Climate Resilient Food Systems (CRFS) Alliance

Advocacy Framework 2023

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CRFS Advocacy Framework 2023 - For more information please contact

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Purpose

A unified messaging and strategic communications approach among the CRFS Alliance members at all levels is crucial to influence coherence and convergence of climate action by all actors (governments, local communities, indigenous peoples, youth, private sector, academia, etc.) across and within the food systems from production to consumption along diverse food value chains. The messages should create a broad, cross-cultural consensus and urgent and systemic actions towards achieving climate-resilient food systems. The CRFS Alliance Advocacy Framework is a living document that is updated annually to reflect the latest available science and knowledge, emerging themes and the different events and processes related to climate-resilient food systems.

Background

Who we are:

The CRFS Alliance was borne out of the UN Food Systems Summit (UNFSS) in 2021 out of the efforts of three main co-leads: WFP, UNFCCC and FAO. The Alliance provides a platform for achieving climate-resilient food systems by synergizing efforts across the different actors who are part of the Alliance. The Alliance is constituted by a range of different actors, both UN and non-UN who have specific comparative advantages, field presence, and expertise. Each of them brings a wealth of knowledge, capacity and dedication to build a world where food systems are climate resilient, inclusive, and sustainable.

Our Vision:

The core vision of the Alliance is a world where food systems are sustainable, inclusive and resilient, where food systems actors, including governments, the private sector, the UN, civil society, academia, finance and all stakeholders come together towards preserving ecosystems and resources to ensure healthy and nutritious foods for present and future generations, whilst neutralizing the negative impact of production, transformation and consumption emissions, soil degradation, water depletion and biodiversity loss.

What we do:

- The CRFS Alliance provides countries and stakeholders a unique portfolio of solutions, which directly address the need for:
  - Food systems to become more resilient to climate change induced extreme weather events or shocks and stresses, and
  - Food production, processing, transportation and consumption to become more sustainable in becoming part of the climate solutions in reducing emissions and other negative impacts on the environment.
  - Systemic solutions to tackle the inter-connected global crises that are unfolding –climate emergency and the adjoined conflict and protracted crises, biodiversity loss, pollution, that are aggravating the food systems.
- The Alliance acts as a bridge between climate and food actors to join efforts with a focus on the most vulnerable and at risk countries and regions, in particular, arid and semi-arid land areas, flood prone areas, the least developed countries, small island developing states and landlocked developing countries.
- Further, the Alliance acts as a connector across the multitude of ongoing initiatives and partnerships to provide an accessible entry point to countries to a vast network of support options such as knowledge, technologies and innovations, finance for climate change adaptation and resilience.

Tangible Deliverables of the Alliance:

- A visual menu of options for countries to pick and choose solutions from.
- A data and analytics platform on food systems and climate change.

- A desk support officer function to channel queries from countries to the best-placed member within the Alliance or provide guidance on accessible knowledge.
- A collection of possible climate finance sources and a quick overview of how to apply to each one.
- Regular communication and information materials (e.g. newsletters, factsheets, and presentations).
- Country diagnostics of eight countries by 2023 (Ethiopia, Fiji, Belize, The Gambia, Pakistan, Bangladesh, Lesotho, Panama) to have practical examples on how to best integrate food and climate action in different contexts and implement activities based on the gaps and needs identified during the diagnostics, building form existent initiatives and programs.
- Understanding main priority needs and actions regarding food systems and climate change including needs reflected in countries' National Adaptation Plans (NAPs) and National Determined Contributions (NDCs), Sustainable Development Goals (SDG) plans and National Food Systems Pathways (from UNFSS).
- Alignment of interventions and solutions with countries' needs and priorities through – inter alia - dedicated surveys and needs and capacity assessment to be issued to countries which have formally expressed an interest in the work of Alliance to outline areas where support is needed.
- Strategic engagement on high-level events and summits and global policy processes.
- A connection network with an overview of all members and supporters of the Alliance.

The CRFS Alliance Core Group:

The Alliance is coordinated by a core group comprising CGIAR, the Club of Rome, the Commonwealth Secretariat, FAO, the International Centre for Climate Change and Development (ICCCAD), IFAD, the Sustainability Health Education Foundation, the UNFCCC secretariat, UNCCD, UNEP, UNDRR, the World Bank and WFP. The UNFCCC secretariat facilitates the work of the Alliance.

The CRFS Alliance Leadership Group:

The Alliance is also composed of various organizations providing complementary support towards delivering climate-resilient food systems. These are the African Union Commission, AIM for Climate (AIM4C), Bangladesh Rural Advance Committee (BRAC) and BRAC International, Clim-EAT, Crop Trust, Emerging Ag, Federal Ministry for Economic Cooperation and Development (BMZ), Global EverGreening Alliance, Global Network of Civil Society Organizations for Disaster Reduction (GNDR), Global Soil Partnership, Good Food Hub, Green Climate Fund (GCF), Global Sustainable Technology and Innovation Community (G-STIC), Humanitarian Development Peace (HDP) Nexus Coalition, InsuResilience Global Partnership, International Association of Students in Agriculture and Related Sciences (IAAS), International Maize and Wheat Improvement Center (CIMMYT), International Rice Research Institute (IRRI), Private Sector Alliance for Disaster Resilient Societies (ARISE), Resilient Local Food Supply Chains Alliance, Risk-informed Early Action Partnership (REAP), SEKEM, TAPP Coalition, The Climate Group, The Global Alliance on Climate Smart Agriculture (GACSA), The Global-Hub on Indigenous Peoples' Food Systems, UN Capital Development Fund (UNCDF), UNDP, UN Foundation, UN Office for Disaster Risk Reduction (UNDRR) Science and Technology Advisory Groups (STAG), Water & Energy for Food (WE4F) Programme, World Business Council on Sustainable Development (WBCSD), World Farmers' Organization, World Food Programme (WFP) Innovation Accelerator.

Executive summary of key messages

1. Integrated food and climate action: **Only through integrated climate and food action will the world be able to transform current food systems into systems that are resilient and sustainable.** *The CRFS Alliance calls for governments, the UN, the private sector, research and knowledge organizations and civil society to ensure food and climate actors work together, breaking the current silos, and aligning across the objectives of adaptation, resilience, inclusion, equity, and sustainability.*

2. Focus on the most vulnerable environments: **Many of the most vulnerable nations and communities are at the forefront of the impacts of the climate crisis, despite having made minimal contributions to its causes. Climate change is undermining the foundations of secure and improving livelihoods and can lead to greater food, nutrition, and livelihood insecurity and exposing them to more frequent and more intensive climate-related disasters. It is the responsibility of all stakeholders to ensure access to climate finance, investments in disaster risk reduction, and capacity building for these high-risk countries.** *The CRFS Alliance calls upon a diverse range of stakeholders, including both UN and non-UN entities, the public sector, the private sector, research and knowledge organizations, and civil society, to collaborate and unite their efforts through strategic alliances to provide support in the allocation of climate finance, technology, capacity building, technical expertise, and other critical areas. The CRFS Alliance seeks to facilitate a substantial contribution to addressing the dual crises of climate change and food and nutrition insecurity, particularly in Low- and Middle-Income countries, (LMICs), Landlocked Developing Countries (LLDCs), Small Island Developing States (SIDS) and Semi-Arid Lands States (ASALS).*

3. Agroecology and Regenerative Agriculture: **It is key to optimize soil health from agroecological and regenerative practices as it is one of the most important ways to transform food systems**. *The CRFS Alliance calls on global leaders, governments, the private sector, research and knowledge organizations, and civil society to enable a global shift from the current food production systems to regenerative agriculture to 40 % and 50 % by 2030 and 2040, respectively. Moreover, the CRFS Alliance advocates for mainstreaming nature-based solutions/ecosystem-based adaptation such as agroecology and regenerative agriculture in all agri-food and climate global policy agendas.*

4. Climate Finance: **It is imperative to unlock finance flows for climate adaptation and resilience in order to implement urgently needed transformation across agrifood systems**. *The CRFS Alliance aligns with The Food and Agriculture for Sustainable Transformation Initiative (FAST) in calling for better access to climate finance flows for adaptation and resilience in LMICs.*

5. DRR and Early Warning: **It is crucial to facilitate access to climate finance, including investments in disaster risk reduction and early warning systems.** *The CRFS Alliance calls for State and non-State actors to support the most vulnerable and at-risk countries in accessing finance and channelling these locally (in line with the COP28 Charter on 'Getting Ahead of Disasters'). The CRFS Alliance also supports the UN Secretary General's call to ensure that every person on Earth is protected by early warning systems by 2027.*

6. Indigenous Peoples and Food Systems: **Preserve, strengthen and promote Indigenous Peoples' food systems in the seven socio-cultural regions for sustainable and resilient food systems.**

7. Private sector engagement: **Private sector partners are pivotal in developing climate-resilient food systems**. *The CRFS Alliance supports the WBCSD COP28 Business Statement of Action that calls on companies to integrate food system sustainability across decision-making, strengthen accountability, and utilize the power*

of multistakeholder collaboration. Specifically, it calls on companies to set scope 3 targets and urgently scale in-value chain interventions in line with a 1.5-degree pathway and co-create solutions with farmers and other stakeholders.

8. Food and Nutrition Security, Conflict and Climate Change: **Food and nutrition security and conflict must be fully integrated into climate change discussions prioritising resilience and climate actions in contexts most at risk of food insecurity, including in fragile and conflict-affected settings.** *The CRFS Alliance supports the work and call for action of its sister coalition on Humanitarian Development Peace Nexus (HDP Nexus), addressing the interlinkages between Climate Change, Food Security and Conflict, calling for conflict-sensitive and climate-positive investments in agri-food systems, including climate-smart and shock resistant agriculture and value chain practices. The CRFS Alliance supports the COP28 Declaration on Climate Relief and Security and calls for directing more funding to fragile contexts to build more resilient local food systems with anticipatory actions, soil and water management, climate risk insurance and resilience programmes as well as leveraging national social protection systems*

9. Healthy Diets: **Investing in transforming food systems is imperative to facilitate the transition towards healthier and sustainable diets**. *The CRFS Alliance supports the need for adequate pricing that reflects emission production for agricultural and food production, aligning with the objectives outlined in the Paris Climate Agreement for the years 2030 to 2050.*

10. Access to Innovation: **Ensuring the accessibility of technology and innovation to smallholders is pivotal for agrifood systems transformation.** *Echoing the call from the 2023 State of Food Security and Nutrition in the World, the CRFS Alliance calls for an increase in private and public investment in research and development, especially in innovations and start-ups that support smallholders and other actors in the food supply chain to develop technologies and approaches that increase the availability and affordability of nutritious foods and promote a healthier food environment. These innovations need to be accessible both financially and technically to smallholders, especially women and youth, to increase farm productivity and incomes in rural areas.*

11. Biodiversity and Ecosystem Based Approaches: **Maintaining, protecting and restoring natural capital stocks and functional ecosystem services are the basis for current and future climate resilience of agri-food systems. Efforts to integrate nature-based solutions and ecosystem-based approaches, comprehensively across COP 28 decisions related to mitigation, adaptation and loss and damage would strengthen climate resilience of agri-food systems.** *The CRFS Alliance joins the call on food systems made by the UN Environment Programme (UNEP) for areas under agriculture, aquaculture, and forestry to be managed sustainably, global food waste to be cut in half, and a significant reduction in overconsumption and waste.*

12. Food loss and Waste: **The issue of food loss and waste demands a collective, cross-sectoral approach to support countries in achieving their NDCs and supporting the private sector in their pursuit of NetZero goals. It is imperative that all stakeholders unite in a concerted effort to address this challenge.** *The CRFS Alliance supports the #123 Food Loss and Waste Pledge for Climate Action which calls for governments, companies, institutions and individuals to halve food waste by 2030 and reduce food losses by at least 25%, toward accelerating actions to achieve SDG target 12.3[1]. The CRFS Alliance also calls on governmental and non-governmental stakeholders to use the framework on Voluntary Code of Conduct for Food Loss and Waste Reduction. The CRFS Alliance is aligned with the Sharm-El-Sheikh Adaptation Agenda and its outcome on*

[1] SDG target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses. https://www.fao.org/platform-food-loss-waste/news/news-detail/123-food-loss-and-waste-pledge-for-climate-action/en

reducing food loss in the global south (45-83% of total loss and waste) through improved harvesting techniques and post-harvest storage and logistics and reducing food waste in the global north (57-68% of total loss and waste) through improved use of treatments, consumer education, labelling, and expanded composting infrastructure[2]*.*

13. Ultra-processed foods: **State and non-state actors must take action to reduce consumption of ultra-processed foods and invest in research that examines their impact on climate change.** *The CRFS Alliance supports the Soil Association's call to action for governments to set specific consumption reduction targets for ultra-processed foods, considering their implications on public health and the environment. The CRFS Alliance also acknowledges The Lancet Commission's recommendation to consider the environmental impact of the industrial processes involved in producing ultra-processed foods, including aspects such as packaging and food additives, into evaluations and research.*

14. Water Food Energy (WFE) Nexus: **Water and energy are major resources needed in agri-food systems**. Promoting innovative water and energy solutions which simultaneously support the decarbonization and resilience of agri-food systems and incentivizes sustainable and equitable water access for the production, processing and preservation of healthy and safe foods is essential to enhance food system resilience. *The CRFS alliance calls for **implementing the Water-Energy-Food (WEF) Nexus approach** to guide sector investments into innovation and scaling of solutions as well as policy design and implementation.*

[2] Sharm-El-Sheikh Adaptation Agenda. 2.1. Food and Agriculture Systems. https://climatechampions.unfccc.int/wp-content/uploads/2022/12/SeS-Adaptation-Agenda_Complete-Report_COP27-.pdf

Full Version of the Key messages

CALL FOR ACTION 1 ON INTEGRATED FOOD AND CLIMATE ACTION: **Only through integrated climate and food action, the world will be able to transform current food systems into systems that are resilient and sustainable.** *The CRFS Alliance calls for governments, the UN, the private sector, and civil society to ensure food and climate actors work together, breaking the current silos, and aligning across the objectives of resilience and sustainability.*

RATIONALE: Regardless of how successful humans are in reducing the causes of the warming of the planet, society faces significant impacts including more frequent and severe weather events, warming and acidification of the oceans, longer droughts and extreme temperatures, and other harmful effects of climate change. Only through integrated climate and food action will the world be able to transform current food systems into resilient and sustainable ones.

Food systems encompass the entire range of actors and their interlinked value-adding activities involved in the production, processing, distribution, consumption and disposal, that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded. A sustainable food system is a food system that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised[3].

- Food systems are a leading cause of climate change as they emit about 37 % of anthropogenic greenhouse gas emissions, of which livestock and food loss and waste account for 12-19 and 8-10 % of the total[4].
- Global population growth and dietary changes have been predicted to increase food demands by 56 % between 2010 and 2050[5], while global food consumption alone could add approximately 1 °C to warming by 2100[6].
- A study by Clark et al. states that even if fossil fuel emissions were eliminated immediately, global food systems emissions alone would make it impossible to limit warming to 1.5 °C and difficult to realize the 2 °C target[7]. The recent Intergovernmental Panel on Climate Change's (IPCC) AR6 Summary for Policymakers is an alarm, calling for the need for climate adaptation in all sectors including food systems[8].
- All the 50 submitted NAPs by the developing countries to the UNFCCC as at 30 November 2023 identify water as one of the priority areas facing climate risks; and 42 of the NAPs contain distinct water-related adaptation actions.[9]
- The COP28 Food Systems and Agriculture Agenda calls upon all actors in food and agriculture to ensure food systems and agriculture are central to climate action efforts. It also calls on governments to integrate

[3] FAO, 2018. Sustainable food systems https://www.fao.org/3/ca2079en/CA2079EN.pdf

[4] Crippa, M., Solazzo, E., Guizzardi, D., Montforti-Ferrario, F., Tubiello, F.N., & Leip, A., 2021. Food systems are responsible for a third of global anthropogenic GHG emissions. Nature Food, 2(3), 198-209.

[5] van Dijk, M., Morley, T., Rau, M. L., & Saghai, Y., 2021. A meta-analysis of projected global food demand and population at risk of hunger for the period 2010–2050. Nature Food, 2(7), 494–501.

[6] Ivanovich, C.C., Sun, T., Gordon, D.R., & Ocko, I.B., 2023. Future warming from global food consumption. Nature Climate Change, 13(3), 297–302.

[7] Clark, Michael A., Nina GG Domingo, Kimberly Colgan, Sumil K. Thakrar, David Tilman, John Lynch, Ines L. Azevedo, & Jason D. Hill., 2020. Global food system emissions could preclude achieving the 1.5 and 2 °C climate change targets." Science, 370, (6517), 705-708.

[8] IPCC, 2021. Summary for Policymakers. In V. Masson-Delmotte, P. Zhai, A. Pirani, S.L. Connors, C. Pean, S. Berger, N. Caud, Y. Chen, L. Goldfarb, ……., & B. Zhou (Eds.), Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (pp. 3-32). Cambridge University Press.

[9] UNFCCC, 2023. Progress in the process to formulate and implement national adaptation plans. Bonn, Germany. Available at https://unfccc.int/documents/632355.

food systems into national climate agendas by endorsing the first-ever Declaration on Resilient Food Systems, Sustainable Agriculture and Climate Action.

CRFS ALLIANCE ROLE: The CRFS Alliance brings together over sixty organizations to pool their comparative advantages, field presence and expertise in order to advance and achieve climate resiliency in food systems. Only through integrated climate and food action, the world will be able to transform current food systems into systems which are resilient and sustainable. The CRFS Alliance calls for governments, the UN, the private sector and civil society to ensure food and climate actors work together, breaking the current silos, and aligning across the objectives of resilience and sustainability.

CALL TO ACTION 2 ON FOCUS ON THE MOST VULNERABLE ENVIRONMENTS: **The most vulnerable nations are at the forefront of the climate crisis, despite having minimal contributions to its causes. Climate change is intensifying food insecurity and exposing them to more frequent disasters. It is the responsibility of all stakeholders to ensure their access to climate finance, investments in disaster risk reduction (DRR), and capacity building for these high-risk countries.** *The CRFS Alliance calls upon a diverse range of stakeholders, including both UN and non-UN entities, the public sector, the private sector, and civil society, to collaborate and unite their efforts through strategic alliances aiming to provide support in the allocation of climate finance, technology, capacity building, technical expertise, and other critical areas. The CRFS Alliance seeks to facilitate a substantial contribution to addressing the dual crises of climate change and food security, particularly in the Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs), Small Island Developing States (SIDS) and Semi-Arid Lands States (ASALS).*

RATIONALE: According to The State of Food Security and Nutrition in the World 2023 report, LDCs[10], LLDCs[11], SIDS[12], and Low-income countries have the biggest prevalence of severe food insecurity. Whilst the average of severe food insecurity in the world is 11.3% and 1.6% for high-income countries for 2020-2022, the prevalence in LDCs is 24.2%, 23% for LLDCs, 20.4% for SIDS, and 28% for Low-Income Countries[13].

- These countries are on the frontlines of the climate crisis; however, they have minimal contributions to its causes. For example, Africa, where 32 of the 48 LDCs are located, is the most affected of all world regions by droughts and the second most affected by floods, with at least 215.3 million people affected over 2010-2022[14]. While Africa is the most affected region by climate-related disasters, it has registered the lowest per capita global greenhouse gas (GHG) emissions since 1960, and despite having around 17% of world's population, Africa contributes less than 4% of global carbon emissions[15].
- According to the latest UNDP Snapshot on SIDS, between 1970 and 2020, SIDS lost USD 153 billion due to weather, climate and water-related hazards, while the average GDP for SIDS is USD 13.7 billion. SIDS are responsible for less than 1% of GHG emissions and yet climate change and the projected sea-level rise represent a direct threat to their existence[16].
- The LDCs, LLDCs, SIDS and ASALS are particularly exposed to desertification, sea-level rise, extreme heat, and extreme weather events that pose issues of livelihood availability, water scarcity and reduced resilience, all which jeopardize food security and sustainable development and contribute to patterns of

[10] List of LDCs https://www.un.org/ohrlls/content/list-ldcs
[11] List of LLDCs https://www.un.org/ohrlls/content/list-lldcs
[12] List of SIDS https://www.un.org/ohrlls/content/list-sids
[13] FAO, 2023. The State of Food Security and Nutrition in the World 2023. https://www.fao.org/3/cc3017en/cc3017en.pdf
[14] MO Ibrahim Foundation,2022. Making Africa's Case in the Global Climate Debate. https://mo.ibrahim.foundation/sites/default/files/2022-07/2022-forum-report.pdf
[15] CDP Africa Report Benchmarking Progress Towards Climate Safe Cities, States, And Regions, 2020. https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/023/original/CDP_Africa_Report_2020.pdf?1583855467
[16] UNDP, 2023. Snapshot Small Island Developing States (SIDS). The State Of Climate Ambition. https://climatepromise.undp.org/sites/default/files/research_report_document/Climate%20Ambition-SIDS%20v2.pdf

human mobility[17]. Additionally, a considerable number of countries vulnerable to climate change are also affected by armed conflict, and conflict remains the main driver of acute hunger[18].

- It is key for LDCs, LLDCs, SIDS, and ASALS access to accelerated action, finance and technology for climate adaptation in order to reduce their vulnerability, increase their food security, and address human mobility[19]. State and non-state actors need to provide enabling environments through capacity building, climate funding, investments and information on disaster risk reduction for these countries in order for them to adapt to climate change and reduce their food insecurity.

CRFS ALLIANCE ROLE: The CRFS Alliance acts as a bridge between climate and food actors to join efforts with a focus on the most vulnerable and at-risk countries and regions, in particular, arid and semi-arid land areas, flood-prone areas, and the least developed. The composition of the alliance reflects the focus on such countries and its efforts in the country diagnostic exercise strive to bring about systemic change to confront climate-induced vulnerabilities.

CALL FOR ACTION 3 ON REGENERATIVE AGRICULTURE: **It is key to optimize soil health from regenerative and agroecology practices as it is one of the most important ways to transform food systems**. *The CRFS Alliance calls on global leaders, governments, the private sector, and civil society to enable a global shift from the current food production systems to regenerative agriculture to 40 % and 50 % by 2030 and 2040, respectively. Moreover, the CRFS Alliance advocates for mainstreaming nature-based solutions/ecosystem-based adaptation such as regenerative agriculture in all food and climate global policy agendas. This is aligned with the Sharm-El-Sheikh Adaptation Agenda and its goal of diversifying production towards more resource-efficient and climate-resilient crops and implementing regenerative practices to improve soils and ecosystems, crop yields, and nutrient density[20].*

RATIONALE: The global food system currently releases about 25% of annual anthropogenic greenhouse gas emissions, causes about one-third of soil acidification, and is responsible for most of the world's surface water eutrophication[21]. If the food system continues as it is, with synthetic pesticides, artificial fertilizers, fossil fuels, and food waste, the planet's carrying capacity will likely be exceeded[22].
Additionally, most assessments show that between 20-40% of the global land area is degraded or degrading to varying extents and degrees[23].
Food systems across the world offer a unique opportunity to address climate change by building resilience across agrifood systems to ensure their adaptation to climate change, and at the same time reduce greenhouse gas emissions through sustainable agricultural systems.

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[17] United Nations, 2022. A Roadmap for Resilience: Financing Climate Action to Address Vulnerability, Food Security and Human Mobility https://www.un.org/ohrlls/events/roadmap-resilience-financing-climate-action-address-vulnerability-food-security-and-human

[18] OCHA, 2021 https://reliefweb.int/report/world/under-secretary-general-humanitarian-affairs-mark-lowcock-odi-humanitarian-policy-group#:~:text=We%20also%20know%20a%20lot,of%20fragility%20or%20armed%20conflict.

[19] United Nations, 2022. A Roadmap for Resilience: Financing Climate Action to Address Vulnerability, Food Security and Human Mobility https://www.un.org/ohrlls/events/roadmap-resilience-financing-climate-action-address-vulnerability-food-security-and-human

[20] Sharm-El-Sheikh Adaptation Agenda. 2.1. Food and Agriculture Systems. https://climatechampions.unfccc.int/wp-content/uploads/2022/12/SeS-Adaptation-Agenda_Complete-Report_COP27-.pdf

[21] Poore, J., & Nemecek, T., 2018. Reducing food's environmental impacts through producers and consumers. Science, 360(6392), 987-992.

[22] Campbell, B. M., Beare, D. J., Bennett, E. M., Hall-Spencer, J. M., Ingram, J. S., Jaramillo, F., ... & Shindell, D., 2017. Agriculture production as a major driver of the Earth system exceeding planetary boundaries. Ecology and society, 22(4).

[23] Gibbs, H. K., & Salmon, J. M., 2015. Mapping the world's degraded lands. Applied geography, 57, 12-21.
UNCCD, 2019. Preliminary analysis – strategic objective 1: To improve the condition of affected ecosystems, combat desertification/land degradation, promote sustainable land management and contribute to land degradation neutrality [ICCD/CRIC (17)/2].

Regenerative agriculture offers a suite of benefits such as improving soil health, optimizing resource management, alleviating climate change and improving water availability and quality[24].

Examples of regenerative agriculture practices include reduced to no-tillage (protects soil structure and beneficial organisms), preventing decomposition and release of carbon dioxide (CO_2), cover crops (stops soil erosion and retains nutrients), planting a variety of species with deeper roots, intercropping, applying biochar and mob grazing[25]. Because the top meter soil stores at least twice as much carbon as the above-ground plants and atmosphere combined[26], regenerative agriculture has the ability to reduce GHG emissions while increasing the adaptation and resilience of food systems.
It is estimated that every dollar invested in land restoration and sustainable land management can yield up to USD 30 in economic benefits, including increased crop yields, water availability, and reduced land degradation[27]. This is supported by initiatives like Regen10 and the Agroecology Coalition that are aiming at achieving global goals on food security, climate, and biodiversity by accelerating the transformation of food systems through agroecology.
The Sharm-El-Sheikh Adaptation Agenda includes in its goals to diversify production towards more resource-efficient and climate-resilient crops and implementation of regenerative practices to improve soils and ecosystems, crop yields, and nutrient density[28].

CRFS ALLIANCE ROLE: The CRFS Alliance advocates for mainstreaming regenerative approaches in all global policy agendas. Furthermore, through its Resilience Frontiers Pathway 7, the Alliance supports a number of ground-breaking ideas and approaches focused on regenerative food production, including hydroponics, reduced tillage, crop diversification, holistic grazing, and intercropping with trees.

CALL FOR ACTION 4 ON CLIMATE FINANCE: **It is imperative to unlock finance flows to increase climate resilience and implement urgently needed transformation across agrifood systems**. *The CRFS Alliance aligns with The Food and Agriculture for Sustainable Transformation Initiative (FAST) and the Multilateral development banks in calling for better access to climate finance flows for developing countries.*

RATIONALE: The latest report by the Climate Policy Initiative on Landscape of Climate Finance for Agrifood Systems, indicates that climate finance for agrifood systems is strikingly low. Agrifood systems received just 4.3% of total global finance tracked at the project level in 2019 and 2020, with an annual average of $28.5 billion. From these $28.5 million 42% went into agriculture and 41% into forestry activities[29]. Climate finance for agrifood systems must increase at least sevenfold from current levels to reach the most conservative estimated needs for the climate transition, which is in the order of hundreds of billions of dollars annually[30].
An UNFCCC's review indicates that financial needs expressed by developing countries in their NDCs cumulatively amount to about USD 600 billion/year up until 2030[31]. At the request of the COP26 Presidency in 2022, the Independent High-Level Expert Group on Finance released a report that pointed out that for developing

[24] Newton, P., Civita, N., Frankel-Goldwater, L., Bartel, K., & Johns, C., 2020. What is regenerative agriculture? A review of scholar and practitioner definitions based on processes and outcomes. Frontiers in Sustainable Food Systems, 4, 194.
[25] CGIAR, 2022. https://www.cgiar.org/news-events/news/an-open-conversation-at-cop27-in-egypt-on-how-multistakeholder-partnerships-can-tackle-the-global-food-crisis-through-regenerative-agriculture/#_ftn6
[26] E360, 2014. https://e360.yale.edu/features/soil_as_carbon_storehouse_new_weapon_in_climate_fight
[27] https://www.decadeonrestoration.org/why-restoring-nature-good-farmers-fisheries-and-food-security
[28] Sharm-El-Sheikh Adaptation Agenda. 2.1. Food and Agriculture Systems. https://climatechampions.unfccc.int/wp-content/uploads/2022/12/SeS-Adaptation-Agenda_Complete-Report_COP27-.pdf
[29] Climate Policy Initiative, 2023. Landscape of Climate Finance for Agrifood Systems. https://www.climatepolicyinitiative.org/wp-content/uploads/2023/07/landscape-of-climate-finance-for-agrifood-systems.pdf
[30] Ibid.
[31] UNFCCC, 2021. First report on the determination of the needs of developing country Parties related to implementing the Convention and the Paris Agreement

economies (excluding China) to tackle climate change and drive development, around USD 1 trillion/year by 2025 and USD 2.4 trillion/year from 2030 should be invested[32].

An FAO event at the Global Forum for Food and Agriculture held in Berlin 2023 highlighted that climate finance is key to making agri-food systems more resilient, efficient, sustainable, and inclusive, despite agriculture and land receiving only 26 % of the global climate flows[33].
In response to this global outcry, the International Fund for Agricultural Development (IFAD) committed USD 1.2 billion in climate finance between 2019–and 2020 through its Enhanced Adaptation for Smallholder Agriculture Programme (ASAP+) to support climate adaptation for small-scale farmers[34].
Furthermore, FAO launched the Food and Agriculture for Sustainable Transformation (FAST) Initiative along with the Government of Egypt at COP27 to implement concrete actions resulting in improving the quality and quantity of climate finance contributions to transform agricultural and food systems by 2030[35].

CRFS ALLIANCE ROLE: The CRFS Alliance supports and is partnering closely with the Food and Agriculture for Sustainable Transformation (FAST) initiative by FAO and the COP 27 Egyptian Presidency, launched at COP 27, which aims to implement concrete actions that would result in improving the quantity and quality of climate finance contributions to transforming agriculture and food systems by 2030. The CRFS Alliance is also creating an easy overview of accessible climate fund sources and how these can be applied. The CRFS Alliance created a funds cluster with some of the most relevant stakeholders within the climate arena, that aims to share guidance and best practices in building climate resilience and carbon neutrality in agriculture and food systems.

CALL FOR ACTION 5 ON DRR AND EARLY WARNING: **It is crucial to facilitate access to climate finance, including investments in Disaster Risk Reduction (DRR) and Early Warning Systems (EWS).** *The CRFS Alliance calls for state and non-state actors to support the most vulnerable and at-risk countries in accessing finance and channelling these locally. The CRFS Alliance also supports the UN Secretary General's call to ensure that every person on Earth is protected by early warning systems by 2027.*

RATIONALE: Current financing for Disaster Risk Reduction (DRR) and adaptation is not only insufficient in volume but also does not reach the most vulnerable countries and communities[36].
According to the ALNAP report, an estimated 200 million people per year, by 2050, will need humanitarian aid to survive due to climate and weather-related disasters if the world fails to invest adequately in adaptation and DRR. Support for DRR and preparedness remained stable at 4.2% in both years (2018 and 2020) as a percentage of overall official humanitarian aid. As a result, the overall funding to date for such anticipatory or preparedness measures remains too small-scale to fully realize their benefits for people affected or threatened by crises[37]. Economic analyses demonstrate that investments in prevention and preparedness measures in areas highly vulnerable to disasters, the establishment of EWS, public awareness raising about disasters, etc. are beneficial and economically desirable[38].

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[32] Songwe, V., Stern, N., & Bhattacharya, A., 2022. Finance for climate action: Scaling up investment for climate and development. Report of the Independent High-Level Expert Group on Climate Finance.
[33] FAO, 2023. Financing sustainable transformation in the agrifood systems: Gaps and Opportunities
[34] IFAD, 2022. UN Agricultural Fund calls for urgent climate finance for small-scale farmers https://www.ifad.org/en/web/latest/-/adapt-or-starve-un-agricultural-fund-calls-for-urgent-climate-finance-for-small-scale-farmers
[35] FAO, 2022. Food and Agriculture for Sustainable Transformation (FAST) Initiative https://www.fao.org/3/cc2186en/cc2186en.pdf
[36] IFRC, 2022. Smart climate financing for the hardest hit people https://www.ifrc.org/sites/default/files/2022-11/20221108_ClimateSmartFinance.pdf
[37] ALNAP, 2022. The State of the Humanitarian System (SOHS) https://sohs.alnap.org/2022-the-state-of-the-humanitarian-system-sohs-%E2%80%93-full-report
[38] Shreve, C. M., & Kelman, I, 2014. Does mitigation save? Reviewing cost-benefit analyses of disaster risk reduction. International journal of disaster risk reduction, 10, 213-235.

Furthermore, it was shown that when implementing EWS and investing in DRR the benefits of investments are higher than the costs with a benefit-cost ratio (BCR) typically ranging from 2 to 10. In some cases, such as heatwave early warnings, significant benefits with a mean BCR of 131 (range of 48-246) were provided[39]. This is supported by the Global Shield (GS) which recognizes that a holistic approach to increasing protection is needed, incl. risk prevention and reduction, investments in preparedness, early and anticipatory actions, as well as response activities to absorb and recover from disaster impacts more quickly. Consequently, the GS recognizes the importance of adaptation measures and reaffirms the goal set at COP26 for developed countries to double the funding provided to developing countries for adaptation by 2025[40].
Investing in DRR and EWS is crucial and a pressing issue, since there still exist problems at all levels of early warning – from triggers being poorly tied to concrete actions and early warning data being inaccessible or defectively analyzed. This means that responses were delayed even when early warning data were available[41].

CRFS ALLIANCE ROLE: The CRFS Alliance is closely partnering with InsuResilience and the Risk-informed Early Action Partnership Risk-informed Early Action Partnership (REAP) to advance early warning systems with early or anticipatory action and climate risk insurance to strengthen the most vulnerable communities' preparedness, food security, and financial resilience. The CRFS Alliance, through their country diagnostic implementation phase, will support countries in their early warning systems implementation through the expertise of the Alliance's members and capacity building.

CALL FOR ACTION 6 ON INDIGENOUS PEOPLES AND FOOD SYSTEMS: **Preserve, strengthen and promote Indigenous Peoples' food systems in the seven socio-cultural regions for sustainable and resilient food systems.**

RATIONALE: Considered some of the oldest and most sustainable on the planet, Indigenous Peoples' food systems are intimately tied to nature and able to provide food and nutritional security while maintaining biodiversity and supporting climate resilience.
Over millennia, some 476 million Indigenous persons living in more than 90 countries all over the globe[42] have managed to develop unique food systems generating food that not only feed millions of people, but also are sustainable, resilient, and equitable.
The territories of Indigenous Peoples cover 28% of the earth's surface and are guardians of a large part of the world's remaining terrestrial biodiversity. These lands overlap with 35% of existing protected areas and 40% of intact ecosystems, suggesting that biodiversity has thrived in areas managed by Indigenous Peoples according to the 2019 IPBES report.
Indigenous Peoples' knowledge, governance systems, territorial management, and ways of living are essential, not only for transforming food systems and moving towards Zero Hunger, but in the pursuit of the Sustainable Development Goals.
Indigenous Peoples suffer disproportionate harm from inequitable and unsustainable food systems (displacement, invasions, pressures over their territories, extraction of knowledge, biopiracy, loss of their traditional livelihoods, food and knowledge systems, poor health amongst others). At the same time, Indigenous Peoples are often excluded from policy and decision-making processes that affect their rights, territories and community well-being, resulting in higher level of poverty, poor health including malnutrition and mortality.

Mechler, R, 2016. Reviewing estimates of the economic efficiency of disaster risk management: opportunities and limitations of using risk-based cost–benefit analysis. Natural Hazards, 81, 2121-2147.

[39] International Bank for Reconstruction and Development / The World Bank. (2021). Investment in Disaster Risk Management in Europe Makes Economic Sense https://civil-protection-knowledge-network.europa.eu/system/files/2023-03/Investment%20in%20Disaster%20Risk%20Management%20-%20Summary.pdf

[40] GS, 2022. Global Shield against Climate Risks https://www.bmz.de/resource/blob/127498/global-shield-against-climate-risks-concept-barrierefrei.pdf

[41] ALNAP, 2022. The State of the Humanitarian System (SOHS) https://sohs.alnap.org/2022-the-state-of-the-humanitarian-system-sohs-%E2%80%93-full-report

[42] Amnesty International, Indigenous Peoples https://www.amnesty.org/en/what-we-do/indigenous-peoples/#:~:text=Overview,5%25%20of%20the%20world's%20population.

Despite these challenges, Indigenous Peoples continue to contribute significantly to global sustainable development. The interrelated nature of their food systems and contributions they make to the overall economic, social, cultural, and spiritual health and well-being of their communities and their territories are significant. Their food systems have proven to be sustainable, resilience, equitable and provide nutritious food to nearly 500 million people worldwide.

CRFS ALLIANCE ROLE: The CRFS Alliance, through its country diagnostics exercise, highlights the importance to preserve, strengthen and promote Indigenous Peoples' food systems in the frame of the implementation of the NAPs and NDCs. Actions need to be undertaken in respect of the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Free, Prior and Informed Consent. The CRFS Alliance is conducting a series of webinars on different topics and plans to include Indigenous Peoples' knowledge in webinars such as the Water-Food-Energy Nexus, and partnering closely with the Global-Hub on Indigenous Peoples' Food Systems.

CALL FOR ACTION 7 ON PRIVATE SECTOR ENGAGEMENT: **Private sector partners are pivotal in developing climate-resilient food systems**. *The CRFS Alliance supports the WBCSD COP28 Business Statement of Action that calls on companies to integrate food system sustainability across decision-making, strengthen accountability, and utilize the power of multistakeholder collaboration. Specifically, it calls on companies to set scope 3 targets and urgently scale in-value chain interventions in line with a 1.5-degree pathway and co-create solutions with farmers and other stakeholders. Additionally, the CRFS Alliance advocates for setting specific goals through a structured roadmap, aligned to the investor's -representing $18 trillion in combined assets- call to action for a "1.5° Roadmap for Food" aimed to be published at COP28 that emphasizes the urgent need for a roadmap to 2050 aligned with the Paris Agreement's goal, while ensuring the protection and restoration of nature, and achieving food and nutrition security goals.*

RATIONALE: Existing evidence suggests that by 2030, food and land use systems have the potential to effectively combat climate change, promote healthier diets, and enhance food security, among others. These benefits can be achieved while generating a societal return on investment that surpasses 15 times the associated implementation costs[43]. This transformation can also bring new business opportunities amounting to as much as $4.5 trillion annually by 2030. The investment required for this transition towards climate-resilient food and land systems presents an opportunity for all sectors. However, it necessitates a collective effort, with an annual funding requirement estimated between $300 billion and $350 billion by 2030[44]. To achieve the Paris Agreement goals, it is imperative to break down silos and foster cooperation between policymakers and the private sector, enabling them to jointly drive ambition and formulate roadmaps that incorporate private sector participation into national food security strategies, NAPs, and NDCs, aligning to the UN Secretary-General's call to action[45].
During the UNFSS +2, the importance and space that the private sector must take in transforming food systems were highlighted, both in terms of investment for SMEs- that are responsible for 50% of the production, processing, and distribution of food and even higher in some developing countries- and in terms of collaboration for a global vision regarding food systems. Companies are encouraged to invest in projects related to regenerative agriculture and promote regenerative agriculture practices[46].

CRFS ALLIANCE ROLE: The CRFS Alliance, understanding the importance of this matter, works with various strategic partners to support the countries and their nexus with investors, funding opportunities, and generating joint work by connecting the private sector in climate-vulnerable countries, engaging with different stakeholders,

[43] The Food and Land Use Coalition. Growing Better: Ten Critical Transitions to Transform Food and Land Use https://www.foodandlandusecoalition.org/wp-content/uploads/2019/09/FOLU-GrowingBetter-GlobalReport-ExecutiveSummary.pdf
[44] Ibid
[45] Secretary-General's Call to Action for accelerated Food Systems Transformation (FST), 2023. https://www.unfoodsystemshub.org/fs-stocktaking-moment/documentation/un-secretary-general-call-to-action/en
[46] WBCSD Putting food on the table at COP27 and beyond: A Business Call for Action https://www.wbcsd.org/contentwbc/download/15107/213913/1

including UN and non-UN organizations within the core group and civil society, and international and local institutions within the leadership group.

CALL FOR ACTION 8 ON FOOD SECURITY, CONFLICT, AND CLIMATE CHANGE**: Food security and conflict must be fully integrated into climate change discussions**. *The CRFS Alliance supports the work and call for action of its sister coalition on Humanitarian Development Peace Nexus (HDP Nexus), addressing the interlinkages between Climate Change, Food Security, and Conflict, calling for conflict-sensitive and climate-positive investments in food systems, including climate-smart and shock resistant agriculture and value chains practices. The CRFS Alliance acknowledges and aligns with the priority outlined in the Nairobi Statement on Climate Change, Peace, Security, and Stability in Africa, emphasizing the critical requirement to mobilize climate finance for peace in Africa[47]. The Alliance actively works towards enhancing access to climate action opportunities, promoting the progress of inclusive and climate-resilient food systems and sustainable development.*

RATIONALE: 60% of the 20 countries most vulnerable to climate change are also affected by armed conflict, and conflict remains the main driver of acute hunger[48]. Weather events and changes in climate can lead to an intensification of conflict, for instance, over access to water and grazing. Furthermore, evidence suggests that disasters – particularly droughts – aggravate existing civil conflicts[49]. Sixty percent of the 20 countries most vulnerable to climate change are affected by armed conflict. Yet, a person in a fragile context receives only USD 2.1 from multilateral climate funds, contrasting with USD 161.7 in non-fragile states. Despite its low contribution to greenhouse gas emissions, the African continent remains the most vulnerable continent regarding climate change impacts. 17 of the 20 worst-hit countries are located on the continent despite accounting for less than 4% of global emissions. Africa is also the scene of over 35 non-international armed conflicts, and many countries are also impacted by political violence occurring in part due to depressed agricultural outputs and reduced availability of basic food stuffs[50].

According to the Global Report on Food Crises 2023, 21.6 million more people face high levels of acute food insecurity than in 2022 in the 48 studied countries, representing a 10% increase, bringing the number to 238 million people. In 36 out of 39 countries with Integrated Food Security Phase Classification (IPC) or the Cadre Harmonisé (CH) (IPC/CH) analyses, around 33.6 million people face Emergency (IPC/CH Phase 4), and in four countries, a total of 128,000 people face Catastrophe (IPC/CH Phase 5) in 2023[51]. This situation could worsen, considering many countries are facing prolonged recovery from drought or flooding, and there is a high probability of a moderately strong El Niño event, driving weather extremes and peaking in early 2024[52]. In terms of finance, extremely fragile states receive only USD 2.1 per person of multilateral climate funds, compared to USD 161.7 per person for non-fragile states[53], and countries facing crises have received disproportionately lower shares of Official Development Assistance (ODA) dedicated to climate change adaptation compared to other nations facing similar climate risks[54]. The agriculture sectors are on the frontlines of climate change, absorbing more than 26% of the overall impact of medium- to large-scale climate-related disasters. Yet less than 4% of the overall climate finance available is allocated to climate change within the agriculture, forestry, and land use sectors.

CRFS ALLIANCE ROLE: The CRFS Alliance recognizes the urgency of this matter and has a growing presence in the African continent (Ethiopia, Libya, The Gambia, and Uganda) and is working closely with the HDP Nexus Coalition

[47] Nairobi Statement on Climate Change, Peace, Security and Stability in Africa https://berlin-climate-security-conference.de/system/files/document/Nairobi_Statement.pdf

[48] OCHA, 2021 https://reliefweb.int/report/world/under-secretary-general-humanitarian-affairs-mark-lowcock-odi-humanitarian-policy-group#:~:text=We%20also%20know%20a%20lot,of%20fragility%20or%20armed%20conflict.

[49] Food Security Information Network, 2023. 2023 The Global Report on Food Crises MID-YEAR UPDATE https://www.fsinplatform.org/sites/default/files/resources/files/GRFC2023-MYU.pdf

[50] HDP Nexus Coalition – High Level Task Force on Famine Prevention

[51] Ibid

[52] Ibid

[53] UNDP

[54] HDP Nexus Coalition – High Level Task Force on Famine Prevention

to organize and participate in global events, bringing together various stakeholders to promote food security and conflict integration into climate change discussions. The CRFS Alliance offers countries a platform and establishes connections to a diverse display of solutions via its Portfolio of Solutions. Furthermore, the CRFS Alliance provides support to facilitate access to climate finance sources and opportunities.

CALL FOR ACTION 9 ON HEALTHY DIETS: **Investing in transforming food systems is imperative to facilitate the transition towards healthier and sustainable diets**. *The CRFS Alliance supports the need for adequate carbon pricing that reflects emission production for agricultural and food production, aligning with the objectives outlined in the Paris Climate Agreement for the years 2030 to 2050.*

RATIONALE: According to the Lancet Commission, unsustainable food production threatens the stability of the biosphere, and unhealthy food consumption underpinned by unsustainable food systems accounts for up to 10.8 to 11.6 million premature deaths each year[55]. Thus, it is imperative a radical transformation of the global food system is urgently needed, additionally, without action, the world risks failing to meet the SDGs and the Paris Agreement goals[56]. Reaching the transformation to healthy diets by 2050 will require substantial dietary shifts; however, the Commission showed that feeding 10 billion people a healthy diet within safe planetary boundaries by 2050 is both possible and necessary. To reach the goals, the Commission suggests that global consumption of fruits, vegetables, nuts, and legumes double, and consumption of foods such as red meat and sugar be reduced by more than 50%.

Regarding the environmental impact, livestock rearing generates 14% of all carbon emissions, similar to the amount generated by all transport put together. Furthermore, meat and dairy provide just 18% of calories consumed but use 83% of global farmland and are responsible for 60% of agriculture's greenhouse gas emissions[57]. A diet rich in plant-based foods and with fewer animal-source foods confers both improved health and environmental benefits[58]. Crucially, a protein diversification approach must be based on equity and inclusion. Efforts must be made to ensure that Global South stakeholders and marginalised communities are involved from the onset. This is both an ethical imperative and a strategic necessity.

Various solutions exist to facilitate the transformation of food systems, including increased investment in smallholders through sustainable land management approaches. This investment is crucial as the transition toward low greenhouse gas (GHG) emission diets can be influenced by local production practices, technical and financial obstacles, and the interconnectedness of livelihoods and cultural traditions, as highlighted by the Intergovernmental Panel on Climate Change (IPCC) Special Report on Climate Change and Land[59]. Additionally, there is a need to progress towards shifting to plant-based diets.

CRFS ALLIANCE ROLE: The CRFS Alliance collaborates with its members and partners to provide a platform and facilitate linkages with coalitions and initiatives dedicated to advancing the transition towards plant-based, low-carbon-emission diets. The CRFS Alliance endorses the call made by one of its members, the TAPP Coalition, advocating for considering greenhouse gas emission taxes on food. According to the third IPCC report (AR6III), such taxes are recognized as policy options with *great transformational potential* regarding mitigation efforts, positive environmental effectiveness, and low implementation costs.

CALL FOR ACTION 10 ACCESS TO INNOVATION: **Ensuring the accessibility of technology and innovation to smallholders is pivotal for agrifood systems transformation.** *The CRFS Alliance calls for an increase in public investment in research and development -according to the FAO's latest report on The State of Food Security and Nutrition in the World 2023- in order to develop technologies and innovations for healthier food environments and to increase the*

[55] Lancet Commission (Catherine A Cluver, Susan P Walker) 2023, EAT–Lancet Commission 2.0: securing a just transition to healthy, environmentally sustainable diets for all.

[56] Lancet Commission, 2019. Healthy Diets From Sustainable Food Systems. Food Planet Health. Summary Report https://eatforum.org/content/uploads/2019/01/EAT-Lancet_Commission_Summary_Report.pdf

[57] UNFCCC, 2021. We Need to Talk About Meat https://unfccc.int/blog/we-need-to-talk-about-meat

[58] Ibid, p3.

[59] IPCC, 2022. Special Report on Climate Change and Land https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/

availability and affordability of nutritious foods. These innovations need to be accessible both financially and technically to smallholders including women and youth to increase farm productivity and incomes in rural areas.

RATIONALE: Action to address climate change is underway but one of the efforts that must be hastened is accelerating innovation and increasing financing. The IFPRI's 2022 Global Food Policy Report states that innovations and policy approaches have the potential to address climate change in food systems while also increasing productivity, improving diets, and advancing inclusion of vulnerable groups[60]. Climate-smart innovations also have the potential to support mitigation by sequestering carbon or reducing emissions. However, technical innovations will never reach their full potential without the right enabling environments, including policy incentives and governance approaches that promote climate-positive change and inclusion of all food systems actors[61].

The latest FAO's State of Food Security and Nutrition in the World 2023, highlights that innovations cannot be considered in isolation: potential trade-offs and co-benefits must be considered, both among the innovations themselves and in relation to other agrifood systems interventions[62]. According to the World Economic Forum, even when smallholder farmers are the heart of the global food system, producing over one-third of the food consumed, for many of the world's 600 million smallholder farmers, farming is no longer a sustainable livelihood[63]. To revert these conditions, it is crucial to transform the global food systems to be more equitable to smallholder farmers. Technology can provide farmers with access to credit and other financial services, as well as reliable marketplaces and input providers, advisory services, and information[64]. However, access to these technologies includes the internet and power which is often unreliable, and many farmers lack a digital identity, and access to data and artificial intelligence (AI) solutions is also expensive[65]. To tackle this matter, one of the guiding principles by the FAST Initiative is ensuring the best available science and innovation are considered, including local knowledge and practices, by supporting the development of innovations combining technology, knowledge and financial engineering to unlock financing for the sector[66].

In order to create enabling environments for the technology and innovations to reach all stakeholders, especially smallholders to create local food systems transformation, it is key to invest in capacity building, in research, data, innovation and technology capacities including stronger connections to science, experience and expertise, as stated by the UN Secretary-General's call to action.

An additional model of climate-focused innovation, that focuses on supporting start-ups and other types of innovation teams, are innovation programs run by the World Food Programme Innovation Accelerator67, for WFP or in collaboration with additional organisations68. The WFP Innovation Accelerator sources, supports and scales high-potential solutions to end hunger and address the Sustainable Development Goals worldwide. It provides entrepreneurs, start-ups, WFP teams, companies, and non-governmental organizations with access to funding, mentorship, hands-on support, and when applicable, access to WFP operations.

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[60] IFPRI, 2022. Global Food Policy Report: Climate Change & Food Systems. https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/135889/filename/136101.pdf

[61] Ibid

[62] FAO, 2023. The State of Food Security and Nutrition in the World 2023. https://www.fao.org/3/cc3017en/cc3017en.pdf

[63] World Economic Forum, 2023. Smallholder farmers could help fix global food systems with the right technology. https://www.weforum.org/agenda/2023/01/davos23-innovations-agriculture-global-food-systems/

[64] Ibid

[65] Ibid

[66] FAO. (2022). Food and Agriculture for Sustainable Transformation (FAST) Initiative https://www.fao.org/3/cc2186en/cc2186en.pdf

[67] Background on the WFP Innovation Accelerator: https://innovation.wfp.org/what-we-do.

[68] 2 Examples of innovation programs of the WFP Innovation Accelerator focused on climate challenges: background on the challenge: Wanted: Startups and innovations tackling the climate crisis and hunger and the selected teams invited to the innovation bootcamp: Seven innovations pave the way to Zero Hunger in a time of climate crisis; background on challenge: Agricultural Innovation for Climate Resilience Programme and the teams selected to the innovation bootcamp: Fostering Resilience: 15 Agro Entrepreneurs Propose Impactful Solutions to Tackle Climate Challenges | by WFP Innovation Accelerator.

CRFS ALLIANCE ROLE: The CRFS Alliance, through its country diagnostics implementation phase, will conduct capacity-building activities to make these innovations and technologies accessible for all, especially women and youth. The CRFS Alliance is conducting a series of webinars, including one on Innovation and Technology for food systems. The CRFS Alliance also supports the Innovation Commission's project for Climate Change, Food Security and Agriculture which will generate concrete proposals to develop and scale innovations[6970]. Through the Resilience Frontiers Initiative spearheaded by the UNFCCC secretariat, and in particular Pathway 7 on regenerative food production, the Alliance proffers groundbreaking ideas and approaches or bright lights, focused on innovative solutions such as regenerative food production, including hydroponics, growing sea food out of cells, intercropping with trees, among others. The CRFS Alliance also offers countries a platform and establishes connections to a diverse display of innovations via its Portfolio of Solutions.

CALL TO ACTION 11 ON BIODIVERSITY AND ECOSYSTEM-BASED APPROACHES: **Efforts to halt biodiversity loss are imperative for the establishment of sustainable and climate-resilient food systems and must be comprehensively integrated into climate change discussions.** *The CRFS Alliance joins the call on food systems made by the UN Environment Programme (UNEP) for areas under agriculture, aquaculture, and forestry to be managed sustainably, global food waste to be cut in half, and a significant reduction in overconsumption and waste production*[71].

RATIONALE: The world's biodiversity is under severe threat and land use and change are the biggest causes, for which agriculture and food systems are the primary drivers. Food systems account for the largest portion of land-use change and habitat conversion. They are the number one driver of biodiversity loss and are responsible for 80% of deforestation and 70% of freshwater use[72]. Furthermore, according to the UN Secretary General's call the unsustainable food production, packaging, and consumption generate one-third of all greenhouse gas (GHG) emissions, contributing to the climate crisis and driving biodiversity loss. The types and amounts of foods consumed — and the way they are produced, processed, and move— compromise the stability and resilience of natural resources and biodiverse ecosystems and contribute to climate change[73]. The greatest biodiversity loss has primarily occurred through the conversion of forests for the production of soy, cattle and palm oil. From 1980 to 2000, 42 million hectares of tropical forest in Latin America were lost to cattle ranching, while 6 million hectares were lost to palm oil plantations in Southeast Asia[74]. According to the 'Red List' maintained by the International Union for Conservation of Nature (IUCN), agriculture is an identified threat to 24,000 of the 28,000 species so far at risk of extinction. In marine ecosystems, fishing is the largest driver of biodiversity loss[75]. Climate change, biodiversity loss and land degradation are linked and cannot be addressed effectively by siloed approaches. If progress isn't made in one or more of these areas, it will hurt the other areas and prevent the achievement of the Sustainable Development Goals (SDGs). It is important that integrated approaches are implemented, such as nature-based solutions or ecosystem-based approaches that address challenges of climate, food and water security.

CRFS ALLIANCE ROLE: The CRFS Alliance supports the three Rio conventions – the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), and the United Nations

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[69] U.S. Department of Agriculture, 2023. Final Day of AIM for Climate Summit Announces Groundbreaking Initiatives on the Road to COP28 https://www.usda.gov/media/press-releases/2023/05/10/final-day-aim-climate-summit-announces-groundbreaking-initiatives

[70]Development Innovation Lab, 2023. Innovation Commission for Climate Change, Food Security and Agriculture https://bfi.uchicago.edu/project/the-commission-on-innovation-for-climate-change-and-food-security/

[71] UNEP, 2023. From agreement to action: The road ahead for the Global Biodiversity Framework https://www.unep.org/news-and-stories/story/agreement-action-road-ahead-global-biodiversity-framework

[72] Ibid

[73] IFPRI, 2022. Global Food Policy Report: Climate Change & Food Systems https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/135889/filename/136101.pdf

[74] Chatham House, 2021. https://reliefweb.int/report/world/food-system-impacts-biodiversity-loss-three-levers-food-systemtransformation-support#:~:text=The%20global%20food%20system%20is,the%20'cheaper%20food'%20paradigm

[75] Ibid

Framework Convention on Climate change (UNFCCC) – to address the need for adaptation to climate change through their activities.

CALL TO ACTION 12 ON FOOD LOSS AND WASTE: **The issue of food loss and waste demands a collective, cross-sectoral approach to support countries in achieving their NDCs and supporting the private sector in their pursuit of NetZero goals. It is imperative that all stakeholders unite in a concerted effort to address this challenge.** *The CRFS Alliance supports the #123 Food Loss and Waste Pledge for Climate Action which calls for governments, companies, institutions and individuals to halve food waste by 2030 and reduce food losses by at least 25%, toward accelerating actions to achieve SDG target 12.3[76]. The CRFS Alliance also calls governmental and non-governmental stakeholders for the use of the framework on Voluntary Code of Conduct for Food Loss and Waste Reduction. The CRFS Alliance is aligned with the Sharm-El-Sheikh Adaptation Agenda and its outcome on reducing food loss in the global south (45-83% of total loss and waste) through improved harvesting techniques and post-harvest storage and logistics and reducing food waste in the global north (57-68% of total loss and waste) through improved use of treatments, consumer education, labelling, and expanded composting infrastructure[77].*

RATIONALE: By 2050, the world's population is projected to reach nearly 10 billion people with close to 70% of them residing in urban areas[78]. Designing the global food system to feed the world's growing population through 2050 and beyond is a priority concern. However, under a business-as-usual scenario, the associated pressures on natural resources and the environmental impacts of increased production and satisfactory food consumption patterns eliminate or threaten any chance of achieving the goals of the 2030 Agenda[79]. Food loss and waste (FLW)[80] is a reflection of poorly functioning food systems. It is widely recognized that significant amounts of FLW occur in the food supply chain from production to consumption. Between post-harvest and retail alone, up to 14% of food produced globally is lost[81], while 17% of total global food production is wasted at the retail, food service and consumer stages[82]. FLW affects the sustainability of food systems and has negative impacts on the economy, food security and nutrition, and the environment. The annual market value of food lost or wasted worldwide is estimated to be in the hundreds of billions of dollars[83]. In terms of the environment, FLW contributes to greenhouse gas emissions and represents a waste of resources such as land, water, and energy used for food production. FLW contributes up to 10% of global GHG emissions[84]. Food wastage's carbon footprint is estimated at 3.3 billion tons of CO2 equivalent of GHG released into the atmosphere per year, and 1.4 billion hectares of land (28% of the world's agricultural area) is used annually to produce food that is lost or wasted, what contributes

[76] SDG target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses. https://www.fao.org/platform-food-loss-waste/news/news-detail/123-food-loss-and-waste-pledge-for-climate-action/en

[77] Sharm-El-Sheikh Adaptation Agenda. 2.1. Food and Agriculture Systems. https://climatechampions.unfccc.int/wp-content/uploads/2022/12/SeS-Adaptation-Agenda_Complete-Report_COP27-.pdf

[78] United Nations, 2018. World Urbanization Prospects: The 2018 Revision, Online Edition. New York, Department of Economic and Social Affairs, Population Division, United Nations. https://www.un.org/en/desa/2018-revision-world-urbanization-prospects

[79] United Nations, 2019. Global sustainable development report 2019: The future is now – Science for achieving sustainable development. Independent Group of Scientists appointed by the Secretary-General. New York, United Nations. https://sdgs.un.org/gsdr/gsdr2019

[80] According to FAO, Food loss refers to the decrease in edible food mass at the production, post-harvest and processing stages of the food chain, mostly in developing countries. Food waste refers to the discard of edible foods at the retail and consumer levels, mostly in developed countries. (FAO, 2013. Available in https://www.fao.org/3/i3347e/i3347e.pdf)

[81] FAO, 2019. The state of food and agriculture: Moving forward on food loss and waste reduction. https://www.fao.org/3/ca6030en/ca6030en.pdf

[82] UNEP, 2021. Food Waste Index Report 2021. https://www.unep.org/resources/report/unep-food-waste-index-report-2021

[83] HLPE, 2014. Food losses and waste in the context of sustainable food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security. https://www.fao.org/3/i3901e/i3901e.pdf

[84] FAO, 2023. The #123 Food Loss and Waste Pledge for Climate Action. https://www.fao.org/platform-food-loss-waste/news/news-detail/123-food-loss-and-waste-pledge-for-climate-action/en

to the degradation of natural ecosystems, loss of biodiversity and great loss of fresh water and groundwater resources[8586]. Reducing and preventing food waste can increase food security, foster productivity, and economic efficiency, promote resource and energy conservation, and address climate change, which could also decrease climate change-related shocks to the supply chain[87]. Collective and global actions are required to maximize the use of the food produced and to reach the SDG 12.3 target "to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses"[88].

The #123 Food Loss and Waste Pledge for Climate Action states that considering the amount of GHG emissions, halving food loss and waste would help countries to achieve their NDCs beyond their commitments in the Paris Agreement and help companies in their race to NetZero[89]. The pledge is directed at governments, companies, and institutions, urging them to take action in one of the five impact areas aimed at reducing food loss and waste (FLW). This commitment will lead to a significant reduction in greenhouse gas emissions (GHG). The impact areas are 1. Integrate food loss and waste reduction into country and company climate strategies. 2. Reduce food loss and waste along supply chains. 3. Stimulate action at the national and subnational (city) level. 4. Measure, report and create policy and regulatory frameworks for FLW reduction. 5. Support reduced waste at the consumer level through raising awareness, education and enabling the conditions for change. The Sharm-El-Sheikh Adaptation Agenda also considers this matter, and one of the outcomes is to reduce food loss in the global south (45-83% of total loss and waste) through improved harvesting techniques and post-harvest storage and logistics and reducing food waste in the global north (57-68% of total loss and waste) through improved use of treatments, consumer education, labelling, and expanded composting infrastructure[90].

CRFS ALLIANCE ROLE: The CRFS Alliance through its country diagnostic exercise is supporting countries in the development of agribusiness innovation to improve transportation, storage and processing services along the food value chain to decrease Food Loss and Waste.

CALL TO ACTION 13 ON ULTRA-PROCESSED FOODS: **State and non-state actors must take action to reduce consumption of ultra-processed foods and invest in research that examines their impact on climate change.** *The CRFS Alliance supports the Soil Association's call to action for governments to set specific consumption reduction targets for ultra-processed foods, considering their implications on public health and the environment. The CRFS Alliance also acknowledges The Lancet Commission's recommendation to consider the environmental impact of the industrial processes involved in producing ultra-processed foods, including aspects such as packaging and food additives, in evaluations and research.*

RATIONALE: FAO defines ultra-processed foods (UPFs) as products that are formulated mostly or entirely from substances derived from foods or other organic sources, and typically contain little or no whole foods, making them durable, convenient, accessible, highly or ultra-palatable, and often habit-forming[91]. Many UPFs contain palm and soy oils, which have substantial negative health and environmental effects. However, the environmental impacts of UPFs go beyond the immediate resources used in the production of their ingredients. The way that foods are produced, including the agroecological and farming system characteristics, contribute to their

[85] Geneva Environment Network, 2023. Food Loss and Waste and The Role of Geneva https://www.genevaenvironmentnetwork.org/resources/updates/reducing-food-loss-and-waste-for-a-healthier-planet/
[86] FAO, 2022. Voluntary code of conduct for food loss and waste reduction. https://www.fao.org/3/cb9433en/cb9433en.pdf
[87] US Department of Agriculture, 2022. Food Waste and its Links to Greenhouse Gases and Climate Change. https://www.usda.gov/media/blog/2022/01/24/food-waste-and-its-links-greenhouse-gases-and-climate-change
[88] SDG 12 Hub. Target 12.3 Food Loss & Waste https://sdg12hub.org/sdg-12-hub/see-progress-on-sdg-12-by-target/123-food-loss-waste
[89] FAO, 2023. The #123 Food Loss and Waste Pledge for Climate Action. https://www.fao.org/platform-food-loss-waste/news/news-detail/123-food-loss-and-waste-pledge-for-climate-action/en
[90] Sharm-El-Sheikh Adaptation Agenda. 2.1. Food and Agriculture Systems. https://climatechampions.unfccc.int/wp-content/uploads/2022/12/SeS-Adaptation-Agenda_Complete-Report_COP27-.pdf
[91] FAO, 2023. The State of Food Security and Nutrition in the World 2023. https://www.fao.org/3/cc3017en/cc3017en.pdf

environmental impacts[92]. Demands for UPFs increase mono-crop production and industrial refining processes which causes damage to wild habitats, forests and animal species are put at risk. Agriculture techniques used for mono-crop lead to vast releases of carbon emissions and if these trends continue, greenhouse gas emissions from UPF consumption are set to double by 2050[93].

Whilst the damage of consumption of UPFs is well documented, it is necessary that environmental considerations of diets capture the overall impact of UPFs from farm to fork, including the stages of processing, packaging, distribution and waste[9495]. Estimations of the environmental impacts of food processing should also take into account that UPFs are necessarily produced by large transnational corporations, which impacts food cultures, the global supply chains, and also for the of use extensive packaging that encourages mass production, long-distance transportation, and waste related to their consumption[96].

Consumption of UPFs is also contributing to a loss of food diversity as 75% of the global diet consists of 12 plants and 5 animal species and half of our plant-derived calories come from just three foods: wheat, corn and rice. Of the 4% of the 250,000 to 300,000 known edible plant species, only 150 to 200 are used by humans [97]. This is harmful for food systems resilience and while consumers might see a variety of choices, these foods often represent the same nutritionally bereft ingredients in different packaging[98]. According to FAO and studies[99], sales and consumption of ultra-processed foods are increasing in all regions, and the expansion in types and quantities of UPFs represents a transition towards a more processed global diet. These is closely linked with the industrialization of food systems, technological change and globalization, including growth in the market and political activities of transnational food corporations and inadequate policies to protect nutrition in these new contexts. The consumption of UPFs is also increasing in peri-urban and rural areas, and these changes are affecting people's food security and nutrition and raises concern for global health.

The unaffordability of sustainable healthy diets, especially for marginal and nutritionally vulnerable populations, represents another major constraint[100]. Considering the EAT-Lancet Commission's "Healthy Reference Diet", studies show that the cost exceeded the total per capita household income for 1.6 billion people, and represented 89% of mean income in low-income countries[101]. Moreover, food prices will likely continue increasing as a result of climate change, and UPFs are universally low-cost options because of their lower production costs and losses, ease of storage and transport, and long shelf life[102]. According to the IFPRI report on Climate Change & Food Systems, policies to shift consumption toward sustainable healthy diets must focus on 1) increasing the availability, access, and affordability of nutritious foods; 2) discouraging excessive consumption of ASF (especially red and processed meat) and UPFs; and 3) encouraging demand for nutritious foods and sustainable healthy diets. The Lancet Commission calls the UNFSS member states to implement multiple policy interventions to

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[92] IFPRI, 2022. 2022 Global Food Policy Report: Climate Change & Food Systems. https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/135889/filename/136101.pdf

[93] Soil Association, 2023. Ultra-processed food impacts health, climate and nature. https://www.soilassociation.org/causes-campaigns/ultra-processed-foods/

[94] IFPRI, 2022. 2022 Global Food Policy Report: Climate Change & Food Systems. https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/135889/filename/136101.pdf

[95] The Lancet Commission, 2020. The neglected environmental impacts of ultra-processed foods. https://www.thelancet.com/action/showPdf?pii=S2542-5196%2820%2930177-7

[96] Ibid.

[97] CBD, 2019. UN Biodiversity Convention partners with Slow Food International in celebrating the International Day for Biological Diversity. https://www.cbd.int/doc/press/2019/pr-2019-05-22-idb-en.pdf

[98] Soil Association, 2023. Ultra-processed food impacts health, climate and nature. https://www.soilassociation.org/causes-campaigns/ultra-processed-foods/

[99] Baker, et.al., 2020. Ultra-processed foods and the nutrition transition: Global, regional and national trends, food systems transformations and political economy drivers. https://onlinelibrary.wiley.com/doi/10.1111/obr.13126

[100] IFPRI, 2022. 2022 Global Food Policy Report: Climate Change & Food Systems. https://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/135889/filename/136101.pdf

[101] Ibid.

[102] Ibid.

reduce UPFs production, distribution and consumption, while simultaneously making fresh or minimally processed foods more available, accessible and affordable[103]. The Sharm-El-Sheikh Adaptation Agenda recognizes the critical issue and calls to improve consumer education and food marketing to drive consumer demand, increase production of nutrient-dense foods and Improving distribution and access to nutritious foods, particularly in the global south.

CRFS ALLIANCE ROLE: The CRFS Alliance in its country diagnostics exercise, assess different national policies and plans on food systems and climate change, with a focus on identifying gaps, such as the absence of policies concerning the consumption of UPFs. Subsequently, it offers guidance to governments and support in building national and local capabilities in this area. The CRFS Alliance through its country diagnostics implementation phase activities, is planning on conducting workshops in Belize on nutrition education to promote local agribusiness for local products and local consumption and supporting community health initiatives.

CALL TO ACTION 14 ON WATER FOOD ENERGY (WFE) NEXUS: **Water and energy are major resources needed in food systems**. *Promoting innovative water and energy solutions which simultaneously support the decarbonization and resilience of food systems and incentivizes sustainable and equitable water access for the production, processing and preservation of healthy and safe foods is essential to enhance food systems resilience. The CRFS alliance calls for implementing the Water-Energy-Food (WEF) Nexus approach to guide sector investments into innovation and scaling of solutions as well as policy design and implementation.*

RATIONALE: Approximately 70% of global freshwater resources are being used by the agricultural sector. Over the past 30 years, food production has increased by more than 100 percent. The FAO estimates that by 2050, about 60 percent more food will be needed to meet the food requirements of a growing world population[104]. Water is a critical factor in agricultural production and plays an important role in food security. Irrigated agriculture accounts for 20 percent of total cropland and contributes to 40 percent of the food produced worldwide. Irrigated agriculture is, on average, at least twice as productive per unit area as rainfed agriculture, allowing for greater intensification of production and crop diversification[105].

Even if the world does meet the Paris Agreement's temperature target of limiting warming to below 2°C and population growth is low, the number of people exposed to water stress could still rise by 50% by 2050 when compared to 2010. As changes in water availability have a smaller effect when water is not yet scarce, changes in water stress globally are dominated by local water consumption—managing local demand is thus necessary in order to avoid future stress[106].

Production and agriculture consume about 30% of global energy production - mainly fossil fuels. And of the total greenhouse gas emissions from the agri-food sector, energy accounts for about one-third. A joint approach to the energy transition and the transformation of agri-food systems is critical to achieving the Sustainable Development Goals (SDGs) and the Paris Agreement on climate change[107].

CRFS ALLIANCE ROLE: Despite the clear linkages between food, water and energy security, too often, coordination between food, water and energy ministries, institutions, and decision-makers has been largely siloed. The CRFS Alliance advocates for implementing the Water-Energy-Food (WEF) Nexus approach to guide sector investments into innovation and scaling of solutions.

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[103] The Lancet Commission, 2021. The need to reshape global food processing: a call to the United Nations Food Systems Summit. https://gh.bmj.com/content/bmjgh/6/7/e006885.full.pdf

[104] FAO, 2017. Water for Sustainable Food and Agriculture (https://www.fao.org/3/i7959e/i7959e.pdf)

[105] World Bank, 2022. Water in Agriculture. (https://www.worldbank.org/en/topic/water-in-agriculture)

[106] Munia, H. A., Guillaume, J. H., Wada, Y., Veldkamp, T., Virkki, V., & Kummu, M., 2020. Future transboundary water stress and its drivers under climate change: a global study. Earth's future, 8(7).

[107] IRENA and FAO, 2021. Renewable energy for agri-food systems (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/Nov/IRENA_FAO_Renewables_Agrifood_2021.pdf?rev=531d47024c114696832884e5bf2a3b9d)

Call for action – CRFS Alliance Members

The humanitarian-development-peace (HDP) Nexus Coalition:

- Food security and conflict must be fully integrated into climate change discussions.
- International financing mechanisms and risk tolerance need to be reformed and recalibrated, particularly climate financing instruments, to include the most fragile contexts. Several initiatives have already been proposed, including the Bridgetown Initiative, the Accra-Marrakech Agenda, the UN Secretary General's SDG Stimulus Proposal and the Paris Summit for a New Global Financing Pact in the recent Nairobi Declaration on Climate Change, which need to be urgently operationalized.
- The international community must at a minimum deliver on its commitments, including the Loss and Damage Fund, and the hundred billion dollars of annual climate financing for developing countries.
- Climate and environmental indicators should be integrated in early warning and early actions mechanisms to ensure greater coherence between climate and food interventions across the HDP Nexus.
- Conflict-sensitive and climate-positive investments in food systems strengthening must be scaled up including climate smart and shock resistant agriculture and value chains practices.

Related links: https://www.fightfoodcrises.net/hdp-coalition/en/

SEKEM Initiative:

- Joint approval of minimum requirements for carbon credit schemes. Schemes meeting the proposed requirements herein are accepted and can sell and trade their validated and verified agricultural carbon credits on the international Voluntary Carbon Market (VCM), ensuring global recognition.
- Funding farm transitions, ensuring their shift towards climate-friendly agriculture by utilizing future earnings from agriculture carbon credits for initiatives such as renewable energy installation and capacity building.
- Facilitating smallholder farmers' entry to the global VCM by providing knowledge, funding, and assistance in transitioning farms to apply climate friendly methods (e.g., Economy of Love scheme).

Related links: https://sekem.com/en/index/

TAPP Coalition:

- Include meat consumption reduction policies in the centre of programs for reducing emissions before 2030 (e.g. Methane Pledge), mitigation, climate finance, Loss and Damage, retail and meat industry pledges, especially in OECD countries and China
- Include meat consumption reduction policies in the climate-health ministerial at COP28, since reducing the (over)consumption of meat in OECD countries and China has public health co-benefits.
- Include global and national meat consumption reduction commitments for OECD and China, and the need for carbon pricing mechanisms for meat production or consumption in the COP28 Head of State and government-level declaration for Food Systems, Agriculture, and Climate Action.
- Asks the OECD, the Carbon Pricing Leadership Coalition, G20, China and the EU Commission to lead the way towards harmonized carbon pricing in food-systems starting with meat.
- Consider using the revenue of food-system GHG-emissions taxes in OECD countries and China, to fund at least 15-20% of climate finance for the Loss and Damage Fund.

Related links: https://www.tappcoalition.eu

Agroecology Coalition:

- Agroecology strives for the transformation of food systems, following 13 principles as defined by the High Level Panel of Experts (HLPE) of the Committee on World Food Security (CFS) that are aligned with the 10 Elements of Agroecology adopted by the 197 FAO Members in December 2019.

- Agroecological food systems can tackle the climate, biodiversity, land degradation and hunger crises together – because they're based on diversity, resilience and equity.

Partner events and initiatives

DAY	TITLE	ORGANIZERS
Friday, 1 Dec 2023	WCAS - Resilient food systems, sustainable agriculture and climate action.	COP28
Saturday, 2 10:00-11:30	Let's talk substance. Concrete solutions for responding to Loss and Damage – The Global Shield against Climate Risks and beyond	Global Shield Co-Chairs: Ghana & Germany
Saturday, 2 15:15-16:00	What do we know about Carbon Pricing of Food Systems? Exploring the road towards a High Level Committee.	TAPP Coalition (True Animal Protein Price Coalition), Jeroom Remmers Unilever, Fiona Duggan
Saturday, 2 Dec 2023	Unveiling industrial farming's hidden climate destruction in the Global South	World Animal Protection (WAP), Ms. Beth Newman FOUR PAWS International, Ms. Sophie Aylmer HEDA Resource Centre (HEDA) ,Mr. Sulaimon Arigbabu
Saturday, 2 Dec 2023	Towards Climate Proofing Vulnerable Communities in Emerging Economies	LAYA, Mr. Myron Mendes South Central India Network for Development Alternatives (SCINDeA), Mr. Myron Mendes
Saturday, 2 Dec 2023	Policy lessons from cross-sectoral global case studies tackling climate change effects on health	InterAcademy Partnership (IAP), Ms. Sofia Nitti Helmholtz-Zentrum hereon GmbH (Hereon), Ms. Jo-Ting Huang-Lachmann
Saturday, 2 Dec 2023	Human Rights and the promotion of digital technologies for agriculture in adaption policies	Queen Mary University of London (QMUL), Change For Planet (CFP), Climate and Sustainable Development Network of Nigeria (CSDevNet), Family Health International (FHI 360),
Sunday, 3 Dec 11:30-12:30	Announce the start of the "40,000 Farmers for a Regenerative Future in Egypt" initiative	Catalyst 2030 - South x South climate alliance , The Future Economy Forum, SEKEM
Sunday, 3 Dec 14:45-15:30	Achievements and results obtained through Nordic nations' (i.e., Sweden, Norway, and Denmark) support to locally led adaptation	UNCDF/LoCAL
Sunday, 3 Dec 15:30-17:00	The Global Shield: Unleashing Regional Resilience through a Thematic Window for Regional Risk Pools	Global Shield Solutions Platform (GSSP) & the Regional Risk Pools (ARC, CCRIF SPC, SEADRIF, PCRIC)
Sunday, 3 Dec 11:00-13:00	Under2 Coalition's General Assembly	Climate Group
Sunday, 3 Dec 2023	Unleashing the Power of Alternative Proteins for Climate Resilience and Food Security	The Good Food Institute, Inc., Ms. Mariana Bernal Life and Environment (L&E), Mr. Ari Ben Dror
Sunday, 3 Dec 2023	Tackling Gender Inequality for Effective Climate Action in Agrifood Systems	International Food Policy Research Institute (IFPRI), Ms. Elizabeth Basauri Bryan International Potato Center (CIP), Mr. Joel Ranck
Sunday, 3 Dec 2023	Soil degradation and gender inequality	Haiti Cholera Research Funding Foundation Inc USA (HCRFF), Aarhus University

Sunday, 3 Dec 2023	MSMEs facing energy transition: innovative solutions in finance & technology for value chains	World Union of Small and Medium Enterprises (WUSME), Association Française des Entreprises pour l'Environnement (EpE), Regional Center for Renewable Energy and Energy Efficiency (RCREEE)
Monday, 4 Dec 11:00-12:30	Biodiversity Credits: Financing the transition to regenerative agriculture & forestry	Sekem, NOW Partners Foundation, Future Economy Forum
Monday, 4 Dec 2023	Action agenda on regenerative landscapes	COP28, BCG, WBCSD, supported by UN Climate Change High-Level Champions
Monday, 4 Dec 2023	Global Collaboration for Innovation and Sustainable Cooling: Solutions for Market Transformation	New Energy and Industrial Technology Development Organization (NEDO), Griha Council, Natural Resources Defense Council (NRDC)
Monday, 4 Dec 2023	Food systems transformation: elevating healthy diets & protein diversification as climate solutions	ProVeg e.V., Brighter Green, Inc., Buddhist Tzu Chi Foundation, Compassion in World Farming International (CIWF), National Spiritual Assembly of the Baha'is of the United States, World Conference of Religions for Peace (WCRP)
Monday, 4 Dec 2023	Methane reduction and environmental justice: recommendations for the Global Methane Pledge	Global Alliance for Incinerator Alternatives Philippines, Inc. (GAIA), Ecology Center Janvikas, Pesticide Action Network Asia BHD (PAN AP)
Monday, 4 Dec 2023	Measuring and reducing GHG emissions in agricultural supply chains	Bonsucro Limited, Ms. Norma Tregurtha Roundtable on Sustainable Palm Oil (RSPO), Ms. Monisha Mohandas
Tuesday, 5 Dec 12:00-13:00	Delivering integrated action for renewable energy and biodiversity: A nature positive future	UNEP/CMS
Tuesday, 5 Dec 13:00-14:00	Innovation 4 Adaptation: Tackling the Climate and Hunger Emergencies	WFP Innovation Accelerator
Tuesday, 5 Dec 13:00-14:30	Launch of the LoCAL Ministerial Declaration with the Chair of the LDC Group to UNFCCC	UNCDF-LoCAL, UNFCCC
Tuesday, 5 Dec 2023	Financial and private sector innovation in methane reduction in livestock and in food loss and waste	Environmental Defense Fund and Global Methane Hub
Tuesday, 5 Dec 2023	At the Crossroads between Productivity and Mitigation: financing the Transitions of Agriculture	International Fertilizer Association (IFA), Ms. Margot Clifford Laguette International Rice Research Institute (IRRI), Ms. Patricia Anne Vega
Tuesday, 5 Dec 2023	How animal sourced food nourish the world in times of climate change	International Dairy Federation (IDF), Ms. Caroline Emond European Dairy Association (EDA), Ms. Kinga Adamaszwili
Tuesday, 5 Dec 2023	Scaling smallholder tree-based systems for resilience and carbon removals	International Centre for Research in Agroforestry (ICRAF), Ashoka Trust for Research in Ecology and the Environment (ATREE)
Wednesday, 6 Dec 2023	Cities leading the way on sustainable food and climate	COP28, HLC, C40, ICLEI
Wednesday, 6 Dec 2023	Enhancing Farmers Contribution to NAP/NDCs: The Climakers Agenda for Food Security & Climate Action	World Farmers' Organisation (WFO); China Association for NGO Cooperation (CANGO); CropLife International; Instituto Interamericano de Cooperación para la Agricultura (IICA); International Livestock Research Institute (ILRI); Office International de la Viande (IMS); Shan Shui Conservation Center (Shan Shui)
Wednesday, 6 Dec 2023	Sustainable Food Systems Futures	Viet Nam, Columbia University, Southern African Confederation of Agricultural Unions (SACAU)
Wednesday, 6 Dec 2023	Agroecology as a Pathway for Climate Change Adaptation and Mitigation	Alliance for Food Sovereignty in Africa (AFSA), Both ENDS Foundation (BE)
Wednesday, 6 Dec 2023	Beyond Resilience: Thriving Dryland Communities through Integrated Land, Water, and Food Systems	International Center for Agricultural Research in the Dry Areas (ICARDA), International Center for Living Aquatic Resources Management (WorldFish), Watershed Organisation Trust (WOTR)

Wednesday, 6 Dec 2023	Building climate-resilient agri-food systems in vulnerable countries with indigenous knowledge	Palau, Mom Loves Taiwan Association
Wednesday, 6 Dec 2023	Innovative technologies in mitigation and land restoration: Finding solutions for accelerated uptake	World Intellectual Property Organization (WIPO), Secretariat of the United Nations Convention to Combat Desertification (UNCCD)
Friday, 8 Dec 13:30-14:30	Climate Action in Agriculture, Business Entities leading the Change	Emerging Ag
Friday, 8 Dec 2023	Reimagining school meals for planetary and child health	COP28 Presidency, WFP
Friday, 8 Dec 2023	100% Renewable & Local Solutions: Africa, South Asia & Global climate resilience & poverty reduction	Global Ecovillage Network (GEN - International), Integrated Sustainable Energy and Ecological Development Association (INSEDA), Nordic Folkecenter for Renewable Energy (NFVE), Sustainable Environmental Development Watch (SusWatch)
Friday, 8 Dec 2023	Healthier soils: a game changer to meet food and climate goals within planetary boundaries	Institut de Recherche pour le Développement (IRD), Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), National Council for Climate Change, Sustainable Development and Public Leadership (NCCSD)
Friday, 8 Dec 2023	Vegan Cities, small farmers welfare and wellbeing, Plant Based Treaty to fight Climate Change	COBASE, Cooperativa Tecnico Scientifica di Base (ECOSOC), Gherush92 Committee for Human Rights, The Save Movement, Universal Versatile Society (UV Society)
Friday, 8 Dec 2023	Farmer led adaptation and mitigation measures through improved Global Livestock Sustainability	Global Roundtable for Sustainable Beef (GRSB), Beef + Lamb New Zealand (Beef + Lamb NZ), Canadian Cattle Association (CCA), Global Dairy Platform, Inc (GDP)
Saturday, 9 11:00-12:30	Solutions Dialogue on Food & Water Security	SEKEM
Saturday, 9 Dec 2023 14:45-15:15	Minimizing and addressing loss and damage with locally led adaptation and risk-transfer financing solutions.	UNCDF LoCAL with high level participation from The Gambia, Tuvalu and others
Saturday, 9 Dec 18:30-19:30	Lowering emissions and promoting equitable food distribution through protein diversification	UN Foundation (Wanjira Mathai, WRI (TBC) ; Jean-Claude Rubyogo, PABRA (TBC); Sara Farley, Rockefeller Foundation; Vivian Maduekeh, GFAR; Lasse Bruun, UN Foundation)
Saturday, 9 Dec 2023	Enhancing food and nature linkages for climate action	COP28, HLC, FOLU, Systems Change Lab, Global Peatlands Initiative (Michael Succow Foundation, Wetlands International, UNEP, FAO)
Saturday, 9 Dec 2023	Developing markets to scale up renewable energy for climate-resilient agriculture	Renewable Energy and Energy Efficiency Partnership (REEEP), Practical Action, The Aspen Institute, Ms. Laura Simmons-Stern
Saturday, 9 Dec 2023	A farmer-centric approach to market creation and standard setting for carbon and nature	Fairtrade Labelling Organizations International e.V. (FLO e.V.), Agricord vzw, The National Farmers Union (NFU)
Saturday, 9 Dec 2023	Don't waste our food security! Food rescue as a solution to food scarcity	Israel, The Heschel Center for Sustainability
Saturday, 9 Dec 2023	Water to accelerate climate resilience for sustainable peace and development in the Sahel region	United Nations Integrated Strategy for the Sahel (UNISS); FAO; UNCCD; UNCDF; UNICEF; UNDP; UNESCO; World Food Programme (WFP)
Saturday, 9 Dec 2023	Faith communities & resilient frontliners responding to the nexus of food-water-climate change	Ecumenical Advocacy Alliance (EAA), Center for Food Safety (CFS), International Association of Students in Agricultural and Related Sciences (IAAS), Local Environment Development and Agricultural Research Society (LEDARS)
Saturday, 9 Dec 2023	New financial mechanism, pricing & subsidy strategies to transform food systems & meet climate goals	Citizens' Climate Education Corp. (CCE), Jeremy Coller Foundation (FAIRR), True Animal Protein Price Coalition (TAPP Coalition)

Saturday, 9 Dec 2023	Assist climate vulnerable countries develop export-oriented and low-carbon agricultural supply chain	Eswatini, Taiwan Institute for Sustainable Energy (TISE)
Saturday, 9 Dec 2023	focus on food & early warning systems in different regions: challenges & experts	Kuwait Environment Protection Society (KEPS), Engineering Association for Development and Environment (EADE)
Sunday 10 Dec, 2023	Ethical Development Pathways for Climate Resilient Food Systems	SHE Foundation
Sunday 10 Dec, 9.30-10:30	Financing Climate Resilient Food Systems for achieving NDCs and NAP targets - options for implementing the Commonwealth Living Lands Charter	Commonwealth Secretariat
Sunday 10 Dec, 09:00-10:30	High level ministerial dialogue on building water-resilient food systems	COP28 Presidency, the United Arab Emirates Ministry of Climate Change and Environment and Brazil Ministry of Agriculture and Livestock
Sunday 10 Dec, 09:00-10:30	Farmers and Traditional Food Producers at the Heart of Food Systems Transformation	COP Presidency, IFAD, WB, WFO
Sunday 10 Dec, 10:30-12:00	Sustainable consumption, healthy affordable food for all, and reducing food waste	COP28 Presidency, Climate Champions Team, TURFS Consortium (Club of Rome, CARE, C40, EAT, ICCCAD, GAIN, WWF), FOLU, Madre Brava, Consumers Goods Forum, WRAP, Ne'Ma, Champions 12.3, Global Food Banking Network
Sunday 10 Dec, 11:30-13:30	Implementing the Emirates declaration on sustainable agriculture, resilient food systems, and climate action	COP28 + UN Food Systems Coordination Hub; World Bank; Italy, TBD (LDC)
Sunday 10 Dec, 13:00-14:30	Launch of the UNFCCC partnership on water-resilient food systems	COP28 Presidency, FAO, IWMI, WEF, WFO, GRP, NDC Partnership, UNFCCC
Sunday 10 Dec, 13:00-14:30	Accelerating transformation at the nutrition-climate nexus	COP28 + Scaling Up Nutrition (SUN) Movement + GAIN
Sunday 10 Dec, 13:30-15:00	IICA ministerial	Inter-American Institute for Cooperation on Agriculture (IICA)
Sunday 10 Dec, 14:00-15:00	FAST inception meeting	FAO
Sunday 10 Dec, 14:15-15:45	Accelerating food systems transformation: Multi-stakeholder action	COP28, Climate Champions Team
Sunday, 10 Dec 14:00-15:00	Food and Climate Nexus: Exploring the integration of food systems and climate change	CRFS Alliance (UNFCCC)
Sunday 10 December 15:20 - 16:20	Making NAPs a reality with capacity building that meets community and local government needs.	UNCDF-LoCAL at the Capacity building Hub with speakers from The Gambia, Ghana and Senegal
Sunday, 10 Dec 16:00-17:00	Integrating food and climate action in the LAC region	CRFS Alliance (UNFCCC), Panama
Sunday 10 Dec, 16:30-18:00	AIM for climate: Scaling climate-smart agriculture and food systems innovation	COP28, AIM for Climate, and Innovation Commission
Monday, 11 Dec, 9:30-10:30	Building local ecosystems conducive to public and private finance to support food systems adaptation	ECDPM, UNCDF-LoCAL at the Food Systems Pavilion

Monday, 11 Dec 10:00 - 11:00	Inclusive Disaster Risk financing solutions for women, youth and elder people in the Pacific	UNCDF UNU-EHS, Govt of Fiji at the Moana Blue Pacific Pavilion
Monday, 11 Dec 14:00 - 15:00	Bridging the gaps highlighted in the GST: Scalable solutions for NDC implementation that deliver locally led adaptation results	UNCDF LoCAL + Ghana, Liberia and Nepal at the NDC Pavilion
Monday, 11 Dec 2023	Methane Ministerial: Mobilizing Action, Financing Solutions, and Achieving Reductions	Clean Air Task Force (CATF), Greener Impact International (GII),
Monday, 11 Dec 2023	Africa's Just Transition - 100% Renewable Energy, Food Sovereignty, and African Financing Mechanisms	Power Shift Africa (PSA), Transforma
Monday, 11 Dec 2023	Early Warning, Income Diversification & Food System Transformation for Resilience Building in Africa	IGAD Climate Prediction and Applications Centre (IGAD-ICPAC), Chatham House, Karlsruhe Institute of Technology (KIT), Met Office Hadley Center
Monday, 11 Dec 2023	Food Sovereignty: A True Solution to the Climate Crisis	Confédération Paysanne, Coordinadora de Organizaciones de Agricutores y Ganaderos (COAG)
Monday, 11 Dec 2023	Just Food Futures; Exploring Social Equality in Low-Emission Food System Development in LMICs	Centro Internacional de Agricultura Tropical (CIAT), Biovision - Foundation for Ecological Development (BV)
Monday, 11 Dec 2023	Health, food and climate: A systems perspective for urgent climate action (2)	Nordic Council of Ministers (NCM), Finland
Monday, 11 Dec 2023	Fostering nexus approaches to increase climate resilience and reduce risk	Stockholm International Water Institute (SIWI), Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention), Japan Water Forum (JWF)
Monday, 11 Dec 2023	The Role of Youth in Smallholder Agriculture - Accelerating Climate Adaptation	Ban Ki-moon Centre for Global Citizens, CGIAR System Organization (CGIAR), The Fairtrade Foundation