 refers to innovation capacities however, most DeSIRA projects implicitly assume that increased institutional capacity is a sufficient condition for better innovation capacities, but the causal link is not always identified and analyzed at project level. Many institutions demonstrate a capacity to participate in innovation processes supported by the project, but mechanisms leading to sustainability (i.e. ability to initiate and support new innovation processes once the project is over) are not always clearly established.

Outcome 3 – "Private sector capacities and value chains of agri-food systems are strengthened". Compared to other outcomes, the number of projects likely to contribute to Outcome 3 is not high. Ten projects are expected to create or strengthen MSMEs and 9 to support value chains. There was no achievement in the areas of innovation for the private sector and of job creation. Seven Pillar I projects had started strengthening value chains, 18 in total. The number of private sector companies strengthened during the reporting period (14) came almost entirely from one large Pillar II project. Limited achievements are explained by delays and priority given by Pillar I projects to research and innovation processes at farm level, except for two Pillar I projects (one targets MSMEs, the other specifically aims at supporting dairy value chains). As more MSIPs become active, private sector support to farmers should increase and stronger value chains are expected to facilitate the uptake of innovations at farm level and beyond.

Outcome 4 – "The agriculture and food systems policy environment is improved at national or international level". Regarding the policy environment, there are 3 categories of projects, based on their degree of engagement (activities) and expectations (results): 1/ no policy activities and no policy objectives (7 projects); 2/ engaged in policy activities with no explicit policy objective (6 projects, with no expected result at outcome level); 3/ engaged in policy activities with explicit policy objectives (9 Pillar I and 2 Pillar II projects). Besides, one project has a policy component, not supported by EU funds. The reporting on Outcome 4 focuses on the third category. Due to delays and inherently long processes, there was no achievement for Pillar I projects. Outcomes of Pillar II projects have begun to emerge: policy reforms were supported in 4 African countries in the area of agricultural advisory services and the "Manifesto on Forgotten Foods" was endorsed by the Forum for Agricultural Research in Africa, an international organisation (and a CAADP partner). However, it is unclear whether Pillar II projects will be able to identify the policies and countries in which their activities (will) make a difference.

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". At global DeSIRA level, reporting on impact is a challenge due to: 1/ the difficulty of defining measurable GDIs relevant to research and innovation projects, owing to the diversity and complexity of project indicators on benefits at farm level; 2/ the time lag to achieve impact, because of inherently long processes associated with research and the scaling up of innovations. Nevertheless, impact-level GDIs strive to convey the multiple dimensions of expected impact at initiative level: benefits for target groups and beyond, including women's empowerment, benefits for agroecosystems, transformation of agriculture and food systems at macro-level (national or international), including changes in value chains leading to socio-economic and environmental benefits. Among impact GDIs, those built on project indicators focus exclusively on target groups because as noted above, Pillar I projects do not plan to capture results beyond target groups. Therefore, to emphasize the longer term, wider and higher-level objectives of the DeSIRA initiative, and to encourage more projects to look beyond target groups, GDIs focusing on indirect beneficiaries and on macro-level impact have been added, even though they are unlikely to be measured before projects end. Between projects exclusively working with a rather small (first) circle of farmers with whom research and innovation processes are conducted, projects planning to reach a second circle of farmers but not intending to measure wider impact, and projects without a clear strategy to scale up innovations, quantitative achievements at global DeSIRA level are likely to remain limited or not measured. Besides, several projects are yet to design robust impact indicators, adding uncertainty to data collection at global level. To better convey the essence of research and innovation projects through a more qualitative approach to results reporting and to do justice to the many Pillar I projects that will be able to demonstrate and document impact, even though the number of farmers may not be high, a GDI measuring the "number of DeSIRA projects claiming a positive, documented impact on agroecosystems at farm level" has been included in the global LFM. Similarly, an indicator measuring the "number of DeSIRA projects claiming a positive, documented contribution to the status and role of

smallholder female farmers or female food entrepreneurs" will allow for more systematic reporting of project-level efforts on women's empowerment, still limited during the reporting period.

While it is clear that results (outputs, outcomes, impact) over the reporting period were limited, it will become more difficult in the future to say whether or not the overall achievements of DeSIRA projects meet expectations at DeSIRA initiative level, since there are no target values for GDIs at initiative level. This is because GDIs often capture implicit -rather than explicit- project results and are therefore not necessarily linked to project indicators and corresponding target values. Further and more qualitative analysis will always be needed to assess overall progress.

The DeSIRA Initiative[1]

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 of Africa, Asia and Latin America. This is to be achieved by improving resilience to climate change of specific agricultural and food systems in selected countries and by increasing climate relevance of Agriculture and Knowledge Innovation Systems (AKIS), a concept which underpins the intervention logic of DeSIRA. The initiative aims at supporting research and innovation projects in Africa, Asia, Latin America and strengthening research capacities and governance, involving key actors at national and international levels. It was launched in 2017 in the One Planet Summit and it builds on three Commission Implementing Decisions (2018, 2019, 2020). The first contracts were signed in 2019. The total number of projects is 80 for around 340 million euros of EU funds. Information on the DeSIRA initiative and projects already started can be found at https://europa.eu/capacity4dev/desira.

The three pillars of the DeSIRA Initiative

There are three categories of DeSIRA interventions.

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 productions (crop and animal productions, agroforestry) and associated services (innovation support services, advisory services) with a value chain perspective and a concern for both sustainable intensification and natural resources management, 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 social and environment-related challenges with a view to promote 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, grass-root organisations; they aim at increasing knowledge, changing behaviours, skills as well as technical and management practices, and contributing to policy decision.

Pillar II - Research infrastructure conducive to Innovation (Source INTPA/F3)
Pillar II interventions focus on strengthening the capacities of regional and international organisations, which play a key role in research and extension and research, especially in Africa: Conference 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 (Tropical Agriculture Platform -or TAP- and the Global Forum on Agricultural Research -or GFAR-) or to build 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 climate change perspective.

Pillar III - Knowledge and evidence to feed policy design (Source DeSIRA LIFT)
Pillar III is comprised of one intervention, DeSIRA LIFT "Leveraging the DeSIRA Initiative for Agri-Food Systems Transformation". It provides services to DeSIRA Initiative's implementers under three service areas:
Service Area 1 - Support to the country-based DeSIRA projects to enhance their impacts 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 (CORAF, ASARECA, CCARDESA and FARA), extension (AFAAS) and higher education, and add value to global initiatives TAP 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.

[1] In this document, "project" and "intervention" are used as synonyms.

The Theory of Change of the DeSIRA Initiative

Responsible innovations for the productive, green and inclusive transformation of food systems in low and middle-income countries have to be built 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. Strong partnerships between multiple stakeholders, the openness of farmers to new ways of working, and engagement by the private sector 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 organisations of farmers, grass-root 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. 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), farming systems (mixed farming, agroforestry, pastoralism, etc.). Specific attention is paid to landscapes/territories with a view to improved management of natural resources, to value chains to facilitate access to markets, and to policies to foster an 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 individual and organizational levels, and the strengthening of relevant education and training programmes. This strategy is expected to contribute to strengthening 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, and services. At institutional level, the innovative capacities of research, technical, and development institutions as well as the capacities of farmers' organisations and private sector actors to support agriculture 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 should be able to continue working together and innovating once DeSIRA projects are over, thus ensuring sustainability. Institutional partnerships on agriculture and foods systems will multiply, triggered by DeSIRA projects and 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 Innovations Systems perspective. In parallel to research and innovation processes, policy-related activities involve subnational and national stakeholders to increase 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.

At multiple levels, the DeSIRA initiative is expected to contribute to impacts 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 positive impacts on agroecosystems, and they will be better equipped to cope with climate change-related shocks; the status and role of smallholder female farmers or female food entrepreneurs will improve; through 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. 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 endorsed policies, strategies or plans supported by DeSIRA projects.

DeSIRA Projects included in the Annual Global Report 2021

Projects included in the Global Annual Report 2021 are selected from the 2018 decision and were at least two years into implementation at the time of data collection (February to April 2022): 21 Pillar I and 4 Pillar II projects. Only one Pillar I project from the 2018 decision was not included (it officially started in December 2020): IRRINN, on intensifying agricultural production by scaling up innovative, adapted irrigation practices and technologies in Burkina Faso.

Table 1 - Colour codes for categories of DeSIRA interventions

	Agroecology and sustainable agriculture		Sustainable Resources Management
	Livestock Management and Pastoralism		Research infrastructure conducive to innovation
	Pre-production and technology development		Strengthening of innovation support services

(Source for categories: https://europa.eu/capacity4dev/desira/wiki/desira-projects)

Table 2 - List of DeSIRA projects included in the Annual Global Report 2021

PROJECT ID #	PROJECT NAME CONTRACTING ENTITY (CRIS #)	PROJECT FULL TITLE	EU DELEGATION / EU HQ TARGET COUNTRIES
Pillar I #1	**AGROFORESTRY RWANDA** ENABEL (412627) IUCN (412408)	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 #2	**IRFFS** AFRICA RICE (412107)	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 #3	**AGRO-INNOVA** IICA (410203)	Sistemas Agroforestales Adaptatados para el Corredor Seco Centroamericano	EUD Costa Rica (€ 6,000,000) • Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panamá
Pillar I #4	**FAIR-SAHEL** CIRAD (412095)	Fostering an Agroecological Intensification to improve farmers' Resilience in Sahel	EUD Burkina Faso (€ 7,000,000) • Burkina Faso, Mali, Senegal
Pillar I #5	**MALMON** Instituto Agronomia Lisboa (412700)	Mangrove, mangrove rice and mangrove people - sustainably improving rice production, ecosystems and livelihoods	EUD Guinea Bissau (€ 3,000,000) • Guinea Bissau
Pillar I #6	**INV-NIGER** AECID (411732)	Innovations pour l'intensification durable de systèmes agricoles irrigués résilients face au changement climatique au Niger	EUD Niger (€ 5,000,000) • Niger

Pillar I #7	**COCOA4FUTURE** CIRAD (412132)	Sustainability of production systems and new dynamics in the cocoa sector	EUD Ivory Coast (€ 7,000,000) • Ivory Coast, Ghana
Pillar I #8	**TAERA** ENABEL (412605)	Accompagnement de la Transition Agro-Ecologique par la Recherche Agricole	EUD Benin (€ 1,500,000) • Benin
Pillar I #9	**ACCEPT** IRED (404348)	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 #10	**LIDISKI** CIRAD (410957)	Livestock Disease Surveillance Knowledge Integration	EUD Nigeria (€ 2,500,000) • Nigeria
Pillar I #11	**LIPS-ZIM** ILRI (413069)	Adoption and scaling up of improved livestock production systems	EUD Zimbabwe (€ 5,000,000) • Zimbabwe
Pillar I #12	**CASSECS** ISRA (410169)	Carbon sequestration in sylvopastoral ecosystems in Cilss States	EUD Senegal (€ 5,000,000) • Senegal, Burkina Faso, Niger, Chad, Mali, Mauritania
Pillar I #13	**CSARIDE** TEAGASC (411806)	Climate Smart Agriculture Research and Innovation Support for Dairy Value Chains in Eritrea	EUD Eritrea (€ 4,000,000) • Eritrea
Pillar I #14	**CLIMAT SMART INNOVATION** CIP (413081)	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 #15	**CLIMA-LOCA** CIAT (407158)	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 #16	**ABEE** CORAF (410172)	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 #17	**APSAN** ICRISAT (407715)	"Enhancing crop productivity and climate resilience for Food and Nutrition Security in Mali".	EUD Mali (€ 4,000,000) • Mali
Pillar I #18	**BIORISQUES** CORAF (411531)	Anticiper et gérer les risques biologiques pour renforcer la résilience des agriculteurs au changement climatique en Afrique de l'Ouest et du Centre	EUD Ivory Coast (€ 5,000,000) • Benin, Burkina Faso, Cameroun, Ivory Coast, DRC, Gabon, Ghana, Nigeria, Sierra Leone, Togo
Pillar I #19	**FAREI** FAREI (406180)	Enhancing FAREI's R&D Capacity for Sustainable and Modern Agriculture	EUD Mauritius (€ 2,500,000) • Mauritius
Pillar I #20	**UOM INNOVATION & TRAINING** University of Mauritius (406182)	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 #21	**BIOSTAR** CIRAD (410794)	Sustainable Bioenergy in Small and Medium Agri-food Enterprises in Western Africa	EUD Burkina Faso (€ 4,000,000) • Burkina Faso, Senegal, Mali, Niger, Ivory Coast

Project ID #	PROJECT NAME CONTRACTING ENTITY (CRIS #)	PROJECT FULL TITLE	EU DELEGATION / EU HQ TARGET COUNTRIES
Pillar II	**SUPPORT CAADP PILLAR IV** **AFAAS** **ASARECA** **CCARDESA** **CORAF** **FARA** IFAD (407682)	Comprehensive Africa Agriculture Development Programme (CAADP) ex-Pillar IV-Africa Regional and Sub-regional organisations for Agricultural Research and Innovation	INTPA F03 African countries under the mandate of each implementing partner. • **AFAAS** (€ 5,110,000) = 12 countries (Kenya, Ghana, Mali, Malawi, Madagascar, Liberia, Nigeria, Uganda, Cameroon, Ethiopia, South Africa, Zimbabwe) • **ASARECA** (€ 5,370,000) = 11 countries (Burundi, the Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, South Sudan, Sudan, Tanzania, Uganda) • **CCARDESA** (€ 5,370,000) = 7 countries (Botswana, Eswatini, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe) • **CORAF** (€ 5,770,000) = 23 countries (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) • **FARA** (€ 4,835,600) = continental Africa
Pillar II	**ONE PLANET** Agropolis Foundation (406569)	One Planet Fellowships Programme (OPFP)	INTPA F03 (€ 3,000,000) • Algeria, Benin, Burkina Faso, Ivory Coast, Ethiopia, Kenya, Malawi, Mali, Morocco, Nigeria, Senegal, Tanzania, Togo and Zambia
Pillar II	**SUPPORT TO GFAR** FAO (410670)	Re-Connecting the world: The GFAR Partnership transforming agri-food research and innovation for development impact	INTPA F03 (€ 5,000,000) • Global
Pillar II	**SUPPORT TO TAP** FAO (406734)	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

(Source: INTPA / F3 & DeSIRA LIFT)

Implementation period covered by the present global report.

All DeSIRA contracts included in this report were signed in 2019, mostly late 2019. All values in this report are cumulative for the period 2019-2021 (and up to 01/22 for SUPPORT TO GFAR and 02/22 for BIOSTAR). This accounts for 2 years of intervention (2020, 2021), except for SUPPORT TO CAADP AR&EO (3 years, including 2019). However, at the time of data collection for the global M&E framework, several Year 2 (Y2) progress reports were not ready: the table below shows the implementation period which this global report covers, project per project. To facilitate the reporting, a few EU delegations and EU headquarters gave permission to access unapproved Y2 progress reports, but for 7 projects (out of 25), only Y1 data was available: i.e this global report aggregates mostly "Y1+Y2 values" with some "Y1 values only" and one "Y1+Y2+Y3 value". Each Implementing Partner (IP) was interviewed to confirm annual values on which quantitative data in this report is based.

Table 3 - Implementation period covered by the Annual Global Report 2021, for each DeSIRA project

Project ID	Contract CRIS #	DeSIRA Project	Implementation period covered by the present global report	Years covered
	Rows in light green: DeSIRA projects for which only Y1 data was available for the global reporting			
1	412627, 412408	**AGROFORESTRY RWANDA**	February 2020 to 31/12/2021	Y1 + Y2
2	412107	**IRFFS**	December 2019 to 31/03/2021	Y1
3	410203	**AGRO-INNOVA**	October 2019 to 12/2021	Y1 + Y2
4	412095	**FAIR-SAHEL**	December 2019 to 31/12/2021	Y1 + Y2
5	412700	**MALMON**	December 2019 to 31/12/2021	Y1 + Y2
6	411732	**INV-NIGER**	December 2019 to 31/12/2021	Y1 + Y2
7	412132	**COCOA4FUTURE**	December 2019 to 31/01/2021	Y1
8	412605	**TAERA**	December 2019 to 31/12/2021	Y1 + Y2
9	404348	**ACCEPT**	July 2019 to 31/12/2021	Y1 + Y2
10	410957	**LIDISKI**	December 2019 to 31/12/2021	Y1 + Y2
11	413069	**LIPS-ZIM**	January 2020 to 31/12/2020	Y1
12	410169	**CASSECS**	December 2019 to 31/12/2021	Y1 + Y2
13	411806	**CSARIDE**	December 2019 to 02/02/2021	Y1
14	413081	**CLIMATE-SMART INNOVATION**	December 2019 to 09/12/2021	Y1 + Y2
15	407158	**CLIMA-LOCA**	December 2019 to 30/11/2020	Y1
16	410172	**ABEE**	December 2019 to 31/06/2021	Y1 + (Y2)/2
17	407715	**APSAN**	October 2019 to 10/2020	Y1
18	411531	**BIORISQUES**	December 2019 to 31/12/2021	Y1 + Y2
19	406180	**FAREI**	November 2019 to 31/12/2021	Y1 + Y2
20	406182	**UOM INNOVATION & TRAINING**	December 2019 to 12/2021	Y1 + Y2
21	410794	**BIOSTAR**	December 2019 to 02/02/2022	Y1 + Y2
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	March 2019 to 31/12/2021	Y1 + Y2 + Y3
Pillar II	406569	**ONE PLANET**	June 2019 to 30/06/2021	Y1 + Y2
Pillar II	410670	**SUPPORT TO GFAR**	January 2020 to 31/01/2022	Y1 + Y2
Pillar II	406734	**SUPPORT TO TAP**	July 2019 to 31/10/2021	Y1 + Y2

(Source: Global DeSIRA M&E Framework and INTPA/F3)

The Global Monitoring & Evaluation Framework of the DeSIRA Initiative

The global Monitoring and Evaluation (M&E) framework is implemented by the Directorate-General for International Partnerships of the European Commission (DG INTPA) with a view to steer and monitor the DeSIRA initiative, to determine the extent to which its overarching objectives are being achieved, and to report and communicate more efficiently, internally and externally, on new approaches to agricultural innovation and research. Underpinned by a LogFrame Matrix (LFM) and Global DeSIRA Indicators (GDIs), the global M&E framework is a tool to identify and inform GDIs. It does not and cannot reflect the diversity of projects or the complexity of innovation processes at project level.

The Results Chain

This figure shows the chain of expected results (outputs, outcomes, impact) at DeSIRA initiative level and how outputs articulate with outcomes.

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

The global M&E framework of the DeSIRA initiative – Methodology

Global DeSIRA Indicators. Most GDIs are simple and consensual, building on existing and approved project indicators through a bottom-up process of comparison, analysis and synthesis. GDIs are relevant to the DeSIRA initiative, as a whole, and values can be attributed without additional data collection by the IP. GDIs have been designed in a way that minimizes the amount of calculation and consolidation needed to inform and update them. Several GDIs are disaggregated to better capture the diversity of results at project level and to allow for more detailed analysis at global level. Besides, to capture complex quantitative project-level data or strictly qualitative data, a few meta-indicators have been introduced among GDIs (they count the number of DeSIRA projects having achieved a specified result, explicit or implicit). Not mandatory at project level, GDIs are not meant to substitute existing indicators or to support project-level monitoring processes.

Links. Each project is related to the global M&E framework through a specified number of links, aimed at capturing those of its results that contribute to expected results at initiative level. A link is a relationship that connects a project result to a GDI. It may be based on one (or more) project indicator: in this case and depending on how close the indicator's definition is to the GDI, a link is either "direct" or "compatible", which determines whether the attribution of a value to the GDI is a straightforward process (direct link) or requires further analysis and calculation (compatible link). A link can also be established between a project and a GDI in the absence of a project indicator (implicit link), as long as the IP confirms that project activities contribute to the global-level result to which this GDI is attached. Project indicators that do not inform any GDI are not involved in any link. As project LFMs and indicators are improved, links can be modified, added or cancelled.

GDI values. Each GDI is thus linked to "X" number of projects. Attributing a value to the GDI is a two-step process. First, a value is attributed to the GDI for each project result (explicit or implicit) contributing to this GDI. This is done by collecting data from annual progress reports and from brief annual consultations with each IP. Second, the global value of the GDI is calculated by adding together GDI values attributed at project level (all GDIs are quantitative). For more information on how a value is attributed to a GDI, refer to "Global Monitoring & Evaluation Framework of the EU-funded DeSIRA Initiative – Methodology".

The global logframe matrix and current GDI values. Below is the first version of the global LFM, approved by DG INTPA. The full definition of each GDI is in the Excel file attached to the global M&E framework. Note that GDIs do not have a target value. Data associated with each GDI includes:

- (A) The number of DeSIRA projects linked to the corresponding GDI; in theory, when these projects are sufficiently advanced and data is available, they are expected to contribute to the GDI;
- (B) The number of DeSIRA projects having contributed a positive value to the GDI for this Annual Global Report 2021; By definition, (B) is either equal to or inferior to (A);
- The total value from Pillar I projects having contributed to the GDI for this reporting period;
- The total value from Pillar II projects having contributed to the GDI for this reporting period;
- The total value from both PI and PII projects having contributed to the GDI for this reporting period.

A blue-shaded cell with no content indicates that the group of projects (either Pillar I or Pillar II) was not expected to contribute to the GDI during this reporting period, because none of the projects in this group has a link (direct, compatible or implicit) with the corresponding GDI.

Reporting period. The value attributed to a GDI at project level is cumulative and covers an implementation period that depends on the project start date and data availability at the time of data collection at global level. While projects selected for this global exercise had at least two years of implementation when data was collected (February-April 2022), some could only provide Year 1 data. Thus, total values aggregate project level values related to implementation periods of varying length (refer to Table 3).

EU Result Framework (EURF) indicators. The correspondence between GDIs and EURF indicators is established. In 2022, the EURF was renamed "Global Europe Results Framework » (GERF) and the list of indicators was updated. However, given that all DeSIRA projects were signed before this change took place, GDIs are, and will continue to be, linked to the 2018 version of EURF (Level 2) indicators. Correlations between GDIs and Sustainable Development Goals (SDGs) are also established in the LFM.

The Global DeSIRA Logframe Matrix (Version 1 - November 2022)

(*) Refer to the previous page for explanation; (**) na: data not available

RESULT STATEMENT		INDICATOR NUMBER AND TITLE[2]		Correspondence with EURF indicators and SDGs (*)	Number of DeSIRA projects (*)		CUMULATIVE CURRENT GDI VALUES 2019- 2021(*)		
					(A) Having a link to the GDI	(B) Having contributed to the GDI during the reporting period	Pillar I	Pillar II	TOTAL
							Blue (empty) cells: no expected contribution (*)		
IMPACT	The DeSIRA initiative contributes to the climate-relevant, productive, and sustainable transformation of agriculture and food systems in low and middle-income countries	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	SDG 2	18	0	0		**0**
		2	Number of smallholder farmers expected to benefit from innovations disseminated beyond the projects' target groups	SDG 2	2	0	0		**0**
		3A	Number of hectares of agricultural or pastoral land where sustainable innovative climate-smart or agroecological practices have been introduced (By target groups)	SDG 2 **EURF 2.4**	8	1	87		**87**
		3B	Number of hectares of agricultural or pastoral land where sustainable innovative climate-smart or agroecological practices have been introduced (By indirect beneficiaries)	SDG 2 **EURF 2.4**	0	0			
		4	Number of DeSIRA projects claiming a positive, documented impact on agroecosystems at farm level	SDG 2	14	0	0		**0**
		5	Number of DeSIRA projects claiming a positive, documented contribution to the status and role of smallholder female farmers or female food entrepreneurs	SDG 5	3	0	0		**0**
		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 or international level	SDG 2	0	0			
		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 or international level	SDG 16 SDG 13	0	0			

[2] The full definition of each Global DeSIRA Indicator is available in a separate file.

RESULT STATEMENT		INDICATOR NUMBER AND TITLE		Correspondence with EURF indicators and SDGs (*)	Number of DeSIRA projects (*)		CUMULATIVE CURRENT GDI VALUES 2019- 2021(*)		
					(A) Having a link with the GDI	(B) Having contributed to the GDI during the reporting period	Pillar I	Pillar II	TOTAL
							Blue (empty) cells: no expected contribution (*)		
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	8A	Number of climate-smart or agroecological innovations taken up by smallholder farmers (Products, technologies, models, systems, strategies)	SDG 2 **EURF 2.14**	18	2	29		**29**
		8B	Number of climate-smart or agroecological innovations taken up by smallholder farmers (Services, decision making tools, governance mechanisms)	SDG 2	9	5	8		**8**
		9	Number of smallholder farmers who have taken up at least one climate-smart or agroecological innovation	SDG 2	18	3	1800		**1800**
		10	Number of DeSIRA projects for which the expected rate of implementation of innovations by targeted farmers has been met	SDG 2	13	0	0		**0**
		11	Number of DeSIRA projects having at least one documented strategy to disseminate or scale up innovations beyond the projects' target groups of smallholder farmers	SDG 2	20	0	na(**)		**na(**)**
OUTCOME 2	Innovation capacities of research, technical and development institutions as well as capacities of farmers' organisations to support agriculture innovation processes are strengthened	12A	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (International)	SDG2	10	9	12	44	**56**
		12B	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational research institutions)		23	15	50	51	**101**
		12C	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational technical/development institutions)		14	7	9	37	**46**
		12D	Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational FOs, NGOs, CSOs)		18	12	78	22	**100**
		13	Number of new institutional partnerships on agriculture and foods systems triggered by DeSIRA projects		12	10	16	97	**113**

RESULT STATEMENT		INDICATOR NUMBER AND TITLE		Correspondence with EURF indicators and SDGs (*)	Number of DeSIRA projects (*)		CUMULATIVE CURRENT GDI VALUES 2019- 2021(*)		
					(A) Having a link to the GDI	(B) Having contributed to the GDI during the reporting period	Pillar I	Pillar II	TOTAL
							Blue (empty) cells: no expected contribution (*)		
OUTCOME 3	Private sector capacities and value chains of agri-food systems are strengthened	14	Number of sustainable or climate-smart innovations taken up by agriculture and food-related MSMEs	SDG 8 **EURF 2.14**	6	0	0		**0**
		15	Number of agriculture and food-related MSMEs which have taken up at least one sustainable innovation	SDG 12 **EURF 2.20**	6	0	0		**0**
		16	Number of agriculture and food-related MSMEs strengthened or created	SDG 12	10	2	1	13	**14**
		17	Number of food value chains strengthened	SDG 12	9	7	18		**18**
		18	Number of full-time food industry-related jobs created	SDG 8 **EURF 2.11**	4	0	0		**0**
OUTCOME 4	The agriculture and food systems policy environment is improved at national or international level	19	Number of policies, strategies or plans, fostered by multi-stakeholder processes, under development or endorsed by the relevant authorities	SDG 16 SDG 13 **EURF 2.25**	11	0	0	0	**0**
		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	SDG 11 SDG 13 **EURF 2.19**	11	2	0	5	**5**
OUTPUT 1	The mechanisms for inter-institutional cooperation and the joint design of climate-smart and agroecological innovations are developed	21A	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (International level)		7	5	2	16	**18**
		21B	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (National level)		12	5	12	64	**76**
		21C	Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (Subnational level)		9	7	25		**25**

RESULT STATEMENT		INDICATOR NUMBER AND TITLE		Correspondence with EURF indicators and SDGs (*)	Number of DeSIRA projects (*)		CUMULATIVE CURRENT GDI VALUES 2019- 2021(*)		
					(A) Having a link to the GDI	(B) Having contributed to the GDI during the reporting period	Pillar I	Pillar II	TOTAL
							Blue (empty) cells: no expected contribution (*)		
OUTPUT 2	Innovations linked to agri-food systems are developed and made available at farm and institutional levels	22A	Number of climate-smart or agroecological innovations under development (At farm level: products, technologies, models, systems, strategies)		19	14	211		**211**
		22B	Number of climate-smart or agroecological innovations under development (At farm level: services, decision making tools, governance mechanisms)		10	5	8		**8**
		22C	Number of innovations under development (Beyond farm level, including at institutional level)		14	12	41	2	**43**
OUTPUT 3	Farmers are reached by research and innovation initiatives and individual capacities are developed beyond farm level, including at institutional level	23	Number of smallholder farmers reached by research & innovation initiatives	SDG 2 **EURF 2.3**	21	15	7032	0	**7032**
		24A	Number of individuals whose capacities are developed (Researchers)		22	13	716	49	**765**
		24B	Number of individuals whose capacities are developed (Technical or Development Staff)	SDG 8 **EURF 2.15**	21	13		0	
		25A	Number of individuals supported to earn a post-graduate diploma (Master)		16	14	83		**83**
		25B	Number of individuals supported to earn a post-graduate diploma (PhD / Doctorate)		16	15	111		**111**
OUTPUT 4	Education and training programmes responsive to capacity development needs for agricultural innovation at national level are strengthened	26	Number of curricula or training packages developed or upgraded		13	3	6	0	**6**

RESULT STATEMENT		INDICATOR NUMBER AND TITLE		Correspondence with EURF indicators and SDGs (*)	Number of DeSIRA projects (*)		CUMULATIVE CURRENT GDI VALUES 2019- 2021(*)		
					(A) Having a link to the GDI	(B) Having contributed to the GDI during the reporting period	Pillar I	Pillar II	TOTAL
							Blue (empty) cells: no expected contribution (*)		
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	27A	Number of knowledge and communication products developed (Communication products)		25	15	142	5	**147**
		27B	Number of knowledge and communication products developed (Technical reports)		15	6	19	295 (***)	**314**
		27C	Number of knowledge and communication products developed (Guidance manuals)		10	4	11	2	**13**
		27D	Number of knowledge and communication products developed (Databases)		15	3	11	0	**11**
		27E	Number of knowledge and communication products developed (Scientific publications)		21	7	14	0	**14**
OUTPUT 6	Science-based policy briefs are produced and dialogues on agriculture and food policy development and reform are organized	28A	Number of policy-related outputs (Documents)		16	2	0	20	**20**
		28B	Number of policy-related outputs (Dialogues)		8	3	1	22	**23**

(Source: Global DeSIRA M&E framework)
(*) Refer to the previous page for explanation.
(**) na: data not available
(***) Except for databases (GDI #27D), all other knowledge and communication products from SUPPORT TO CAADP AR&EO (Pillar II) are aggregated under GDI #27B (technical reports) for a lack of information on disaggregation at intervention level.

Result Reporting Format

Overall structure of the global annual report. It follows the results chain of the global Logframe Matrix (LFM) and has 3 main sections: progress towards expected outputs, progress towards expected outcomes, impact prospects. Each section is divided into sub-sections, corresponding to a result (6 outputs, 4 outcomes).

Structure of a sub-section. Each sub-section adheres to the following reporting pattern:
- Brief introduction, to put the result into the overall DeSIRA perspective;
- Definition of the main Global DeSIRA Indicators (GDIs) attached to the result;
- Summary table of the values for the GDIs attached to this result (see below);
- Overview of the contribution of each DeSIRA intervention to the result;
- Analysis of achievements and progress towards the expected result, based on data collected for all projects;
- Conclusion;
- Recommendations.

How to read the summary of values for the GDIs attached to a result at initiative (global) level. The table below shows the format used to present the summary of GDI values.

Table 4 - How to read the summary of values for the GDIs attached to a result at initiative level

Number of projects contributing to the GDI value		**GDI #**	**Global DeSIRA Indicator**	**Total Value**	**Value P-I**	**Value P-II**
Linked to GDI	**2019-2021**				***Blue (empty) cells: no expected contribution***	
Number of **projects expected to contribute a value** for this GDI, in theory and as per their current design	Number of **projects which have contributed a positive value** for this GDI**, for the reporting period**	**GDI number**	**GDI Title**	**Value Pillar I + Value Pillar II**	Sum of values attributed to this GDI for each Pillar I project contributing to the GDI	Sum of values attributed to this GDI for each Pillar II project contributing to the GDI

For instance, in the example below, 12 projects (out of 25 covered by this annual report) are expected to contribute -in theory and as per their current design- to GDI #21B "Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (National level)". However, over the 2019-21 period, only 5 projects did contribute a positive value, for a total of 76 platforms. The number of multistakeholder platforms formed or strengthened amounted to 12 for Pillar I projects and 64 for Pillar II projects

12	5	**21B**	**Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (National level)**	**76**	12	64

A blue-shaded cell with no content indicates that the group of projects (Pillar I or Pillar II) is not expected to contribute to the GDI during this reporting period, because none of the projects in this group has a link (direct, compatible or implicit) with the corresponding GDI, i.e. when they are sufficiently advanced, and data is available. The GDI in the example below refers to the number of innovations taken up by smallholder farmers. The GDI can be potentially informed by 18 Pillar I projects but only 2 projects contributed a positive value during the reporting period. Besides, there is no expected contribution from Pillar II projects during the reporting period.

18	2	**8A**	**Number of climate-smart or agroecological innovations taken up by smallholder farmers (Products, technologies, models, systems, strategies)**	**29**	29	

Overview of the contribution of each DeSIRA project to a specified result at initiative level. Each section or sub-section incorporates a table showing, for each project, its contribution to the GDIs attached to the result the section covers, as per the following format.

In the event a project has produced outputs but is unable to provide robust data for the reporting period, the value "0+" is reported in the corresponding cell of Table 5, below. In the summary of values (refer to Table 4, above), the project is NOT counted among projects having contributed a positive value.

A blue-shaded cell with no content indicates that the project is not expected to contribute to the GDI during this reporting period, because it has no link with the corresponding GDI, as established during a discussion with its implementing partner.

Table 5 – Format for the overview of a DeSIRA project's contribution to a given result at initiative level

OUTPUT X - Contribution 2019-2021 of DeSIRA projects					
GDI #X1 Title of the GDI **GDI #X2 Title of the GDI** **GDI #X3 Title of the GDI**					
Project ID	**Contract CRIS #**	**DeSIRA Project Short Title**	**GDI #X1**	**GDI #X2**	**GDI #X3**
			0(+) Positive contribution but value not available		
			Blue (empty) cells: no expected contribution		
1	XXXXXX	**PROJECT A**		2	0
2	XXXXXX	**PROJECT B**	1	3	0(+)
…	….	**….**	…	…	…
Pillar II	XXXXXX	**PROJECT Y**	2	0	
TOTAL Cumulative Values (All interventions, Pillar I & II)			**1**	**5**	**0**

Implementation

Researchers and organisations involved in implementation

The data on the number of researchers and organisations involved in the implementation of DeSIRA interventions (refer to Table 6, below) was collected during interviews with IPs, from February to April 2022. It covers all 25 projects included in the Global Annual Report 2021.

The total number of researchers (834, including 618 from DeSIRA target countries) is conservative because a few projects were unable to provide information during the interview and did not respond to follow-up requests. Also note that the involvement of external expertise in DeSIRA projects during the implementation period covered by this report has been limited because of COVID-related restrictions. It is expected to increase with the relaxation of these restrictions in 2022.

The number of researchers includes scientists who are part of the implementation team, but not scientists who benefit from activities without playing an active role in implementation. For instance, PhD students conducting their research with the project are counted, but researchers benefiting from fellowship programmes are not counted. Researchers contributing to non-research activities (i.e. who are in a management or coordination position) are also counted.

The data on organisations involved in implementation is based on a list established with IPs. All IPs, including 4 out of 5 IPs contributing to SUPPORT TO CAADP AR&EO, did provide the requested information. Project consortia members are included, as well as partner organisations, which do not receive EU funding but do contribute to implementation. Members of steering committees are counted only when they also play an active part in implementation. Given that the same entity can be involved in more than one project, all entities have been listed for each project: double entries have been identified and eliminated.

Categories of organisations are as follows and the number of organisations per category is provided in Table 6 (most of them play a key role in implementation):
- Research: all institutions engaged in research, even if research is not their sole activity (e.g. universities); Networks of research institutions are counted under a specific category "Networks, Fora, Platforms";
- Non Research: ministries and national technical or development institutions, intergovernmental organisations, education only institutions, UN agencies (etc.); NGOs, FOs and private sector are not included;
- Non Governmental Organisation (NGOs): typically support farmers in the context of DeSIRA; includes national and international NGOs;
- Farmers' Organisations (FOs): based on the FAO definition, it includes community-based and resource-orientated organisation as well as commodity-based and market-orientated organisations; Cooperatives of farmers are included in this category, so are federations and networks of farmers;
- Private sector: includes MSMEs (Micro, Small & Medium Enterprises) as well as professional associations; also consulting firms which participate in projects;
- Networks, Fora, Platforms: national or international; networks of farmers are counted under FOs.
For further details, refer to the Excel file of the global M&E framework and to Annex 2 “List of organisations involved in the implementation of DeSIRA projects included in the Annual Global Report 2021”.

Note that DG INTPA informally consulted Implementing Partners (IPs) in November 2020 to analyze the role of FOs in DeSIRA projects. The survey targeted projects from the 2018 and 2019 Commission Implementing Decisions. In total, 35 responses were received, and it was found that 29 projects had developed partnerships with 131 FOs. This number is considerably higher that the number of FOs involved in implementation for the 25 projects included in this report (51). This may be partly explained by the difference in the number of projects covered by DG INTPA’s survey and this report and by the fact that monitoring interviews only focused on FOs playing an active role in implementation. For instance, FOs may actively participate in trials and evaluation of innovations of certain projects, but can simply be an object of study for other DeSIRA interventions.

Table 6 - Researchers and organisations involved in implementation

CATEGORIES	DATA - All projects - No duplicates - April 2022	
► Researchers from DeSIRA target countries	618	361 men, 104 women and 153 “sex not known”
► Other Researchers	216	133 men, 58 women and 25 “sex not known”
► Research organisations - EU-based	33	Includes 16 European universities
► Research organisations - not EU-based	112	Includes 29 African universities
► Non Research Organisations	51	International economic communities, national governmental bodies (ministries), UN agencies
► Non Governmental Organizations (NGOs)	52	Includes 20 international NGOs
► Farmers' Organisations (FOs)	51	Includes 8 international networks
► Private sector entities	25	Includes consulting firms
► Networks, Fora, Platforms	28	Includes 12 national networks, all others are active in more than one country

(Source: Global DeSIRA M&E framework)

Synergies between DeSIRA projects

Out of 25 projects from the 2018 Decision, 12 claim they are engaged in synergies with at least one other DeSIRA intervention, including interventions from both 2018 and 2019 Decisions.

Synergies are facilitated when the same organisation is involved in several DeSIRA interventions. This is the case of France-based CIRAD “Centre de Coopération Internationale en Recherche Agronomique pour le Développement ». As of 2021, CIRAD was coordinating 13 DeSIRA projects, including 4 projects from the 2018 Decision, signed in 2019 and started early in 2020. It was also involved in 16 other projects, including 5 projects from the 2018 Decision. Global platforms involved in the implementation of DeSIRA are also in a good position to facilitate synergies between DeSIRA interventions. So is DeSIRA LIFT, a service facility which supports the DeSIRA initiative in order to enhance its overall impact.

Delays in the implementation of activities in 2020 and 2021

Contracts included in the Global Annual Report 2021 of the DeSIRA initiative stem from the 2018 decision and were signed, for the vast majority, between October and December 2019. They were only a couple of months into planning their first year of activities when the COVID-19 pandemic started spreading and most of the world went into lockdown, restricting movement across borders and within countries. Only a few projects were signed earlier in 2019. As per initial contracts, most projects have an implementation period of 4 or 5 years, except for two projects, which have a duration of 3 years. Owing to delays, many projects intend to request or have already requested a no-cost extension.

All projects mentioned delays due to the pandemic. Some projects claim to have lost up to up to 18 months of active implementation and several have already been granted a no cost extension.

For some projects, delays due to COVID-19 were compounded by political events at national level. Administrative reasons are also a cause for delays. Some projects did better than others at mitigating delays. However, it is obvious that interactions with farmers were limited for many months and research was sometimes conducted in experimental farms rather than in the field.

Progress towards Expected Outputs

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

Introduction. In the Action Documents (AD 2018, AD 2019) Multi-Stakeholder Innovation Platforms (MSIPs) are acknowledged as key elements of the innovation system approach that underpins the overall intervention logic of the DeSIRA initiative. They are considered an effective tool to bridge the gap between farmers, the private sector, research, extension and development organisations by fostering productive interactions between stakeholders. In doing so, they help to combine scientific knowledge and advances with farmers' knowledge and experience while stressing the importance of engaging farming communities in all stages of innovation processes, to make sure the steering of research and innovation responds to their needs. The sustainable development of new MSIPs or other interactive mechanisms (or support to existing mechanisms) is considered a strong factor of success of inter-institutional cooperation, joint identification of challenges and participatory design, testing, dissemination and evaluation of innovations.

Global DeSIRA Indicator attached to Output 1. One main GDI is attached to Output 1:
-"**Number of multistakeholder innovation platforms/mechanisms developed or strengthened**", which measures the number of MSPs developed or strengthened by the project with a view to sustainably support innovation for climate relevant, productive and sustainable agriculture and food systems. This GDI is further disaggregated by scale of operation: A/ International (stakeholders from more than one country); B/ National (stakeholders with a national mandate, from the same country); C/ Subnational (stakeholders with a subnational mandate/reach). A platform is defined as a decision-making body (voluntary or statutory) comprising different stakeholders who perceive the same problem, realise their interdependence for solving it, and come together to agree on action strategies for solving the problem: in this case, innovating to support the sustainable transformation of agriculture and food systems. The term "multi" refers to the diversity of identities of stakeholders: e.g. research, extension, university, FOs, business association (etc.). To capture the diversity of multi-stakeholder approaches to innovation under DeSIRA interventions, platforms and other mechanisms aimed at facilitating exchange of knowledge, information and experience (e.g. "community of practice") are included, in addition to platforms aimed at developing concrete innovative technical solutions.

Summary of values for the Global DeSIRA Indicators attached to Output 1. Most projects are linked to and thus expected to contribute to Output 1. The same intervention can support MSIPs at various levels (e.g. national and subnational). This includes 16 Pillar I projects and 3 Pillar II projects (Table 7). MSIP-related activities are yet to start for 6 Pillar I (P-I) projects. So far, P-I projects have created or supported 25 subnational MSIPs and 12 national MSIPs. P-I projects which support (or plan to support) international MSIPs are typically regional-level interventions, involving several countries. Among P-II projects, one large intervention provides the entire contribution to national MSIPs (64) and most of the contribution to international MSIPs (14 out of 16).

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked to GDI	2019-2021				*Blue (empty) cells: no expected contribution*	
7	5	**21A**	**Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (International level)**	**18**	2	16
12	5	**21B**	**Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (National level)**	**76**	12	64
9	7	**21C**	**Number of multi-stakeholder innovation platforms/**mechanisms **developed or strengthened (Subnational level)**	**25**	25	

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The following table shows the contribution of each DeSIRA intervention to Output 1 and MSIP.

Table 7 - OUTPUT 1 - Contribution 2019-2021 (*) of DeSIRA projects

GDI #21A Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (International level) **GDI #21B Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (National level)** **GDI #21C Number of multi-stakeholder innovation platforms/mechanisms developed or strengthened (Subnational level)**					
Project ID	**Contract CRIS #**	**DeSIRA Project Short Title**	**GDI #21A**	**GDI #21B**	**GDI #21C**
			0(+) Positive contribution but value not available		
			Blue (empty) cells: no expected contribution		
1	412627, 412408	**AGROFORESTRY RWANDA**		2	
2	412107	**IRFFS**		0	0
3	410203	**AGRO-INNOVA**	0	6	
4	412095	**FAIR-SAHEL**	1	1	2
5	412700	**MALMON**		0	
6	411732	**INV-NIGER**		0	0
7	412132	**COCOA4FUTURE**			
8	412605	**TAERA**			3
9	404348	**ACCEPT**			1
10	410957	**LIDISKI**			
11	413069	**LIPS-ZIM**			6
12	410169	**CASSECS**			
13	411806	**CSARIDE**		0	
14	413081	**CLIMATE-SMART INNOVATION**			3
15	407158	**CLIMA-LOCA**		3	6
16	410172	**ABEE**	1		
17	407715	**APSAN**			4
18	411531	**BIORISQUES**		0	
19	406180	**FAREI**			
20	406182	**UOM INNOVATION & TRAINING**			
21	410794	**BIOSTAR**	0		
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	14	64	
Pillar II	406569	**ONE PLANET**			
Pillar II	410670	**SUPPORT TO GFAR**	1	0	
Pillar II	406734	**SUPPORT TO TAP**	1	0	
TOTAL Cumulative Values (All interventions, Pillar I & II)			**18**	**76**	**25**

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

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

Introduction. The concept of innovation is at the heart of the DeSIRA initiative, but the definition is often a source of debate. This report uses the FAO definition, i.e. "*the process whereby individuals or organisations bring new or existing products, processes or ways of organisation into use for the first time in a specific context, to increase effectiveness, competitiveness and resilience with the goal of solving a problem*". This broad definition captures the vast diversity of outputs that project teams label as "innovations". In DeSIRA projects, the process of innovation always involves a diversity of actors of the National Agricultural Research System (NARS), which participate in implementation, as consortium members or key partners. The global LFM of the DeSIRA initiative distinguishes between innovations taken up by farmers (outcome), and innovations under development, i.e. an output of research activities. Innovation processes are reinforced by other outputs such as collective actions via Multi Stakeholder Platforms (Output 1), the development of individual capacities (Output 3) and the production of scientific knowledge (Output 5). There are also influenced by the policy environment and the quality of the institutional environment.

Global DeSIRA Indicator attached to Output 2. One main GDI is attached to Output 2:
-"**Number of innovations under development**". This covers the initial research stage (e.g. design processes), as well as the testing/evaluation phase. The GDI includes products, technologies, services that already exist but are new in the project context (as per the FAO definition). This GDI is further disaggregated by kind of innovation: A/ Products, technologies, models, systems, strategies intended for farm-level use; B/ Services & decision-making tools, governance mechanisms for farm-level use; C/ Innovations beyond farm level (including innovations for institutional use). Farm-level innovations aim at enhancing the capacity of the farmer to adapt, mitigate or recover from environment or climate-related shocks (resilience) and to seize opportunities to improve livelihood. The benefits are documented (productivity, biodiversity, natural resources management, carbon sequestration, food and nutrition security, etc.). Institutional innovations are new tools (e.g. planning, management, evaluation systems) or mechanisms used by institutions to support Agriculture Innovation Systems and the implementation of innovations at farm level.

Summary of values for the Global DeSIRA Indicators attached to Output 2. Aggregating innovations is not very useful, given their diversity, but there are a few takeaways from the quantitative tables (summary table and overview of the contribution of individual interventions): 1/ Almost all innovations are developed by Pillar I interventions, including institutional innovations; 2/ Except for one project, which targets MSMEs, all Pillar I projects contribute to innovations intended for use at farm level; 3/ P-I Projects with no output are mostly those for which only Year 1 data has been collected and incorporated in the global M&E framework of DeSIRA; 4/ Most innovations under development for farm use focus on products, technologies, models, systems, in total 211, with very few innovative services, decision making tools, governance mechanisms under development (8 so far).

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI)	Total Value	Value P-I	Value P-II
Linked To GDI	2019-2021		Cumulative 2019-2021 (*)		*Blue (empty) cells: no expected contribution*	
19	14	**22A**	**Number of climate-smart or agroecological innovations under development (At farm level: products, technologies, models, systems, strategies)**	**211**	211	
10	5	**22B**	**Number of climate-smart or agroecological innovations under development (At farm level: services, decision-making tools, governance mechanisms)**	**8**	8	
14	12	**22C**	**Number of innovations under development (Beyond farm level, including at institutional level)**	**43**	41	2

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA intervention to Output 2 follows. Values attributed to GDI #22 cumulate all innovations, which were "under development" at some point during the reporting period. By the end of the reporting period, some were still "under development" (outputs), others had been "taken up by farmers" (outcomes). Innovations once "under development" and later "taken up by farmers" are counted under Output 2 (GDI #22) and Outcome 1 (GDI #8). Numbers are conservative. When exact figures are not provided, the lowest estimate is reported.

Table 8 - OUTPUT 2 - Contribution 2019-2021 (*) of DeSIRA projects

GDI #22A Number of climate-smart or agroecological innovations under development (At farm level: products, technologies, models, systems, strategies) **GDI #22B Number of climate-smart or agroecological innovations under development (At farm level: services, decision making tools, governance mechanisms)** **GDI #22C Number of innovations under development (Beyond farm level, including at institutional level)**					
Project ID	**Contract CRIS #**	**DeSIRA Project Short Title**	**GDI #22A**	**GDI #22B**	**GDI #22C**
			0(+) Positive contribution but value not available		
			Blue (empty) cells: no expected contribution		
1	412627, 412408	**AGROFORESTRY RWANDA**	13	0	2
2	412107	**IRFFS**	1	0	
3	410203	**AGRO-INNOVA**	57		
4	412095	**FAIR-SAHEL**	12	1	3
5	412700	**MALMON**	5		2
6	411732	**INV-NIGER**	0		0
7	412132	**COCOA4FUTURE**	0		
8	412605	**TAERA**	4		
9	404348	**ACCEPT**	14	3	
10	410957	**LIDISKI**		1	12
11	413069	**LIPS-ZIM**	0	0	1
12	410169	**CASSECS**	1		9
13	411806	**CSARIDE**	0	2	0
14	413081	**CLIMATE-SMART INNOVATION**	41		
15	407158	**CLIMA-LOCA**	0	0	1
16	410172	**ABEE**	12		1
17	407715	**APSAN**	45		
18	411531	**BIORISQUES**	1	1	
19	406180	**FAREI**	4		7
20	406182	**UOM INNOVATION & TRAINING**	1	0	4
21	410794	**BIOSTAR**			
Pillar II	407682	**SUPPORT TO CAADP AR&EO**			
Pillar II	406569	**ONE PLANET**			
Pillar II	410670	**SUPPORT TO GFAR**			1
Pillar II	406734	**SUPPORT TO TAP**			1
TOTAL Cumulative Values (All interventions, Pillar I & II)			**211**	**8**	**44**

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

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

Introduction. As per AD 2018 and AD 2019, "capacity development of organisations and individuals in low and middle-income countries is at the basis of the intervention logic" of the DeSIRA initiative. Smallholder farmers are the ultimate beneficiaries of the action, in which they are also encouraged to lead innovation processes in close collaboration with key research and development stakeholders, public and private. This is an ambitious objective, which requires substantial support to farmers. Researchers and extension specialists play a major role in developing these innovation processes and must work together to promote a new paradigm in approaching innovation in agriculture and food systems in the face of formidable environmental challenges. They are also a main target of Capacity Development activities of DeSIRA interventions.

Global DeSIRA Indicators attached to Output 3. Three main GDIs are attached to Output 3:
- **"Number of smallholder farmers reached by research & innovation initiatives";** This includes various forms of support such as making knowledge available, strengthening capacities, support to involvement in innovation platforms, promoting innovations, (etc.); It can be delivered through training, advisory or extension services in the areas of production, market access, advocacy (etc.); Estimated number of farmers reached through mass communication campaigns (e.g. radio programmes) are not counted because the focus of this indicator is on farmers reached among target groups, and not on indirect beneficiaries.
- **"Number of individuals whose capacities are developed"** (disaggregated: A/ Researchers; B/ Technical and development staff); This measures the number of individuals who have gained or are in the process of gaining capacity to innovate in agriculture and food systems, as a result of training, involvement in project implementation, mentoring (leadership and skills development).
- **"Number of individuals supported to earn a post-graduate diploma"** (disaggregated: A/ Master; B/ PhD); It includes individuals (already employed or undergraduate) fully or partially supported by the DeSIRA project.
All above indicators can be disaggregated by sex.

Summary of values for the Global DeSIRA Indicators attached to Output 3. All 25 projects are linked to and thus expected to contribute to at least one of the GDIs attached to Output 3, i.e. to CD of farmers, researchers and/or technical staff (present or future). However, several projects are yet to start contributing. Over 7000 farmers have been reached so far, but the number is conservative. At least 765 researchers and technicians are in the process of developing their capacities. 111 PhD students (most of them from Africa) are currently supported by the DeSIRA initiative, including at least 32 women.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked To GDI	2019-2021				*Blue (empty) cells: no expected contribution*	
21	15	**23**	**Number of smallholder farmers reached by research & innovation initiatives**	**7032**	7032	0
22	13	**24A**	**Number of individuals whose capacities are developed (Researchers)**	**765**	716	49
21	13	**24B**	**Number of individuals whose capacities are developed (Technical or Development Staff)**			0
16	14	**25A**	**Number of individuals supported to earn a post-graduate diploma (Master)**	**83**	83	
16	15	**25B**	**Number of individuals supported to earn a post-graduate diploma (PhD / Doctorate)**	**111**	111	

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA project to Output 3 and CD follows.

Table 9 – OUTPUT 3 – Contribution 2019-2021 (*) of DeSIRA projects

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

Project ID	Contract CRIS #	DeSIRA Project Short Title	GDI #23	GDI #24A	GDI #24B	GDI #25A	GDI #25B
			0(+) Positive contribution but value not available				
			Blue (empty) cells: no expected contribution				
1	412627, 412408	**AGROFORESTRY RWANDA**	60	30	3	19	4
2	412107	**IRFFS**	600	9	25	2	
3	410203	**AGRO-INNOVA**	2061	0	0	2	
4	412095	**FAIR-SAHEL**	199	190		1	13
5	412700	**MALMON**	30		26		13
6	411732	**INV-NIGER**	24	0	0		
7	412132	**COCOA4FUTURE**	290		0	7	19
8	412605	**TAERA**	0	0		0	4
9	404348	**ACCEPT**	0(+)	10	5	6	6
10	410957	**LIDISKI**	0(+)	100		4	3
11	413069	**LIPS-ZIM**	0(+)	0		5	1
12	410169	**CASSECS**	200	0(+)	40	15	10
13	411806	**CSARIDE**	0(+)		0	0	0(+)
14	413081	**CLIMATE-SMART INNOVATION**	182	6	86	2	1
15	407158	**CLIMA-LOCA**	47	0	0	2	3
16	410172	**ABEE**	321	6		14	10
17	407715	**APSAN**	2034	36		3	9
18	411531	**BIORISQUES**	43	7	11	1	11
19	406180	**FAREI**	891	98			
20	406182	**UOM INNOVATION & TRAINING**	50	0(+)	0(+)		
21	410794	**BIOSTAR**		18	10		4
Pillar II	407682	**SUPPORT TO CAADP AR&EO**		39			
Pillar II	406569	**ONE PLANET**		10			
Pillar II	410670	**SUPPORT TO GFAR**	0(+)	0	0		
Pillar II	406734	**SUPPORT TO TAP**		0(+)	0(+)		
TOTAL Cumulative Values (All interventions, Pillar I & II)			**7032**	**765**		**83**	**111**

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

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

Introduction. As illustrated under Output 3, education and training institutions play a key part in innovation processes of DeSIRA projects. They are instrumental in building capacities of individuals (e.g. present and future researchers, development and extension staff), who participate in innovation processes. Reciprocally, the development and dissemination of innovations coupled to the formidable challenges stemming from climate change and food system transition dictate that new education and training programmes targeting agriculture and food systems be developed and existing ones be strengthened to ensure that knowledge and methodologies taught in dedicated institutions or online are updated.

Global DeSIRA Indicator attached to Output 4. One main GDI is attached to Output 4:
-"**Number of curricula or training packages developed or upgraded**", which measures the number of academic curricula or professional training packages developed (new) or strengthened (existing ones) by the project, whether taught in person or online. They may address climate relevant innovation, agroecology principles, sustainable agriculture and food systems, green energy technologies (etc.). There should be a clear intention to continue using them beyond the project (i.e. training sessions designed and organised strictly for building capacities during the project are not counted). This GDI is not disaggregated.

Summary of values for the Global DeSIRA Indicator attached to Output 4. In total, 13 projects (out of 25) are linked to and thus expected to contribute to Output 4, including 9 Pillar I projects and all 4 Pillar II projects. So far, only 3 have contributed with a total of 6 outputs, all by P-I interventions.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked To GDI	2019-2021				*Blue (empty) cells: no expected contribution*	
13	3	**26**	**Number of curricula or training packages developed or upgraded**	**6**	6	0

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA intervention to Output 4 follows (table next page).

Table 10 – OUTPUT 4 – Contribution 2019-2021 (*) of DeSIRA projects

GDI #26 Number of curricula or training packages developed or upgraded			
Project ID	**Contract CRIS #**	**DeSIRA Project**	**GDI #26**
			0(+) Positive contribution but value not available
			Blue (empty) cells: no expected contribution
1	412627, 412408	**AGROFORESTRY RWANDA**	0
2	412107	**IRFFS**	
3	410203	**AGRO-INNOVA**	
4	412095	**FAIR-SAHEL**	0
5	412700	**MALMON**	
6	411732	**INV-NIGER**	0
7	412132	**COCOA4FUTURE**	0
8	412605	**TAERA**	
9	404348	**ACCEPT**	
10	410957	**LIDISKI**	
11	413069	**LIPS-ZIM**	
12	410169	**CASSECS**	2
13	411806	**CSARIDE**	0
14	413081	**CLIMATE-SMART INNOVATION**	1
15	407158	**CLIMA-LOCA**	
16	410172	**ABEE**	
17	407715	**APSAN**	
18	411531	**BIORISQUES**	
19	406180	**FAREI**	
20	406182	**UOM INNOVATION & TRAINING**	3
21	410794	**BIOSTAR**	0
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	0
Pillar II	406569	**ONE PLANET**	0
Pillar II	410670	**SUPPORT TO GFAR**	0
Pillar II	406734	**SUPPORT TO TAP**	0
TOTAL Cumulative Values (All interventions, Pillar I & II)			**6**

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

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 are generated and made available

Introduction. Building on research and innovation, the production of climate-relevant and agroecological knowledge on agriculture and food systems underpins changes in individual and institutional capacities, in the policy environment and in long term public and private investments. Under DeSIRA interventions, it is expected that knowledge be co-created by stakeholders, including, farmers, scientists, extension specialists, private sector and be shared as effectively as possible. This is in line with the multi-faceted dynamic concept of Agricultural Knowledge and Innovation Systems (AKIS), of which MSIPs are also a key element. The term AKIS is used to describe "the whole knowledge exchange system: the ways people and organisations interact within a country or a region. AKIS can include farming practice, businesses, authorities, research, etc. and can vary a lot, depending on the country or sector" (Source EIP-AGRI).

Global DeSIRA Indicator attached to Output 5. One main GDI is attached to Output 5:
-"**Number of knowledge and communication products developed";** This measures the number of products aimed at increasing facts, information, skills, awareness on innovative or new techniques, practices, systems, products or services. It encompasses products aimed at supporting the adoption of sustainable production (processing) and consumption practices by Micro, Small & Medium Enterprises (MSMEs). This indicator is disaggregated: A/ Communication products; B/ Technical reports; C/ Guidance manuals; D/ Databases; E/ Scientific publications. Communication products include a diversity of items: articles, flyers, messages on social networks, videos, as well as information campaigns, seminars, webinars, conferences, fora (etc.), as long as they are organized by the implementing partners. Technical reports also cover a diversity of knowledge products for professionals (including sector or product-related reports, market research, value chain assessment). Policy briefs are not included under this indicator.

Summary of values for the Global DeSIRA Indicator attached to Output 5. All 25 projects are linked to and thus expected to contribute to at least one category of knowledge and communication products. The numbers provided by one large Pillar II project dwarfs those of other projects, as it contributes 295 products. Other projects have contributed so far 204 products, mostly from P-I projects (197), for a total of 499 products. Communication products and technical products account for the bulk of the production, so far.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked To GDI	2019-2021				*Blue (empty) cells: no expected contribution*	
25	15	**27A**	**Number of knowledge & communication products developed (Communication products)**	**147**	142	5
15	6	**27B**	**Number of knowledge & communication products developed (Technical reports)**	**314**	19	295**
10	4	**27C**	**Number of knowledge & communication products developed (Guidance manuals)**	**13**	11	2
15	3	**27D**	**Number of knowledge & communication products developed (Databases)**	**11**	11	0
21	7	**27E**	**Number of knowledge & communication products developed (Scientific publications)**	**14**	14	0

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods
(**) Except for databases (GDI #27D), all other knowledge and communication products from SUPPORT TO CAADP AR&EO are aggregated under GDI #27B (technical reports) for a lack of information on disaggregation at intervention level.

The contribution of each DeSIRA intervention to Output 5 follows.

Table 11 – OUTPUT 5 – Contribution 2019-2021 (*) of DeSIRA projects

GDI #27A Number of knowledge & communication products developed (Communication products) GDI #27B Number of knowledge & communication products developed (Technical reports) GDI #27C Number of knowledge & communication products developed (Guidance manuals) GDI #27D Number of knowledge & communication products developed (Databases) GDI #27E Number of knowledge & communication products developed (Scientific publications)							
Project ID	**Contract CRIS #**	**DeSIRA Project**	**GDI #27A**	**GDI #27B**	**GDI #27C**	**GDI #27D**	**GDI #27E**
			0(+) Positive contribution but value not available				
			Blue (empty) cells: no expected contribution				
1	412627, 412408	**AGROFORESTRY RWANDA**	0	0	0	4	0
2	412107	**IRFFS**	0	0	0		0
3	410203	**AGRO-INNOVA**	33		6	6	0
4	412095	**FAIR-SAHEL**	20	0		0	0
5	412700	**MALMON**	4				1
6	411732	**INV-NIGER**	3		0	0	
7	412132	**COCOA4FUTURE**	2		0		0
8	412605	**TAERA**	0	0			0
9	404348	**ACCEPT**	12	6	4	0	4
10	410957	**LIDISKI**	7				2
11	413069	**LIPS-ZIM**	1	4	0	0	0
12	410169	**CASSECS**	10	0		1	3
13	411806	**CSARIDE**	0	0			0
14	413081	**CLIMATE-SMART INNOVATION**	4	5			2
15	407158	**CLIMA-LOCA**	1	3		0	1
16	410172	**ABEE**	NA	0		0	0
17	407715	**APSAN**	45	0	0	0	1
18	411531	**BIORISQUES**	0			0	0
19	406180	**FAREI**	0		1	0	0
20	406182	**UOM INNOVATION & TRAINING**	0(+)	1		0	0
21	410794	**BIOSTAR**	2	0			0
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	0(+)**	295**	0(+)**	0	
Pillar II	406569	**ONE PLANET**	2				0
Pillar II	410670	**SUPPORT TO GFAR**	0		2	0	
Pillar II	406734	**SUPPORT TO TAP**	3				
TOTAL Cumulative Values (All interventions, Pillar I & II)			**147**	**314****	**13**	**11**	**14**

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

(**) Except for databases (GDI #27D), all other knowledge and communication products from SUPPORT TO CAADP AR&EO are aggregated under GDI #27B (technical reports) for a lack of information on disaggregation at intervention level.

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

Introduction. Efforts undertaken under the DeSIRA initiative to transform agriculture and food systems build on multiple commitments embodied by policies at EU, international and national levels. Lessons learned from past EU-funded interventions confirm the importance of policy development to achieve sustainability and scale of impact, as well as the need to involve relevant stakeholders early in project implementation. Policy development is an objective of both AD 2018 and 2019. It is expected that national authorities in targeted countries will increase their ability to adapt to the adverse impacts of climate change on agriculture and food systems through relevant integrated policies, strategies or plans. To this end, DeSIRA interventions are encouraged to produce knowledge and evidence to feed policy making and strategy development.

Global DeSIRA Indicator attached to Output 6. One main GDI is attached to Output 6:
-"**Number of policy-related outputs**", which measures the number of policy-related outputs aimed at increasing agriculture and food systems' resilience and/or adaptation to Climate Change, supported by the project to feed into national level policies. This covers policy briefs (or policy guidelines, recommendations) and policy statements. It can be the result of activities (dialogue, consultation) at international, national or subnational level. This GDI is disaggregated: A/ Policy documents; B / Policy dialogues.

Summary of values for the Global DeSIRA Indicator attached to Output 6. In total, 17 projects (out of 25) are linked to and thus expected to contribute to Output 6. This includes 14 P-I projects and 3 P-II projects. So far, only two Pillar II interventions have contributed with a total number of 20 policy outputs. As for P-I interventions, the near absence of concrete policy outputs (one dialogue so far) reflects a delay in activities.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI)	Total Value	Value P-I	Value P-II
Linked To GDI	2019-2021		Cumulative 2019-2021 (*)		*Blue (empty) cells: no expected contribution*	
16	2	**28A**	Number of policy-related outputs (Documents)	**20**	0	20
8	3	**28B**	Number of policy-related outputs (Dialogues)	**23**	1	22

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA intervention to Output 6 follows (table next page).

Table 12 – OUTPUT 6 – Contribution 2019-2021 (*) of DeSIRA projects

GDI #28A Number of policy-related outputs (Documents) GDI #28A Number of policy-related outputs (Dialogues)				
Project ID	**Contract CRIS #**	**DeSIRA Project**	**GDI #28A**	**GDI #28B**
			0(+) Positive contribution but value not available	
			Blue (empty) cells: no expected contribution	
1	412627, 412408	**AGROFORESTRY RWANDA**	0	
2	412107	**IRFFS**		
3	410203	**AGRO-INNOVA**	0	
4	412095	**FAIR-SAHEL**	0	
5	412700	**MALMON**	0	
6	411732	**INV-NIGER**	0	0
7	412132	**COCOA4FUTURE**	0	
8	412605	**TAERA**		
9	404348	**ACCEPT**	0	0
10	410957	**LIDISKI**	0	
11	413069	**LIPS-ZIM**		
12	410169	**CASSECS**	0	
13	411806	**CSARIDE**	0	
14	413081	**CLIMATE-SMART INNOVATION**	0	
15	407158	**CLIMA-LOCA**	0	0
16	410172	**ABEE**		
17	407715	**APSAN**		
18	411531	**BIORISQUES**	0	1
19	406180	**FAREI**		
20	406182	**UOM INNOVATION & TRAINING**		
21	410794	**BIOSTAR**	0	0
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	19	14
Pillar II	406569	**ONE PLANET**		
Pillar II	410670	**SUPPORT TO GFAR**	1	8
Pillar II	406734	**SUPPORT TO TAP**	0	0
TOTAL Cumulative Values (All interventions, Pillar I & II)			**20**	**23**

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

Progress towards Expected Outcomes

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

Introduction. When it comes to innovation, the term "adoption" is omnipresent in project documents. This global report uses the terms "uptake", "application" or "use". The uptake of innovations by smallholder farmers is the most compelling evidence of an increased capacity at farm level. It shows beneficiary farmers have acquired sufficient skills and confidence to apply new practices, use new varieties, shift to new production systems and thus substantially change their ways of farming. Two categories of farmers are targeted: a first circle, closely associated with research operations (e.g. their plot was selected for trials); a second circle (e.g. members of a FO), which could potentially replicate -with guidance from stakeholders- what the first circle does with close project support. The global Results Chain of the DeSIRA initiative shows how, combined, several outputs may lead to this outcome: Multi Stakeholder Innovation Platforms foster the engagement of FOs (Output 1), research processes produce innovative solutions (Output 2), capacities of farmers are built through a diversity of research and development activities (Output 3), the role of farmers in the production of knowledge ensures that research is demand-based and innovations are co-designed and thus likely to be more sustainable (Output 5).

Global DeSIRA Indicators attached to Outcome 1. Five GDIs are attached to Outcome 1, including two meta-indicators[3]:
- "**Number of hectares of agricultural or pastoral land where innovative climate-smart or agroecological practices have been introduced**"; this includes land for agroforestry, livestock, inland fisheries, aquaculture;
- "**Number of climate-smart or agroecological innovations taken up by smallholder farmers";** This indicator is disaggregated by category of innovation: A/ Products, technologies, models, systems, strategies (etc.); B/ Services, decision making tools, governance mechanisms. Under Output 2, the GDI on innovations covers the development and/or testing phases. Under Outcome 1, the GDI measures the number of innovations, applied at farm level. It includes solutions that already exist (i.e. not developed by the project), but are new in the project context.
- **"Number of smallholder farmers who have taken up at least one climate-smart or agroecological innovation".** The intention to continue using the innovation once project support has ended should be clear.
- "**Number of DeSIRA projects for which the expected rate of implementation of innovations by targeted farmers has been met".** This meta-indicator has been introduced to reflect a key indicator of many Pillar I projects, but attached to complex quantitative data which cannot be aggregated. This indicator focuses on the effectiveness of the innovation.
- "Number of DeSIRA projects having at least one documented strategy to disseminate or scale up innovations beyond the projects' target groups of smallholder farmers". This meta-indicator has been introduced to help to identify and characterize strategies to disseminate innovations beyond target groups.

Summary of values for the Global DeSIRA Indicators attached to Outcome 1. All Pillar I projects are expected to contribute to at least one of the GDIs attached to Outcome 1 (except one project focused on MSMEs). However, very few have contributed so far: 2 projects (out of 18) confirm innovative products, systems (etc.) have been taken up by farmers; 3 projects (out 18) report a positive number of farmers having applied at least one climate-smart or agroecological innovation. There is no contribution (yet) to the two meta-indicators, which have been introduced at a later stage in the development of the global M&E framework. The data for these two indicators will be collected during the next round of consultations with IPs. However, given the fact that most innovations are still under development, it is fair to say that no project has met the expected rate of implementation of innovations yet, whether it is an intermediate or end-of-project target. As for documented strategies aimed at disseminating or scaling up innovations beyond target groups, there is evidence that several projects do have such a strategy, but information is yet to be collected in a systematic manner. Pillar II projects are not linked to any GDI at Outcome 1 level and thus not expected to contribute.

[3] In the context of the DeSIRA initiative, a meta-indicator is an indicator that counts the number of DeSIRA projects having achieved a specified result, explicit or implicit.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI)	Total Value	Value P-I	Value P-II
Linked to GDI	2019-2021		Cumulative 2019-2021 (*)		*Blue (empty) cells: no expected contribution*	
18	2	**8A**	**Number of climate-smart or agroecological innovations taken up by smallholder farmers (Products, technologies, models, systems, strategies)**	**29**	29	
9	5	**8B**	**Number of climate-smart or agroecological innovations taken up by smallholder farmers (Services, decision making tools, governance mechanisms)**	**8**	8	
18	3	**9**	**Number of smallholder farmers who have taken up at least one climate-smart or agroecological innovation**	**1800**	1800	
13	0	**10**	**Number of DeSIRA projects for which the expected rate of implementation of innovations by targeted farmers has been met**	**0**	0	
20	0	**11**	**Number of DeSIRA projects having at least one documented strategy to disseminate or scale up innovations beyond the projects' target groups of smallholder farmers**	**na****	na**	

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

(**) na: information not available

The contribution of each DeSIRA intervention to Outcome 1 follows (Table 17).

Table 13 – OUTCOME 1 – Contribution 2019-2021 (*) of DeSIRA projects

GDI #8A Number of climate-smart or agroecological innovations taken up by smallholder farmers (Products, technologies, models, systems, strategies) GDI #8B Number of climate-smart or agroecological innovations taken up by smallholder farmers (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 beyond the projects' target groups of smallholder farmers							
Project ID	**Contract CRIS #**	**DeSIRA Project Short Title**	**GDI #8A**	**GDI #8B**	**GDI #9**	**GDI #10**	**GDI #11**
			0(+) Positive contribution but value not available				
			Blue (empty) cells: no expected contribution				
1	412627, 412408	**AGROFORESTRY RWANDA**	0	0	0	0	na
2	412107	**IRFFS**	0	0	0	0	na
3	410203	**AGRO-INNOVA**	18		1727		na
4	412095	**FAIR-SAHEL**	0	1	0	0	na
5	412700	**MALMON**	0(+)		30	0	na
6	411732	**INV-NIGER**					na
7	412132	**COCOA4FUTURE**	0		0	0	na
8	412605	**TAERA**	0		0	0	na
9	404348	**ACCEPT**	11	3	0(+)	0	na
10	410957	**LIDISKI**		1			na
11	413069	**LIPS-ZIM**	0	0	0		na
12	410169	**CASSECS**	0		0	0	na
13	411806	**CSARIDE**	0	2	0	0	na
14	413081	**CLIMATE-SMART INNOVATION**	0		0	0	na
15	407158	**CLIMA-LOCA**	0	0	0	0	na
16	410172	**ABEE**	0		0		na
17	407715	**APSAN**	0		0	0	na
18	411531	**BIORISQUES**	0	1	43		na
19	406180	**FAREI**	0		0	0	na
20	406182	**UOM INNOVATION & TRAINING**	0		0		na
21	410794	**BIOSTAR**					
Pillar II	407682	**SUPPORT TO CAADP AR&EO**					
Pillar II	406569	**ONE PLANET**					
Pillar II	410670	**SUPPORT TO GFAR**					
Pillar II	406734	**SUPPORT TO TAP**					
TOTAL Cumulative Values (All interventions, Pillar I & II)			**29**	**8**	**1800**	**0**	na**

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

(**) na: information not available

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

Introduction. Capacity Development is the essence of the DeSIRA initiative. Adequate institutional support from a diversity of organisations (research, extension, NGOs, FOs) is key to the co-design of innovation and sustainability of benefits. These organisations should be able to continue innovating and this should be the result of strengthening with project support, for instance: infrastructure, networking/collaboration, human resources, technical expertise, internal policies, governance, finances, management, monitoring & learning expertise, advocacy & strategic thinking (etc). As per the global Results Chain, institutional capacity stems from a complex process underpinned by a combination of outputs: institutional cooperation is boosted by MSIPs and the joint design of innovations (Output 1), innovations for institutional use are developed (Output 2), capacities of researchers, extension specialists and other technical staff are developed (Output 3), education and training programmes are updated or created (Output 4), science-based knowledge and evidence are generated to inform research for innovation in agriculture, institutional cooperation and the dissemination of new climate-smart and agroecological solutions (Output 5). Besides, other expected outcomes also contribute to the capacity to innovate (e.g. changes in the policy environment).

Global DeSIRA Indicators attached to Outcome 2. Two main GDIs are attached to Outcome 2:
- "Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (International)"; Organisations in the process of increasing their capacity are disaggregated by scale of operation (International; National/Sub-national) and by category, at national/subnational level (Research institution; Technical/Development institution; FOs, NGOs, CSOs**);**
- "Number of new institutional partnerships on agriculture and foods systems triggered by the project"; The partnership can be formal or informal, but it should have the potential to be sustained without support. Each DeSIRA project is by definition and by construction a collaborative research partnership between several institutions/organisations. However, it does not count as "1" under this GDI, which aims at capturing new partnerships, triggered by the DeSIRA intervention.

Summary of values for the Global DeSIRA Indicators attached to Outcome 2. Many projects already contribute to strengthening the institutional capacity of 56 international organisations, 101 national research institutions, 46 national or subnational technical/development institutions and 100 FOs/NGOs (mostly FOs). 10 projects contribute to new institutional partnerships on agriculture and foods systems, for a total of 113 partnerships (including 83 from one large Pillar II project).

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked to GDI	2019-2021					
10	9	**12A**	**Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (International)**	**56**	12	44
23	15	**12B**	**Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational research institutions)**	**101**	50	51
14	7	**12C**	**Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational technical/development institutions)**	**46**	9	37
18	12	**12D**	**Number of organisations increasing their capacity to innovate in the area of agriculture and food systems (National or subnational FOs, NGOs, CSOs)**	**100**	78	22
12	10	**13**	**Number of new institutional partnerships on agriculture and foods systems triggered by DeSIRA projects**	**113**	16	97

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA intervention to Outcome 2 follows.

Table 14 – OUTCOME 2 – Contribution 2019-2021 (*) of DeSIRA projects

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

Project ID	Contract CRIS #	DeSIRA Project Short Title	GDI #12A	GDI #12B	GDI #12C	GDI #12D	GDI #13
			0(+) Positive contribution but value not available				
			Blue (empty) cells: no expected contribution				
1	412627, 412408	**AGROFORESTRY RWANDA**		0	0	0	
2	412107	**IRFFS**		2	1		
3	410203	**AGRO-INNOVA**	2	0	0	8	
4	412095	**FAIR-SAHEL**		5		3	
5	412700	**MALMON**		0			
6	411732	**INV-NIGER**	0		0	0	
7	412132	**COCOA4FUTURE**		5	1	20	
8	412605	**TAERA**		3		2	
9	404348	**ACCEPT**	1	2		8	2
10	410957	**LIDISKI**		1	4	2	2
11	413069	**LIPS-ZIM**		0	1	2	6
12	410169	**CASSECS**		0	0	0	
13	411806	**CSARIDE**		2	1		0
14	413081	**CLIMATE-SMART INNOVATION**	7	2	1	20	1
15	407158	**CLIMA-LOCA**		0	0	0	
16	410172	**ABEE**		3		6	0
17	407715	**APSAN**	1	1		6	
18	411531	**BIORISQUES**	1	13			
19	406180	**FAREI**		1			
20	406182	**UOM INNOVATION & TRAINING**		1	0		3
21	410794	**BIOSTAR**	1	9		1	2
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	42	51	37	18	83
Pillar II	406569	**ONE PLANET**					10
Pillar II	410670	**SUPPORT TO GFAR**	1	0		0	2
Pillar II	406734	**SUPPORT TO TAP**	1	0	0	0	2
TOTAL Cumulative Values (All interventions, Pillar I & II)			**56****	**101**	**46**	**100**	**113**

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods
(**) Adjusted for double counting. The total value is 57 but the same international organisation is mentioned by two Pillar I projects.

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

Introduction. Private sector organisations are an integral part of Agricultural Knowledge Innovation Systems (AKIS) , thus they are stakeholders of the DeSIRA initiative. They play a role in the development of innovations by participating in Multi Stakeholder Innovation Platforms. As key actors of value chains, they are expected to facilitate the uptake of innovations by farmers and scale up their use among farming communities. Strengthening value chains and Micro, Small & Medium Enterprises (MSMEs) is an expected outcome of the DeSIRA initiative. As per the global Results Chain, five outputs contribute to this outcome: the participation of the private sector in MSIPs and the development of innovations (Output 1), the uptake of innovations intended for MSMEs (Output 2), the development of technical capacities (Output 3), relevant training programmes (Output 4), the production of scientific knowledge (Output 5).

Global DeSIRA Indicators attached to Outcome 3. Five main GDIs are attached to Outcome 3:
-"**Number of sustainable or climate-smart innovations taken up by agriculture and food-related MSMEs";** this includes product, technology, model, system, management strategy, equipment, service, decision making tool, governance mechanism (etc.);
-"Number of agriculture and food-related MSMEs which have taken up at least one sustainable innovation"; There should be a clear intention to continue applying the innovation once project support has ended;
-"Number of agriculture and food-related MSMEs strengthened or created"; This covers MSMEs either created, strengthened or in the process of being strengthened as result or the intervention;
-"Number of food value chains strengthened"; This indicator also covers value chains in the process of strengthening; it encompasses a diversity of activities aimed at strengthening the goods and services necessary for an agricultural product to move from the farm to the final customer or consumer (as per the FAO definition);
-"Number of full-time food industry-related jobs created"; This indicator measures the number of jobs created to support value chains, as a result of project activities.

Summary of values for the Global DeSIRA Indicators attached to Outcome 3. In comparison to Outcome 1, 2 and 4, the number of projects likely to contribute to Outcome 3 is not as high. Achievements are still limited. There is no achievement in the areas of innovation for the private sector and job creation. Seven Pillar I projects have started strengthening value chains, 18 in total. The number of private sector companies strengthened comes almost entirely from one P-II project.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked to GDI	2019-2021				*Blue (empty) cells: no expected contribution*	
6	0	**14**	**Number of sustainable or climate-smart innovations taken up by agriculture and food-related MSMEs**	**0**	0	
6	0	**15**	**Number of agriculture and food-related MSMEs which have taken up at least one sustainable innovation**	**0**	0	
10	2	**16**	**Number of agriculture and food-related MSMEs strengthened or created**	**14**	1	13
9	7	**17**	**Number of food value chains strengthened**	**18**	18	
4	0	**18**	**Number of full-time food industry-related jobs created**	**0**	0	

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA intervention to Outcome 3 follows.

Table 15 – OUTCOME 3 – Contribution 2019-2021 (*) of DeSIRA projects

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

Project ID	Contract CRIS #	DeSIRA Project Short Title	GDI #14	GDI #15	GDI #16	GDI #17	GDI #18
			0(+) Positive contribution but value not available				
			Blue (empty) cells: no expected contribution				
1	412627, 412408	**AGROFORESTRY RWANDA**			0	0	
2	412107	**IRFFS**	0	0	0	2	
3	410203	**AGRO-INNOVA**					
4	412095	**FAIR-SAHEL**					
5	412700	**MALMON**					
6	411732	**INV-NIGER**					
7	412132	**COCOA4FUTURE**				2	
8	412605	**TAERA**					
9	404348	**ACCEPT**					
10	410957	**LIDISKI**			1	3	
11	413069	**LIPS-ZIM**	0	0	0	5	0
12	410169	**CASSECS**					
13	411806	**CSARIDE**	0	0(+)	0	1	0
14	413081	**CLIMATE-SMART INNOVATION**			0		
15	407158	**CLIMA-LOCA**	0	0	0		
16	410172	**ABEE**					
17	407715	**APSAN**				4	0
18	411531	**BIORISQUES**					
19	406180	**FAREI**					
20	406182	**UOM INNOVATION & TRAINING**	0	0	0	1	
21	410794	**BIOSTAR**	0	0	0	0	0
Pillar II	407682	**SUPPORT TO CAADP AR&EO**			13		
Pillar II	406569	**ONE PLANET**					
Pillar II	410670	**SUPPORT TO GFAR**					
Pillar II	406734	**SUPPORT TO TAP**					
TOTAL Cumulative Values (All interventions, Pillar I & II)			**0**	**0**	**14**	**18**	**0**

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

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

Introduction. Policy development is an objective of both AD 2018 and 2019. It is expected that national authorities and other public authorities (e.g. municipalities) in targeted countries will increase their ability to adapt to the adverse impacts of climate change on agriculture and food systems through relevant integrated policies, strategies or plans. As per the global Results Chain, two outputs contribute to this outcome: the production of scientific knowledge (Output 5) underpins the content of dialogues and briefs (Output 6).

Global DeSIRA Indicators attached to Outcome 4. Two main GDIs are attached to Outcome 4:
-"**Number of policies, strategies or plans, fostered by multi-stakeholder processes, under development or endorsed by the relevant authorities";** This includes policies at national, sub-national or transnational level;
- **"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".**
Given the duration of DeSIRA projects (mostly 4 to 5 years) and delays in implementation, policy efforts may not succeed before the project ends: to capture all outcomes, both GDIs cover policies endorsed or under development. Most projects count policies, but a few count countries without providing detail on policies influenced. Besides, several DeSIRA projects active in the same country might influence more than one policy. In which case, the policy GDI counting countries cannot capture the cumulative effect the DeSIRA initiative may have in a single country. Hence the two policy GDIs.

Summary of values for the Global DeSIRA Indicators attached to Outcome 4. Eleven interventions, including 9 Pillar I projects and 2 Pillar II projects have a policy component and are expected to contribute to Outcome 4. So far, only the Pillar II projects have contributed to the policy environment.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI) Cumulative 2019-2021 (*)	Total Value	Value P-I	Value P-II
Linked to GDI	2019-2021				*Blue (empty) cells: no expected contribution*	
11	0	**19**	**Number of policies, strategies or plans, fostered by multi-stakeholder processes, under development or endorsed by the relevant authorities**	**0**	0	0
11	2	**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**	**5**	0	5

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA intervention to Outcome 4 follows (table next page).

Table 16 – OUTCOME 4 – Contribution 2019-2021 (*) of DeSIRA projects

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**				
Project ID	**Contract CRIS #**	**DeSIRA Project Short Title**	**GDI #19**	**GDI #20**
			0(+) Positive contribution but value not available	
			Blue (empty) cells: no expected contribution	
1	412627, 412408	**AGROFORESTRY RWANDA**		
2	412107	**IRFFS**		
3	410203	**AGRO-INNOVA**	0	0
4	412095	**FAIR-SAHEL**	0	0
5	412700	**MALMON**		
6	411732	**INV-NIGER**	0	0
7	412132	**COCOA4FUTURE**		
8	412605	**TAERA**		
9	404348	**ACCEPT**	0	0
10	410957	**LIDISKI**	0	0
11	413069	**LIPS-ZIM**		
12	410169	**CASSECS**	0	0
13	411806	**CSARIDE**	0	0
14	413081	**CLIMATE-SMART INNOVATION**		
15	407158	**CLIMA-LOCA**	0	0
16	410172	**ABEE**		
17	407715	**APSAN**		
18	411531	**BIORISQUES**	0	0
19	406180	**FAREI**		
20	406182	**UOM INNOVATION & TRAINING**		
21	410794	**BIOSTAR**		
Pillar II	407682	**SUPPORT TO CAADP AR&EO**	0(+)	4
Pillar II	406569	**ONE PLANET**		
Pillar II	410670	**SUPPORT TO GFAR**	0	1
Pillar II	406734	**SUPPORT TO TAP**		
TOTAL Cumulative Values (All interventions, Pillar I & II)			**0**	**4**

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

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

Introduction. In line with AD 2018, Pillar I and Pillar II projects have the same overall objective, i.e. to induce positive changes at farm level on livelihoods, agroecosystems, resilience to CC-induced shocks, as a consequence of innovations implemented at farm level (Pillar I), increased institutional capacities and/or better policy environment. Depending on project design, the implementation of dissemination strategies, the existence and effectiveness of synergies and the role of non-project actors, these changes can be restricted to target groups or may spread beyond target groups (wider impact). The diversity of impact GDIs aims at reflecting the multiple dimensions of expected impact: benefits for target groups and beyond, women empowerment, benefits for agroecosystems, impact on agriculture and food systems at macro-level (national or international).

Global DeSIRA Indicators attached to Impact. Seven main GDIs are attached to Impact:
- "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"; this GDI focuses on target groups of Pillar I projects;
- "Number of smallholder farmers expected to benefit from innovations disseminated beyond the projects' target groups"; this GDI aims at capturing impact beyond target groups;
- "Number of hectares of agricultural or pastoral land where innovative climate-smart or agroecological practices have been introduced"; this indicator includes land for agroforestry, livestock and inland fisheries, and it is disaggregated: A/ By target groups; B/ By indirect beneficiaries;
- "Number of DeSIRA interventions claiming positive, documented impact on agroecosystems at farm level"; this GDI is a meta-indicator[4];
- "Number of DeSIRA interventions claiming positive, documented contribution to the status and role of smallholder female farmers or female food entrepreneurs"; this GDI is a meta-indicator.
- 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 or international level;
- 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 or international level.

Summary of values for the Global DeSIRA Indicators attached to Impact.
The summary follows (next page).
A preliminary (draft) version of the global LFM included a smaller number of impact-level GDIs, all focused on Pillar I projects and their target groups (smallholder farmers). The set of impact GDIs was later enriched with indicators aimed at highlighting wider impact (beyond target groups) and the potential long-term impact of institutional capacity development and policy changes. The number of projects, Pillar I and Pillar II, linked to GDIs added at a later stage is yet to be determined (this will be done during the next annual round of interviews with IPs): in the summary below, values marked with two stars** in the column "linked to GDI" are thus temporary. So far, only one Pillar I project has contributed to one impact GDI (number of hectares where innovative climate-smart or agroecological practices have been introduced) for a total of 87 hectares.

[4] In the context of the DeSIRA initiative, a meta-indicator is an indicator that counts the number of DeSIRA projects having achieved a specified result, explicit or implicit.

Number of projects contributing to the GDI value		GDI #	Global DeSIRA Indicator (GDI)	Total Value	Value P-I	Value P-II
Linked to GDI	2019-2021		Cumulative 2019-2021 (*)		*Blue (empty) cells: no expected contribution*	
18	0	**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**	**0**	0	
2**	0	**2**	**Number of smallholder farmers expected to benefit from innovations disseminated beyond the projects' target groups**	**0**	0	
8	1	**3A**	**Number of hectares of agricultural or pastoral land where innovative climate-smart or agroecological practices have been introduced (By target groups)**	**87**	87	
0**	0	**3B**	**Number of hectares of agricultural or pastoral land where sustainable innovative climate-smart or agroecological practices have been introduced (By indirect beneficiaries)**			
14	0	**4**	**Number of DeSIRA interventions claiming positive, documented impact on agroecosystems at farm level**	**0**	0	
3	0	**5**	**Number of DeSIRA interventions claiming positive, documented contribution to the status and role of smallholder female farmers or female food entrepreneurs**	**0**	0	
0**	0	**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 or international level**			
0**	0	**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 or international level**			

(Source: Global DeSIRA M&E framework)

(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

The contribution of each DeSIRA project to Impact follows (Table 21, next page).

Table 17 – IMPACT – Contribution 2019-2021 (*) of DeSIRA projects

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 #3A Number of hectares of agricultural or pastoral land where innovative climate-smart or agroecological practices have been introduced (By target groups)
GDI #3B Number of hectares of agricultural or pastoral land where sustainable innovative climate-smart or agroecological practices have been introduced (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 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 or international level

Project ID	Contract CRIS #	DeSIRA Project	GDI #1	GDI #2	GDI #3A	GDI #3B	GDI #4	GDI #5	GDI #6	GDI #7
			0(+) Positive contribution but value not available							
			Blue (empty) cells: no expected contribution							
1	412627, 412408	**AGROFORESTRY RWANDA**	0		0		0			
2	412107	**IRFFS**	0	0	0		0	0		
3	410203	**AGRO-INNOVA**	0	0	87		0			
4	412095	**FAIR-SAHEL**	0				0			
5	412700	**MALMON**	0		0(+)		0			
6	411732	**INV-NIGER**	0				0			
7	412132	**COCOA4FUTURE**	0		0		0			
8	412605	**TAERA**			0		0			
9	404348	**ACCEPT**	0							
10	410957	**LIDISKI**	0							
11	413069	**LIPS-ZIM**	0				0			
12	410169	**CASSECS**	0				0			
13	411806	**CSARIDE**	0				0	0		
14	413081	**CLIMATE-SMART INNOVATION**					0			
15	407158	**CLIMA-LOCA**	0		0		0			
16	410172	**ABEE**	0							
17	407715	**APSAN**	0		0		0			
18	411531	**BIORISQUES**	0							
19	406180	**FAREI**	0							
20	406182	**UOM INNOVATION & TRAINING**	0							
21	410794	**BIOSTAR**						0		
Pillar II	407682	**SUPPORT TO CAADP AR&EO**								
Pillar II	406569	**ONE PLANET**								
Pillar II	410670	**SUPPORT TO GFAR**								
Pillar II	406734	**SUPPORT TO TAP**								
TOTAL Cumulative Values (All interventions, Pillar I & II)			**0**	**0**	**87**		**0**	**0**		

(Source: Global DeSIRA M&E framework)
(*) Implementation period covered is not the same for all projects, refer to the table on project implementation periods

General conclusion and overview of recommendations

The 25 DeSIRA projects included in the Annual Global Report 2021 involve a fairly large number of researchers (at least 834) and organisations (at least 352, including 145 research institutions) in their implementation.

Regarding outputs for the reporting period, 119 multistakeholder innovation platforms have been developed or strengthened at international (18), national (76) or subnational (25) level including 78 by one Pillar II project. Innovation processes have been initiated, with a total of 262 innovations: 219 for farm-level use (including 182 still under development by the end of the reporting period) and 43 for institutional use. More than 7000 smallholder farmers were reached by a diversity of activities such as trainings, involvement in innovation platforms or research trials. This modest number partly stems from the fact that most Pillar I projects co-develop innovations with rather small groups of farmers. Individual capacities have started developing, with 111 people supported to earn a post-graduate diploma, and 765 professionals (e.g. researchers, extension specialists) from a diversity of institutions trained or simply gaining skills by participating in project implementation. Only 2 curricula and 4 training courses have been created, with a clear intention from targeted education institutions to continue using them. At least 499 knowledge and communication products have been developed, including 295 by one Pillar II intervention. On the policy front, only 20 policy briefs had been produced and 23 dialogues organized, almost all by Pillar II projects, highlighting the slow start of Pillar I projects in this area.

Most projects started a few weeks before the onset of the COVID-19 pandemic, therefore outcomes related to the reporting period -which partly coincides with the global sanitary crisis- are unsurprisingly limited. There were 37 innovations taken up by farmers and dissemination strategies were yet to be identified. A few value chains (18) were in the process of strengthening. Improvements in the policy environment were observed in 4 countries (partial credit to one Pillar II project) and for 1 international organisation (full credit). In the area of institutional capacity, preliminary outcomes have begun to emerge: IPs claim that 56 international organisations (44 from Pillar II), 147 national research or technical institutions (88 from Pillar II) and 100 FOs or NGOs (22 from Pillar II) were in the process of strengthening. There are two caveats to progress on the institutional front. First, progress is often assumed, rather than proved, because claims are rarely backed by a robust methodology to measure change in institutional capacity. Second, all DeSIRA projects implicitly assume that increasing institutional capacity is a sufficient condition for improving innovation capacity. However, although many institutions demonstrate their capacity to participate in multistakeholder innovation processes, sustainability mechanisms (i.e. ability to initiate and support innovation processes once the project is over) are unclear. Besides, the role of FOs in these processes is insufficiently highlighted.

Limited progress on most fronts is also explained by inherently slow research and innovation processes, the dynamics of which cannot compare with development processes. There is a diversity of DeSIRA interventions, each with its own dynamics, but a common strategy for many Pillar I projects is to co-design and test solutions with farmers and other stakeholders. Then, advisory services, FOs or NGOs are trained and supported to take stock of the results of research processes and make use of innovative solutions tested at small scale, while policies are influenced for change at scale. For these projects, impact is likely to form very slowly.

While it is clear that cumulative results over the reporting period were still limited due to delays and slow processes, it will become more difficult in the future to say whether or not the overall achievements meet expectations at DeSIRA initiative level, because there are no target values at initiative level. This is because GDIs often capture implicit -rather than explicit- project results and thus are not necessarily linked to project indicators and related target values. Consequently, project target values cannot be aggregated at global/initiative level. Further analysis will always be needed to assess overall progress. Last but not least, results -as summarized above- must be interpreted with some degree of caution: 1/ the quality of data at initiative level depends on the quality of data at project level, with room for improvement; 2/ in some areas, quantitative results of one large Pillar II project overshadow the results of the other projects; this is mitigated by highlighting the results of Pillar I and of Pillar II projects separately.