PRELIMINARY **CGIAR**
INITIATIVE OUTLINES

Nature-Positive Solutions: Enhancing productivity and resilience, while safeguarding the environment, and promoting inclusive growth within communities

Initiative Lead and Co-Lead	Primary CGIAR Action Area	Estimated 2022 - 2024 Budget
Carlo Fadda Josiane Nikiema	Resilient Agri-food Systems	$20 - $25 M

Challenge

Agroecosystems are the planet's largest existing ecosystem. They use 70% of freshwater resources, drive 80% of deforestation, and are responsible for major biodiversity losses and land degradation. Agriculture generally exploits nature beyond planetary boundaries, resulting in waste-generation, deforestation, water pollution, ecosystem destruction and biodiversity loss. One reason for this is that rural development and environmental policies have tended to be unconnected and incentives for boosting productivity are largely detrimental to adoption of NPS.

Now, with unprecedented job losses and increased social inequality triggered by COVID-19, the world has reached a critical point. We must find a way to shift those negative incentives, so that our food, land and water systems generate jobs, sufficient, diverse and safe food, while safeguarding planetary health.

Over half of global GDP (US$ 44 trillion) depends on nature. Every dollar spent on nature restoration generates a Return on Investment of US$9. Stimulus packages based on nature-positive solutions (NPS) can halt ecosystem destruction, tap into 395 million new NPS-driven jobs (https://bit.ly/3soPd3F), and unlock US$ 4.5 trillion/year in new business opportunities (https://bit.ly/3nrBLLz) by 2030.

Evidence from traditional knowledge and modern science demonstrates how smart interventions can help to maintain or enhance natural resources in production systems. But scientific evidence alone isn't enough if political will is lacking. The challenge lies in working at multiple levels from households to communities, through to country policies and international legislation, to co-generate science-based solutions, and supportive policies, which accommodate the interests of all stakeholders, including those often under-represented, like women and youth.

Objective

This Initiative will reshape food production systems in selected countries to meet food demands of growing populations by adopting agro-ecological principles including stewarding biodiversity, and improving soil and water management within integrated NPS. This will boost critical ecosystem services, and enhance social and economic benefits including equality.

Specific objectives:

1. Co-design a decision-support platform which helps users to select proven NPS, trialed and adapted to their local contexts, and integrating their needs. Users will be producers, natural-resource stewards, NGOs, conservation communities, private-sector actors, NARES, and local governments in five countries.
2. Validate the decision-support platform as a tool which achieves multiple benefits and minimizes tradeoffs for communities and their natural environments, through implementing NPS with ~eight communities in biodiversity-rich areas, benefitting ~100,000 people as co-designers/end-users
3. Analyze the local political economy and identify social-inclusion/agency barriers to NPS adoption, to shape more-inclusive enabling environments (policy, finance) to incentivize adoption by rural communities of NPS and embed NPS in 5 countries. Net valuations and accounting (US$ and ecosystem co-benefits) of BFA assets (soil, water, forests) will inform public and private investment planning
4. Help private sector and government shape financially-viable business models and blended, market-responsive, socially-inclusive investment plans around NPS, using a demand-driven approach and capitalizing on CGIAR evidence and innovation around climate financing, payment for ecosystem services, and tradeoff evaluations.
5. Document learning while raising awareness and building capacity of key stakeholder to support wider adoption, globally, nationally and locally of NPS, based on sound monitoring (including locally relevant indicators), evaluation and novel learning mechanisms.

Theory of Change

Nature-positive production (https://bit.ly/3nr52WN) is one critical pathway to sustainable food systems (https://bittylink.com/9dy). This Initiative will, in five countries and eight communities, work with stakeholders, representing agriculture, economy, environment and natural resource management, to address:

*Tackling the root causes (e.g. economic, political) of environmental degradation from agricultural production

*Enhancing provision of ecosystem services using (soil, agricultural and natural) biodiversity and water to increase productivity and resilience while safeguarding nature and promoting inclusive growth.

Pairing with the nature-conservation community, the Initiative will co-develop integrated nature-positive solution (NPS) packages for more resilient, biodiverse, productive food systems. We will work with rural communities, private-sector, policymakers, and natural-resource stewards to upscale NPS by improving enabling environments and identifying suitable incentives for uptake.

2024 outcomes include: (1) rural communities (especially women and youth) in five countries using decision-making toolkits to implement NPS; (2) communities, businesses and conservationists rigor-testing NPS approaches in ~eight communities in areas of significant biodiversity interest; (3) national and local policymakers using Initiative-generated evidence to reshape enabling legislation around NPS uptake and address blockages to their broader adoption; (4) innovative public and private investment structures incentivizing NPS; and (5) communities, natural resource stewards, and NARES demonstrating new capacity to implement NPS.

With scale-out to five other countries, via partnering Regional Initiatives, by 2030 the Initiative will achieve: 30% increased food, land, and water productivity; 20% rise in income from NPS-focused value chains; reversal in soil degradation and a 50% increase in systems biodiversity, directly benefiting ~10 million people.

The Initiative will collaborate closely with (1) the (ST) Transformational agroecology across food, land and water systems Initiative, specifically on the scaling up of policy and governance mechanisms at national/landscape level essential to creating a strong enabling environment for the sustainability of NPS, (2) the (RAFS) Sustainable Intensification of Mixed Farming Systems Initiative, specifically on reducing environmental footprints and improving AFS livelihoods derived from NPS, (3) the (ST) Food Systems Transformation for Sustainable Healthy Diets Initiative, specifically on refining that Initiative's trade off scenario analysis with criteria based on balancing food production and environmental protection objectives, (4) the (ST) Enabling gender and social equality through resilient and inclusive agri-food systems Initiative, specifically on designing gender intentional mechanisms to solicit and account for the meaningful participation of women, youth, and marginalized groups (including indigenous peoples) in the communities, (5) the (ST) Transforming food systems from greenhouse gas sources to sinks Initiative, specifically on linking conservation and protected natural area objectives with that Initiative's efforts to create or protect the natural carbon sinks associated with food production and (6) Conservation and use of genetic resources (genebanks) to access useful genetic material for using in the communities. Further, finding from the initiative will also be adopted beyond rural areas through collaboration with e.g. the (ST) Resilient Cities through Sustainable Urban and Peri-urban Agrifood Systems.

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Highlights

Forging complementarity-strong partnerships. Agriculture is often considered an enemy of nature. This initiative explores ways to pull in the same direction by forging new partnerships between CGIAR and the biodiversity conservation community to leverage complementary capacities for development impacts and work towards CBD post-2020-biodiversity targets, Food-System Summit deliberations, and International_Treaty_for_Plant_Genetic_Resources_for_Food_and_Agriculture.

Evidence-based policy - Regenerative practices, BFA stewardship, agro-waste recycling, and closed-water cycles reduce waste and environmental pressures. We generate evidence on where, how and for whom NPS work best and how to increase win-win synergies where natural resources are enhanced, and use evidences to influencing the agendas of political stakeholders.

Reversing biodiversity loss driven by current food systems, through a strategy including food species (from farm to fork), community forest management and agroforestry. Biodiversity for food and agriculture (BFA) and nature-positive production are indispensable to simultaneously achieving multiple SDGs. (see 10.3), according to FAO (https://bit.ly/3nr52WN) and UNFSS (https://bit.ly/3eH3t33).

Nature for inclusive growth - The initiative will boost social inclusion via inclusive policy tracks, participatory piloting in selected environments, and co-designing NPS innovation packages. Women, youth, and marginalized farmers will be targeted to benefit from enhanced agricultural productivity, and engage in markets which value nature-related benefits and waste-based outputs.

Innovative blended finance and business opportunities -The initiative will explore and co-design gender- and age-responsive novel business and income models, such as Payment for Environmental Services, benefit-sharing arrangements, certifications, to incentivize nature conservation and enhancement in addition to more diversified value chains, opening markets to new sets of diverse products.

Work Packages

	Scope of Work	3-year Outcomes
Decision support to spur NPS investment and uptake	Creating decision-making toolkits using both local knowledge and contexts and international experiences, through: literature review, impact assessment, cost/benefit and valuation assessment, co-design of NPS plans in selected communities based on biodiversity assessment (natural and wild, including animals and fishes), soil degradation, water availability and quality.	Rural communities (including women and youth) and producers in five countries use a co-designed, inclusive, and context-specific decision-making toolkit to execute NPS in primary production systems.
Co-implementation of economically-viable community level NPS	Working with communities to test NPS (e.g. biodiversity, agroforestry and forest management; seed systems; integrated soil fertility management, including through soil biodiversity ; water management), digital tools for monitoring and evaluation (including locally-relevant indicators), through the creation of a multi-stakeholder innovation platform that will negotiate and transparently discuss the trade-offs.	Farmers, private business, and conservationists rigor-test NPS approaches in ~eight communities in environments of significant biodiversity interest, including around protected areas, leading to positive socio-economic and ecosystem-derived agrobiodiversity, soil, water, and income-equity benefits for ≥100,000 people, including vulnerable women, young people, and marginalized groups.
Policy dialogue to support the creation of an enabling environment for NPS adoption at community level	Designing inclusive demand-driven policies, integrating into national strategy plans for climate change, water and land management, and biodiversity; Analyzing the political economy to devise reliable strategies to support scaling-up of NPS by providing incentives to local communities to adopt these practices and improving communities' agency to contribute to such policies.	Policymakers in 5 countries will have received policy briefs, participated in 30 workshops and trainings, and actively engaged in relation to developing policies more supportive of NPS, and leading to more transparent, inclusive and empowering governance.
Innovative blended gender- and age-responsive financing and business models to support scaling-out of NPS solutions	Investment plans, including transparent and sustainable value-chain development, public-payment schemes recognizing local communities' roles in maintaining public goods; agro-waste recycling business models providing soil management inputs; use of energy sources to lessen women's drudgery; animal/fish feed, and public--private partnerships supporting green investment, e.g. using green deal approaches.	Public and private investment structures incentivize NPS uptake, with significant new investment in NPS in five countries by end 2024 and three ecosystem payment schemes near launch stage. Better understanding of direct and indirect benefits and costs associated with the NPS, who pays and who benefits, are identified and documented.
Development of capacity, and Monitoring, Evaluation, Accountability and Learning (MEAL) to fill gaps in NPS solutions and sustain wider adoption	Knowledge sharing, trainings, publications, cross pollination/collaboration within the CGIAR Initiatives. Building on training needs identified in WP1, sound training programs will be developed for various stakeholders and specifically targeting women and youth (incl. curriculum development). Sound and participatory MEAL frameworks designed and implemented.	Community member representatives, natural resource stewards, and NARES increase their capacity to implement NPS. Participatory MEAL frameworks and monitoring tools are in place and adopted in five countries.

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Nature-Positive Solutions: Enhancing productivity and resilience, while safeguarding the environment, and promoting inclusive growth within communities

Impact Area Contributions

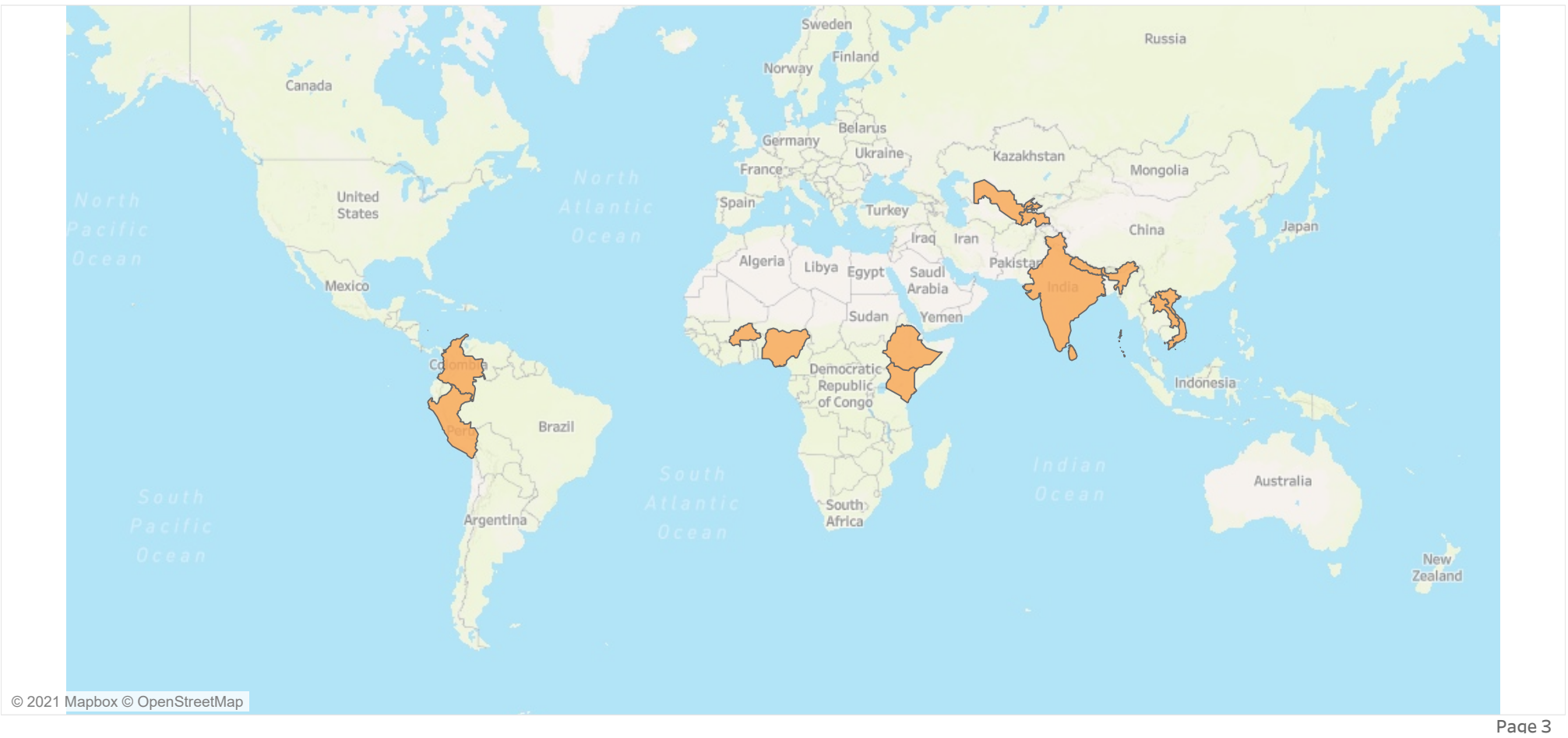
Nutrition, health & food security	Using more agrobiodiversity in production systems will include greater promotion of vegetables, fruits, nuts, fishes and animal products leading to better diets. In 10 countries, at least 10 million women, men, and children benefit from improved nutrition, health, and food security outcomes deriving from CGIAR-led NPS innovation packages.
Poverty reduction, livelihoods & jobs	Poverty reduction, livelihoods and jobs created by new NPS-focused business activities, value chains, and public/private investment assist 6 million women, men and youth to exit poverty. Overall, we aim at diversifying the economy, making it more circular, supporting the creation of local SMEs and providing options for green investments.
Gender equality, youth & social inclusion	≥6 million women and youth are empowered to become agents of NPS-based innovation, along with end users, by involving them (≥65% representation) in all stages, from co-design of NPS community trials, scaling out and up, and including their voices in assessment of demand and supply dynamics of NPS investment.
Climate adaptation & greenhouse gas reduction	Enhanced climate adaptation and greenhouse gas (GHG) reduction in the form of contribution to 10 national-level plans (Nationally-determined contributions (NDCs), national adaptation programs (NAPs), etc.) with evidence of implementation of NPS measures, $1 billion (est.) of climate-adaptation NPS investments, , and a 10% reduction in CO2 equivalent emissions.
Environmental health & biodiversity	Improved environmental health and biodiversity across degraded land brought under sustainable management (e.g. zero deforestation, agroforestry, natural corridors, restoration of ecosystem services), 30% increase in water productivity, 40% plant accessions available and safely duplicated in genebanks. Agrobiodiversity increases by 40% and biodiversity by 50% in selected locations.

Impact on SDGs

Regions

Global	Central and West Asia and North Africa (CWANA), East and Southern Africa (ESA), Latin America and the Caribbean (LAC), South Asia (SA), South East Asia and the Pacific (SEA), West and Central Africa (WCA)

Countries



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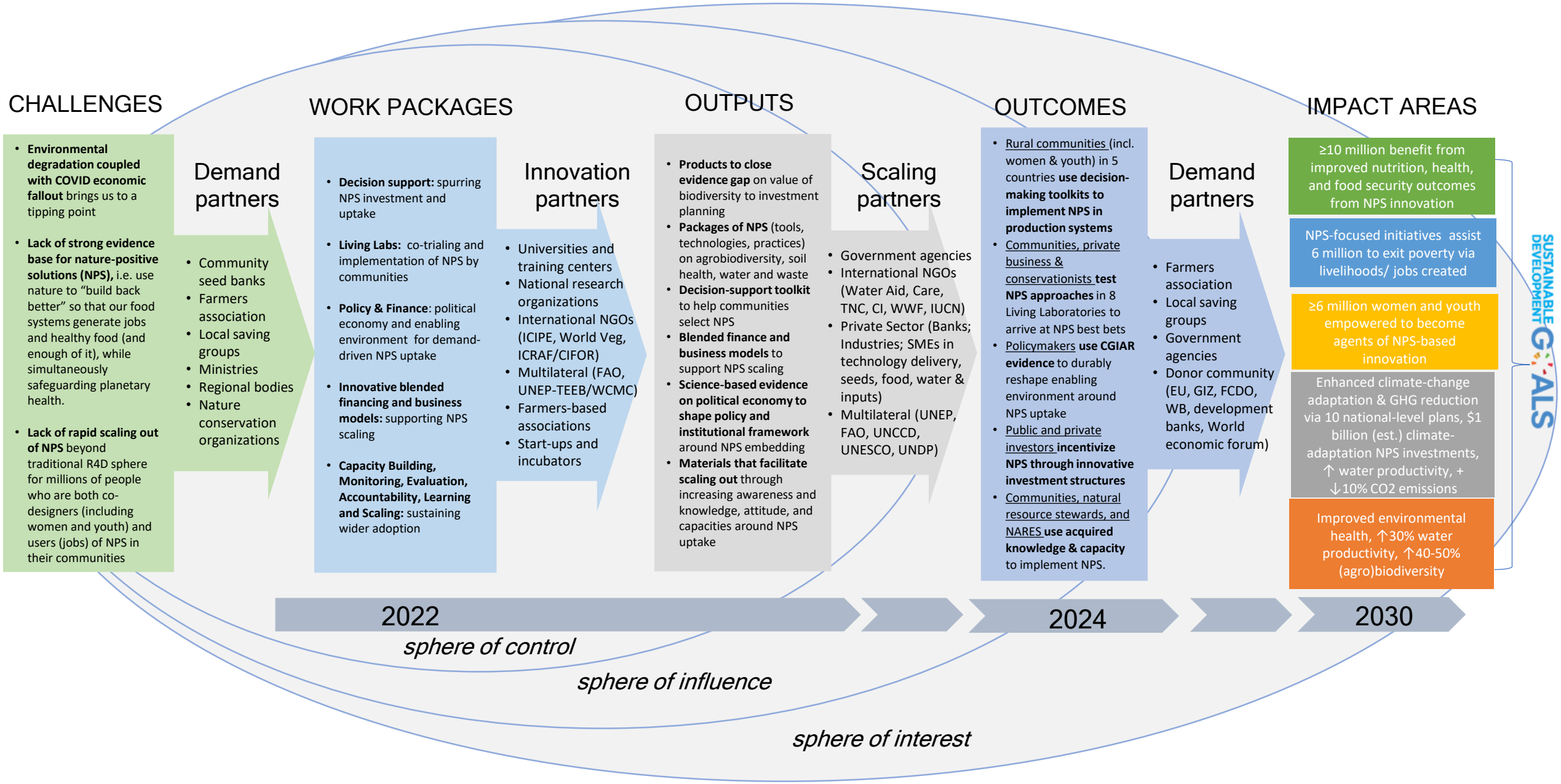
Innovations

BFA packages addressing knowledge gaps related to agrobiodiversity (crops, varieties, forage, tree, agroforestry, fish and livestock) together with research and local communities for its characterization. It will use crowdsourcing to disseminate winning technologies and will build community-based seed/planting-material producers to ensure access this material as well as to improve management.
On-farm plot demonstrations co-implemented with citizen scientists (producers) to test packages of circular soil management and improvement technologies (e.g. biochar and compost), particularly focusing on the largely unknown interaction of below ground and above ground biodiversity to improve fertility and productivity.
Packages of water management NPS aimed at improved water storage (e.g. small reservoirs, managed aquifer recharge), monitoring water use, increasing water productivity and reducing climate-related risks (e.g., digital tools for early warning and drudgery reduction). We will use ecosystem valuation tools to estimate incentives for NPS adoption.
Decision-support toolkits co-designed with local communities, that enable communities and policymakers to identify the NPS appropriate to their specific context and the enabling environment mechanisms required to support adoption at scale. The Initiative will seek out early-adopters to adapt NPS identified through the toolkit, thus improving their scalability.
A set of community-based, safe agro-waste recycling business solutions, building on business models and pre-feasibility guidelines for safe resource recovery from municipal waste and fecal sludge developed by the CGIAR, which can be implemented by young entrepreneurs or via public-private partnerships.

Key Partners

Demand	Government	Ministry of agriculture, Ministry of environment, ministry of education, ministry of water, local governments
	International NGO	Nature conservation organizations (TNC, CI, WWF, IUCN)
	Multilateral	Regional bodies, e.g. African Union
	Other	Donor community, e.g. EU, GIZ, FCDO, WB, regional development banks, World economic forum
	Partner Country based NGO	Community seed banks, farmers association, indigenous groups, local saving groups, local conservation groups
Innovation	Academic, Training and Research	Universities, National research organizations, training centers
	International NGO	ICIPE, World Veg, ICRAF/CIFOR
	Multilateral	UNEP-TEEB, UNEP-WCMC, FAO
	National NGO	Farmers-based associations
	Private Sector	Start-ups and incubators
Scaling	Government	Extension agencies, local and national governments (sectorial ministries)
	International NGO	Water Aid, Oxfam, Care, TNC, CI, WWF, IUCN, One acre fund
	Multilateral	UNEP, FAO, UNCCD, UNESCO, UNDP
	Other	Donor community, E.G. EU, GIZ, FCDO, WB, regional development banks, World economic forum
	Private Sector	Rural (savings and loans) banks; Traditional Agri-food industries; SME for technology delivery, seeds, food, water and inputs; finance investors; World economic Forum, Global Alliance for Future of Food

Nature-Positive Solutions: how to enhance productivity and resilience, while safeguarding the environment, and promoting inclusive growth within communities: theory of change

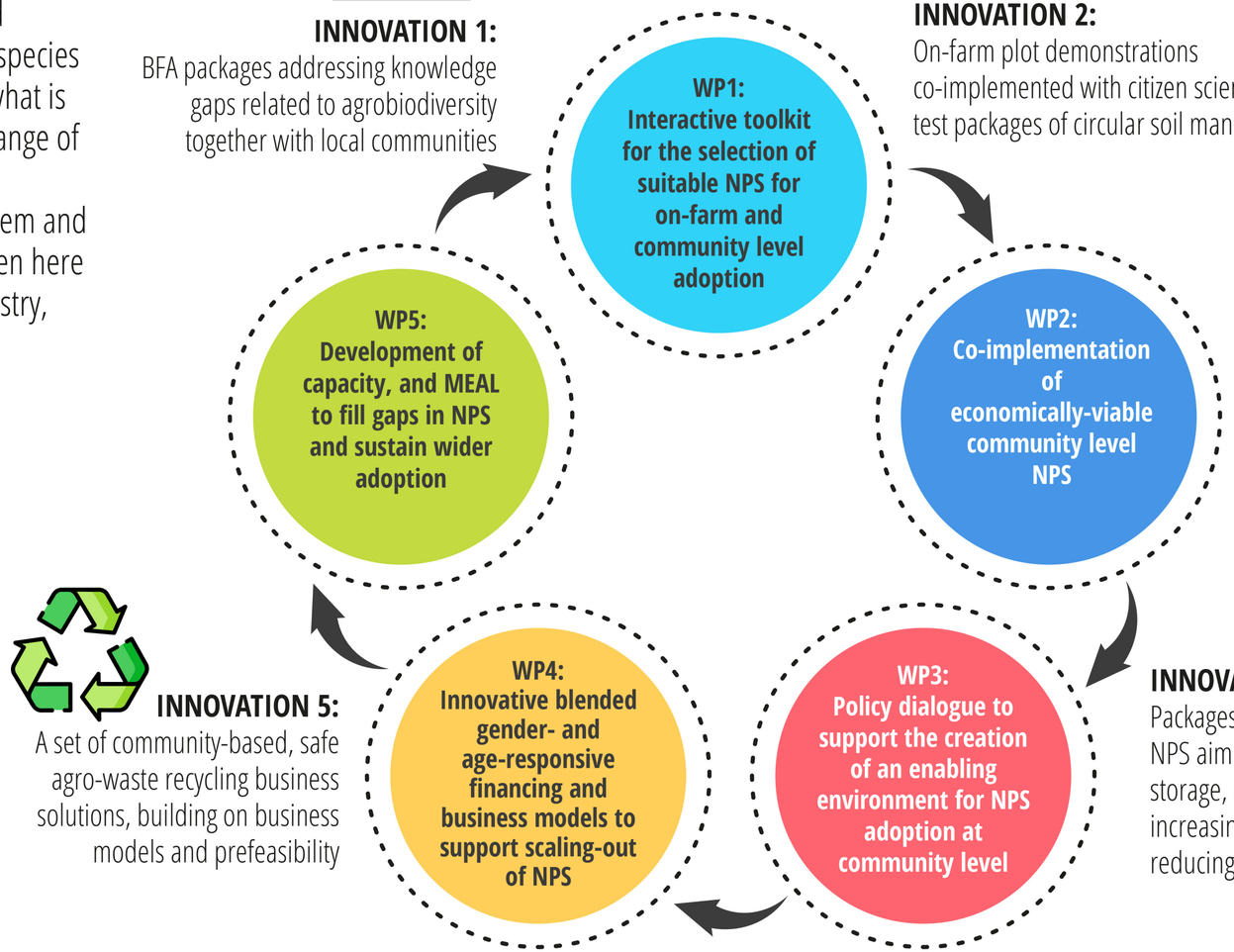


Biodiversity for Food and Agriculture (BFA) is the subset of biodiversity that contributes in one way or another to agriculture and food production. It includes the domesticated plants and animals raised in crop, livestock, forest and aquaculture systems, harvested forest and aquatic species, the wild relatives of domesticated species, other wild species harvested for food and other products, and what is known as "associated biodiversity", the vast range of organisms that live in and around food and agricultural production systems, sustaining them and contributing to their output. Agriculture is taken here to include crop and livestock production, forestry, fisheries and aquaculture (FAO, 2019).[1]

Objective: This Initiative will reshape food production systems in 5 countries and 8 communities to meet food demands of growing populations, by stewarding biodiversity, and improving soil and water management as the pillars of integrated NPS.
This will boost critical ecosystem services, and enhance social and economic benefits and including equality.

INNOVATION 1:
BFA packages addressing knowledge gaps related to agrobiodiversity together with local communities

INNOVATION 2:
On-farm plot demonstrations co-implemented with citizen scientists to test packages of circular soil management



INNOVATION 3:
Packages of water management NPS aimed at improved water storage, monitoring water use, increasing water productivity and reducing climate-related risks

INNOVATION 4:
Decision-support tool-kit, co-designed with local communities, that enables communities and policymakers

INNOVATION 5:
A set of community-based, safe agro-waste recycling business solutions, building on business models and prefeasibility

Highlights

1. Forging complementarity-strong partnerships
2. Evidence-based policy
3. Reversing biodiversity loss driven by current food system
4. Nature for inclusive growth
5. Innovative blended finance and business opportunities

Countries

The project will be implemented in 5 countries and scaled out to 5+ countries selected among:
Burkina Faso, Nigeria, Kenya, Ethiopia, Sri Lanka, Nepal, India, Peru, Lao DR, Vietnam, Colombia, Uzbekistan and Tajikistan.

Definition of nature positive agriculture:
A nature-positive production aims to build food systems that globally meet the fundamental human right to healthy food while operating within planetary boundaries that limit the natural resources available for a sustainable exploitation

1 FAO (2019). http://www.fao.org/3/CA3129EN/ca3129en.pdf