



## ASPIRE - building integrated agrisilvopastoral food systems resilient to climate change and other crises

Initiative Lead and Co-Lead	Primary CGIAR Action Area	Estimated 2022 - 2024 Budget
Mounir Louhaichi Fiona Flintan	Resilient Agri-food Systems	\$25 - \$30 M

### Challenge

Over two billion people depend on the world's pastoral agrifood systems found mainly in rangelands covering approximately 54% of the world's terrestrial surface with 50% of the world's livestock (<https://bit.ly/2OJRDMn>, <https://bit.ly/3dXgJQB>, <https://bit.ly/3v0S4BJ>, <https://bit.ly/3thn7sq>, <https://bit.ly/3e0f78D>, <https://bit.ly/3tigelH4>). These systems are experiencing intensifying impacts from climate change and other forces (<https://bit.ly/3sf8DI4>, <https://bit.ly/3ab6WW5>), weakening their resilience (<https://bit.ly/3mJo3mQ>, <https://bit.ly/2Rp9byk>). Land degradation, productivity losses (<https://bit.ly/3g6cBR1>), conflicts, insecurities and displacement of populations (<https://bit.ly/3ab6WW5>, <https://bit.ly/32aieVU>) have resulted. A lack of appreciation and investment in pastoralism has meant not only weakened resilience, but also meant the full potential of these systems has never been realised.

There is a lack of knowledge and capacity to support a (re)building of this resilience (<https://bit.ly/3mICpE4>, <https://bit.ly/32b0aLD>) leading to governments and other stakeholders making decisions that fail to address root causes of resilience weakness whilst relying on increasing humanitarian aid (<https://bit.ly/3uOCSar>). Development interventions have been driven from outside communities, and the agency of pastoralists has not been fully tapped - particularly women and youth (<https://bit.ly/3df0IX6>, <https://bit.ly/3dehohp>, <https://bit.ly/3dZqY73>, <https://bit.ly/3ab3XwO>, <https://bit.ly/3e3ui0Y>, <https://bit.ly/3gh8Fge>).

The sustainability of pastoral agrifood systems is further challenged by significant need for land and resource restoration and rehabilitation which falls way behind those in such as forests (<https://bit.ly/3g6cBR1>, <https://bit.ly/3e5tkkE>, <https://bit.ly/3ac3pqp>, <https://bit.ly/32fKsyA>, <https://bit.ly/3ab6WW5>). Non-supportive policy and legislation further prioritize investments in other agrifood systems that lead to further marginalization, exclusion of pastoralists and other local stakeholders and can be a root cause of conflicts (<https://bit.ly/2Q18kDK>, <https://bit.ly/3di57Zj>, <https://bit.ly/32f3hSM>, <https://bit.ly/3dZ53Nf>, <https://bit.ly/32eMUW8>).

It is vital that pastoralists, agropastoralists and other stakeholders are given support to address these challenges, to strengthen pastoral agrifood systems as an integrated agroecological approach, linking new investments, research and innovations, working at different scales, transforming and intensifying sustainable production and providing environmental services locally and globally (<https://bit.ly/3uJEJxp>, <https://bit.ly/3a7Nuto>, <https://bit.ly/3g6cBR1>).

### Objective

ASPIRE's objective is to strengthen the resilience of pastoral agrifood systems to climate change and other crises, whilst optimising opportunities for the system to grow productively. This will be done in partnership with communities, development actors, and governments building capacity and optimizing opportunities for delivering impact at scale. It will be achieved through three interlinked specific objectives:

- i. To improve the security, health, productivity and capacities of people, land and livestock through strengthened land and resource management and governance and the better integration of livestock, crops and trees, women and youth empowerment including value chain development, and improved livestock health; facilitated through innovations and multi-stakeholder platforms, decision-making and digital tools co-constructed with end-users, identification of problems and potential scalable solutions across the targeted territories;
- ii. To improve understanding of what constitutes a resilient pastoral agrifood system, and how this resilience can be (re)built. This includes understanding and developing tools for risk management and early response to disasters and the development of e.g. resilience-building services, early warning systems, risk finance mechanisms, robust interdisciplinary model-based simulation/predictions of climate predictions, for more controlled risk exposure of pastoral agrifood systems and resilience-building;
- iii. To improve the political, financial, and institutional enabling environment at national, regional and global levels in order to better support agrisilvopastoralism: policy dialogues for knowledge generation, advocacy for more resilience-building investments in agrisilvopastoralism and rangelands, highlighting the role these can play in contributing to fulfilling national and global commitments on the SDGs, Land Degradation Neutrality, UN Food Systems Summit and others.

### Theory of Change

The resilience of pastoral agrifood systems to climate variability and crises has been weakened. Key drivers include a lack of investment in the pastoralist sector where livestock is central, supported by effective resource management and governance, well-tested livelihood diversification, productivity improvements and a more enabling environment. ASPIRE will (re)build the resilience of pastoral agrifood systems in five interlinked areas: i. land and natural resource management and governance; ii. empowerment of women and youth including through pastoral agrifood value chains; iii. improvements in livestock health and herd management; iv. improving understanding/functioning of resilient pastoral agrifood systems; and v. an improved enabling environment and partnership building. The Initiative will work in predominantly dry rangeland landscapes where pastoral agrifood systems are the norm.

Partnership is key to the success of this Initiative and to optimise impact-at-scale: ASPIRE is already cooperating with IFAD, FAO and government partners for codesign and implementation; ASPIRE will work closely with other OneCGIAR Initiatives ensuring complementarities and synergies; innovations will be developed with users building on previous CGIAR programs. Further, monitoring and evaluation, horizontal and vertical learning across stakeholders and scales will be continuous.

ASPIRE will result in pastoral agrifood systems being more resilient to climate and other crises and better positioned to grow productively. This will directly and positively impact on the food and nutrition security of communities. Value chain development will provide opportunities for improved incomes and empowerment of women and youth. Additional impacts include reduced population migrations, greater human security, reduced conflicts, and improved ecosystem services.

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### Highlights

ASPIRE works from local to landscape (rangeland) levels, (re)building resilience of pastoral agrifood systems holistically and integratively, focusing on the collective in terms of society, economy, institutions, ecology, ensuring that the sum of the whole is greater than its parts.

ASPIRE will benefit from experience and relations already built in certain countries providing for a quick start-up. From this foundation, new partnerships, countries, expertise, innovations and research will be built. To optimise impact at scale, ASPIRE is already cooperating with IFAD, FAO and government partners for codesign and implementation.

ASPIRE will develop analytical frameworks and associated metrics in collaboration with research and development partners, generating evidence of what works (or not) and how to measure pastoral agrifood system resilience, responding to complex, varied and interwoven issues of physical, social, ecological, economic and institutional nature.

ASPIRE will promote knowledge and data exchange horizontally across regions, countries, landscapes and vertically between pastoralists/farmers, practitioners, others with national, regional, global actors developing initiatives and fulfilling commitments to such as LandDegradationNeutrality, BonnChallenge, GreatGreenWall, UN Food Systems Summit, UN Decade on Ecosystem Restoration, EU Green Deal and Food-to-Fork initiative.

ASPIRE works with other OneCGIAR Initiatives, including Climate-Smart Livestock (CSSLI), Building Systemic Resilience, Agroecology, Genebanks, Digital Technologies, and regional initiatives. Complementarities and cross-fertilisation between initiatives, sharing of tools, approaches and insights knowledge and expertise will be optimised. ASPIRE will provide local entry points and learning sites for many of these.

### Work Packages

	Scope of Work	3-year Outcomes
LAND AND NATURAL RESOURCE MANAGEMENT AND GOVERNANCE	Identifying knowledge gaps and undertaking research to (re)build more resilient systems, working with communities and other stakeholders. To include baseline-impact studies, context analysis, field trials, land/resource tenure and governance improvements, participatory planning, rangeland management, nutrient/waste cycling, water management, integration of trees, biodiversity conservation, ecosystem services, multistakeholder-platforms and innovation development	By 2024 40% of pastoralists in target areas will be adopting improved (more resilient) agrisilvopastoral processes and practices, including integrated management of livestock, crops and trees resulting in 20% increase in rangeland productivity, good resource governance, efficient use of resources, and boosting of conservation and ecosystem services
EMPOWERMENT OF WOMEN AND YOUTH INCLUDING THROUGH VALUE CHAIN DEVELOPMENT	Research and development of value chains benefiting from agrisilvopastoralism, particularly targeting women and youth leading to empowerment. Participatory value chain mapping and formal analysis conducted to identify and correct chain inefficiencies, while actors address challenges through innovation platforms and business incubation services, strengthening chains from producer to consumer	By 2024 there will be 30% increase in women and youth leading new pastoral agrifood system businesses contributing to empowerment of women and youth improving the capacity of these groups to access resources, control assets, and participate in decision-making
LIVESTOCK HEALTH AND HERD MANAGEMENT	Assessment of new and current livestock health issues, research on livestock health and disease, herd management, fodder, feed, animal breeding, reinforced by trainings and support to local livestock health services and development of knowledge products on One Health in agrisilvopastoralism for building resilience	By 2024 there will be a 10% increase in livestock health and better herd management, together with improved understandings of practices that address the health of people, animals and environment influenced by the One Health approach
IMPROVING UNDERSTANDING AND FUNCTIONING OF A RESILIENT PASTORAL AGRIFOOD SYSTEM	Development of tools, digital technologies, protocols to understand, measure and (re)build resilience of pastoral agrifood systems, foresight and simulation on climate predictions, risk management of drought, water and disasters, early warning systems etc. Engagement with the public and private sectors on resilience-building investments in agrisilvopastoralism	By 2024 at least one tool, technology or protocol to measure and build resilience of pastoral agrifood systems will be uptaken by users in each country. Local and national risk management of drought, water and disasters will be improved. At least one partnership with private sector for investment in pastoral agrifood systems established
ENABLING ENVIRONMENT AND PARTNERSHIP BUILDING	Policy engagement with national and regional stakeholders through co-design and implementation, multi-stakeholder platforms, rangeland restoration cost-benefit analysis, knowledge-data sharing and other. Partnerships with global actors, platforms, initiatives to raise awareness on importance and contribution of pastoral agrifood systems and need for investments, with improved access to and relevant information	By 2024 there will be at least one improved policy, legislation and/or institutional arrangements supporting agrisilvopastoralism in each country, supporting an improved enabling environment. At least two research in development partnerships will be established in each country, and two at global level. National and global rangelands data platforms established

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**Impact Area Contributions**

<b>Nutrition, health &amp; food security</b>	Improved pastoral agrifood systems coping better with climate change and other crises, reducing the number of people experiencing hunger. Food and nutritional security is improved by increased intake of animal-sourced foods, nutrient dense crops, vegetables, fruits and nuts, whilst also increasing the number of people with more healthy diets
<b>Poverty reduction, livelihoods &amp; jobs</b>	Equitable engagement of communities, particularly women and youth, in dynamic value chains reduces the numbers of people living in poverty, increases household income and leads to economic empowerment. This is synergistically improved when supported by stronger engagement of private actors and increased investments in agrisilvopastoralism
<b>Gender equality, youth &amp; social inclusion</b>	Focus on women and youth in the development of value chain also increases employment and entrepreneurial opportunities for youth in the sector, reduces migration and strengthens the rights of women to economic and other resources, proving a strong contribution to overall social inclusion and empowerment
<b>Climate adaptation &amp; greenhouse gas reduction</b>	Self-sustained and adaptive pastoral agrifood systems lead to pastoralists and others being more resilient to climate shocks. Investments in land improvements, restoration and rehabilitation improve carbon storage/sequestered of land at local level and contribute to Land Degradation Neutrality country commitments, including land cover and productivity
<b>Environmental health &amp; biodiversity</b>	Sustainable land and natural resource management approaches in agrisilvopastoralism increases animal and plant biodiversity, boosting conservation and ecosystem services, including through increased land cover and in particular tree coverage. Improvement in nutrients and water cycling, and in waste management improves use of consumptive water

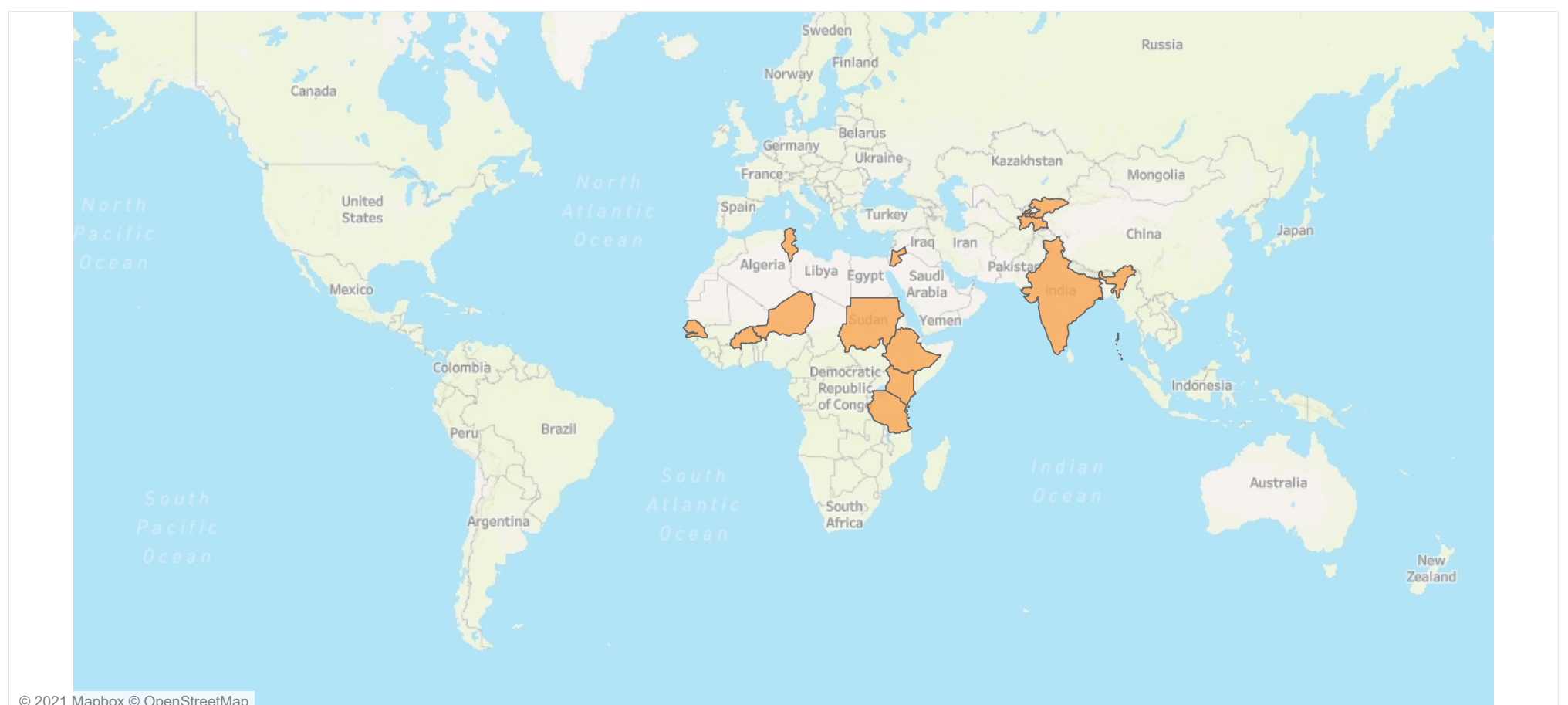
**Impact on SDGs**



**Regions**

Global Central and West Asia and North Africa (CWANA), East and Southern Africa (ESA), South Asia (SA), West and Central Africa (WCA)

**Countries**



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### Innovations

Scaling of Participatory Rangeland Management (PRM) a process supporting inclusive community mobilisation and capacity building for improved management and governance of rangelands, working through three stages - Investigation, Planning, Implementation. Activities include participatory mapping, baseline/monitoring system set-up, development of a rangeland management plan and agreement strengthening rights to resources.
Expansion of the Sustainable Rangeland Management toolbox for addressing the root causes of agrisilvopastoral ecosystem degradation at local scale and in different contexts. This toolbox combines indigenous knowledge and science-based evidence for site-specific practical solutions e.g. silvopastoralism, planned grazing, water conservation, reseeded. Training materials including online will be developed.
New transdisciplinary tool for measuring and monitoring system-level resilience of pastoral agrifood systems and rangelands, including possible optimal resilient or tipping points and/or thresholds. This tool and the process to develop it will influence/change thinking on resilience, its measurement and provision of support for resilience-building through interventions and investments.
A Women Empowerment in Pastoralism Index (WEPI) building on and adapting the Women Empowerment in Livestock Index (WELI) measuring the impact of interventions on the empowerment of pastoral women (as part of a collective group)
New tool(s), process(es), and protocol(s) for undertaking an evaluation of costs and benefits of rangeland degradation vis-à-vis rangeland restoration, with long and short-term scenarios. These will be tested and shared as a decision-making tool with intended users including communities, practitioners, researchers, government and investors. Results should have strong policy implications.

### Key Partners

<b>Demand</b>	Government	National Governments
	Multilateral	Global Environment Facility (GEF), European Union (EU), Swiss Agency for Development Cooperation (SDC), Federal Ministry for Economic Cooperation and Development (BMZ), Foreign Commonwealth & Development Office (FCDO) UK, USAID, Agence France de Developpement (AFD), Africa Development Bank (AfDB), Asia Development Bank (ADB), NDA (Netherlands Development Agency), etc
		International Fund for Agricultural Development (IFAD), Food and Agricultural Organization of the United Nations (FAO), World Bank (WB), United Nations Environment Programme (UNEP), International Union for Conservation of Nature (IUCN)
	Other	Pastoralists, agro-pastoralists and other local stakeholders
UN Decade on Ecosystem Restoration, UN Convention to Combat Desertification (UNCCD), Green Deal and Food-To-Fork initiatives of EU, UN Food Systems Summit Action Track 3, Great Green Wall, Bonn Challenge, UN Convention on Biological Diversity (UNCBD) and UN Conventions Framework Convention on Climate Change (UNFCCC)		
<b>Innovation</b>	Academic, Training and Research	National Agricultural Research Systems (NARS), Universidad de Extremadura (Spain), Utrecht University (Netherlands), International Centre of Insect Physiology and Ecology (ICIPE), French Agricultural Research Centre for International Development (CIRAD), Research Institute for Development (IRD), International Center for Research in Agroforestry (ICRAF), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Overseas Development Institute (ODI), Institute for Development Studies (IDS)
	Multilateral	IFAD, FAO, UNEP, IUCN, German Cooperation for International Cooperation (GIZ), Netherlands Development Organisation (SNV)
	Other	Pastoralists, agro-pastoralists and other local stakeholders
		RAMONA (Rangeland Monitoring for Africa using Earth Observation), GMV Innovating Solutions-Spain, VIAMO
	Private Sector	Private companies, businesses and entrepreneurs e.g. Danone (international) or La Laiterie du Berger in Senegal
<b>Scaling</b>	Government	National Governments
	Multilateral	IFAD, FAO, WB, International Land Coalition (ILC), World Food Programme (WFP), IUCN
	Other	Pastoralists, agro-pastoralists, CBOs and other local stakeholders
	Other Public Sector	GEF, EU, SDC, BMZ, FCDO-UK, USAID, AFD, AfDB, ADB, NDA, etc.
	Partner Country based NGO	CAMP Alattoo Public Foundation (Kyrgyz Republic), World Wildlife Fund (WWF), Resource Conflict Institute (RECONCILE), Tanzania Natural Resource Forum (TNRF), Veterinaires sans Frontieres-International, Acting for Life, Réseau Billital Maroobé (RBM), Caritas Switzerland, etc.



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## Challenges

- Pastoral agrifood systems are experiencing intensifying pressures from climate change and other factors, weakening their resilience and leading to reduced productivity, land degradation, tensions and conflicts over natural resources
- Lack of appreciation of and investment in pastoral agrifood systems including in land and natural resources restoration and rehabilitation
- Lack of knowledge and capacity to (re)build resilience
- There is a lack of climate responsive services and tools to support rebuilding of this resilience
- Women and youth are key agents of change, yet this agency has not been fully tapped
- Non-supportive policy and legislation further challenges the situation

## Work Packages

- Land and natural resource management and governance
- Empowerment of women and youth including through pastoral agrifood value chains
- Livestock health and herd management
- Improving understanding & functioning of resilient pastoral agrifood systems
- Enabling environment and partnership building

### Demand partners

- End beneficiaries
- National Governments
- Int. Dev. Agencies
- NGOs
- Private sector
- Global Platforms
- Donors

## Outputs

- Strengthened **research in development partnerships**
- Strengthened **land & NR security**, planning, and management
- More efficient **nutrient & water cycling**
- Improved **crops & rangelands** including integration of trees
- **Empowerment of women and youth** including through value chains
- Improved **livestock health** and herd management
- **Resilience-building tools, technologies and investments**
- **Policy** engagement including MSPs
- **Knowledge** products and data platforms
- Engagement and partnerships with **private investors**

### Innovation partners

- Governments
- National research organizations
- Research Institutes (NARS, universities & training centers)
- Int. Dev. Agencies
- NGOs
- Private sector
- Global Platforms

## Outcomes

- **Climate-resilient agrisilvopastoralism** adopted by pastoralists and agropastoralists
- **Women and youth leading new pastoral agrifood businesses** in collaboration with Levering gender and social equality
- **Increased livestock health and better herd management**, with improved understanding of **One Health**
- **Tools, technologies and protocols** to measure and build resilience of pastoral agrifood systems **developed**
- **Effective policy**, legislation and institutional arrangements supporting agrisilvopastoralism enabled.
- Improved **national and global partnerships**

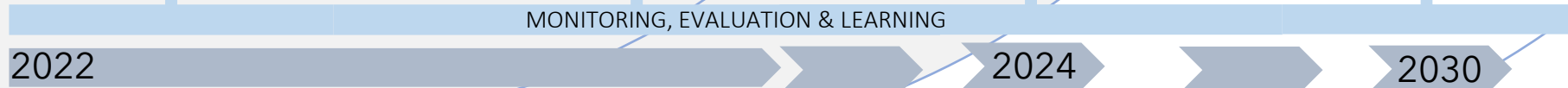
### Scaling partners

- End beneficiaries
- Governments
- Int. Dev. Agencies
- NGOs
- Global Platforms
- Public sector
- Donors
- UN agencies & programs

## Impact areas

- Nutrition, health and food security
- Poverty reduction, livelihoods and jobs
- Gender equality, youth and social inclusion
- Climate adaptation and mitigation
- Environmental health and biodiversity

contributing to



sphere of control

sphere of influence

sphere of interest

In collaboration with the following One CGIAR Initiatives:

- ① ST-ClimBeR
- ② ST-Transformational agroecology
- ③ ST-Harnessing digital technologies
- ④ ST-Foresight
- ⑤ RAFS-Regional Integrated Initiatives
- ⑥ RAFS-ANIMALS
- ⑦ GI-Genebanks
- ⑧ RAFS-Sustainable Intensification...