Submission by the United States on Elements of the Joint Work on Implementation of Climate Action on Agriculture and Food Security

May 2023

The United States is pleased to submit input on the Sharm el-Sheikh Joint Work on Climate Action in Agriculture and Food Security (SSJW) referred to in Decision 3/CP.27, including views on elements of the joint work referred to in paragraphs 14–15 of 3/CP.27 and topics for the workshops.

Context

The average global temperature has already risen 1.1°C above pre-industrial levels, highlighting the increasing urgency of action to address the climate crisis in this critical decade. Global food insecurity is also rising; up to 828 million people faced hunger in 2021 with disproportionate impacts on women.[1] Climate action to address issues related to agriculture and food security can respond to these challenges in a way that advances sustainable development, and the SSJW provides space for Parties to work collaboratively to address barriers to action and support enabling environments to accelerate implementation.

The agriculture sector is simultaneously a contributor to climate change, highly vulnerable to its impacts, and a source of promising solutions, including natural carbon sinks. Implementation of these solutions at a meaningful scale requires cooperative effort to overcome crosscutting technical, political, and socioeconomic barriers. To achieve lasting climate benefits at scale, climate-smart agriculture systems must also improve adaptive capacity and resilience, and reduce producers' vulnerability to climate risk. Decision 3/CP.27 recognizes the strong foundation of technical exchange and solutions-finding provided by the Koronivia Joint Work on Agriculture (KJWA), but emphasizes that identifying, adopting, and upscaling climate solutions in agriculture requires urgent focus on enabling implementation.

Climate impacts, including increasing extreme weather events, strain the natural resources farmers depend on, disrupt food value chains, and undermine livelihoods and food security. At the same time, a growing global population requires the sector to produce more food with less land and water and fewer inputs. Various IPCC reports, including the Special Report on Climate Change and Land,[2] note that:

- Many approaches for sustainable agriculture production provide adaptation and mitigation benefits that can be upscaled in the near-term. Such options are available and ready to deploy, and some can be unlocked relatively quickly.
- Where appropriately implemented, AFOLU mitigation measures, including from agriculture, are uniquely positioned to deliver substantial co-benefits, including large adaptation benefits.
- Approaches such as sustainably improving productivity and soil health, agroforestry, and reducing food waste can deliver cobenefits for adaptation, mitigation, and food security without adverse side effects.

[1] FAO, IFAD, UNICEF, WFP and WHO, 2022, *The State of Food Security and Nutrition in the World*, Rome, FAO

[2] IPCC, 2019, *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)], see especially Figure TS.13

- The economic and political feasibility of implementing these measures is hampered by persistent barriers. Technological innovation can help resolve feasibility constraints.

The United States proposes the SSJW focus on crosscutting foundations of climate action addressed through the following workshop topics. Output of the SSJW should be actionable and useful to Parties, ongoing work under the UNFCCC, and other partners whose work supports implementation of climate action. Given complementarity across proposed topics, workshops could address more than one at a time.

Proposed Workshop Topics

1. Enhancing agriculture information and knowledge systems for Climate Information Services, Extension, and MMRV

Several implementation barriers identified across IPCC reports and in 3/CP.27 relate to the collection and effective use of knowledge and information, both to provide information services and technical assistance to producers, and to reflect needs, progress, and outcomes accurately in planning and reporting. Institutional capacity to collect and analyze data and track progress is foundational to implementation of climate action, and to the other workshop topics proposed below.

The World Meteorological Organization (WMO) estimates investment in Climate Information Services (CIS) has a benefit-cost ratio of 10 to 1. Development and provision of effective CIS for agriculture depends on cascading global-regional-national-local cooperation. National governments, implementing partners, and other stakeholders need local, timely, and quality data and analysis to identify, assess, and prioritize climate actions in agriculture, and to inform extension services, decision support and risk management tools, and other services for producers and land managers. Investment in data collection and related human and physical capital can be a barrier to provision of agriculture CIS. Use of novel technology (including remote sensing) and leveraging global and regional partnerships can mitigate this barrier. Globally, several billion USD have been invested in CIS, including early warning systems, yet agriculture CIS are not yet operating at sufficient scale to address the scope of climate impacts. National and subnational authorities may lack capacity to manage data and produce agriculture CIS, or have insufficient coordination across national entities with climate, agriculture, agrometeorological, and other related mandates. The private sector also plays a role, and greater public-private exchange could advance effective implementation.

Though measurement, monitoring, reporting, and verification (MMRV) processes play a different role than CIS in implementation of climate action, the underlying capacities and partnerships needed to advance both can be complementary and overlapping. Investing in MMRV to further understanding of climate processes, identify and prioritize actions, and track progress is a necessary prerequisite to upscale climate action. Improved MMRV can help stakeholders target and rationalize investments, and better engage in market-based or incentive schemes.

This workshop can explore novel and cost-effective resources for MMRV and CIS, and identify implementation barriers and gaps for future cooperative effort. Participants can also consider the important role of extension and other models of co-development and delivery of science-based, region-specific information to agricultural and natural resource managers to support climate-informed decision making, reduce risk, and build resilience. Workshop outcomes can include improved awareness of

and access to existing tools and resources, identification of implementation-relevant UNFCCC workstreams, improved coordination with ongoing work on indicators and metrics related to adaptation, cooperative learning about effective approaches to knowledge and information systems, and identification of potential partnerships to advance implementation.

2. Risk management and risk sharing tools and approaches, including early warning systems

Climate change is increasing weather uncertainty and extreme events, which increases the risk of disruptions to food production, rural livelihoods, supply chains and global food security. Climate risks and impacts are becoming increasingly complex and difficult to manage and the cost of climate-related disasters in the U.S. alone exceeded $165 billion dollars in 2022.[3] Investment in effective risk management could deliver high returns in terms of avoided loss and damage in agriculture, and could prevent or mitigate shocks to global food security. Locally adapted, effective, and accessible tools are needed to make agriculture more resilient to production and market risks. These can include early warning systems, insurance products, and other policy innovations.

Holistic approaches to risk management can also incentivize adoption of sustainable practices and strategies. Several IPCC reports and the KJWA outcomes reflected in 3/CP.27 highlight that many sustainable agriculture practices – including those related to soil health, precision agriculture, sustainable productivity growth, and agroforestry – have co-benefits for adaptation, mitigation including carbon sequestration, biodiversity, and food security. Some of these same practices also help reduce vulnerability to crop loss from drought and other climate impacts.[4] At a time when the share of global climate finance invested in agriculture is decreasing, highlighting risk reduction benefits from climate-smart practices can elevate the sector as a priority for investment. In addition to their vulnerability to climate impacts, producers take on risk when adopting new practices and technologies. Public and private actors seeking to incentivize shifts to more sustainable practices must work with farmers to build understanding of risks, and mitigate or share the costs of sustainable transition.

Parties and other participants can share experience on risk management policies and programs in food systems, discuss inclusive policy co-creation models, and assess barriers to implementing and upscaling implementation. Risk management is an essential part of adaptative capacity and resilience, and addressing it as a focal topic in the SSJW can provide another entry point for implementation of climate action. The workshop can explore partnerships and regional cooperation for cost-effective implementation. Outcomes can include sharing of practices and policies, better understanding of related resources and opportunities across various work under the Convention, and recognition of the potential for risk management policies and programs to incentivize adoption and upscaling of climate smart agriculture.

3. Strengthening technology and innovation systems for inclusive, collaborative implementation

Farmers of all sizes, in all systems and regions, need improved resilience and adaptive capacity and can contribute to global mitigation and conservation efforts. Use of climate-smart technology can support these objectives, and sustainably improve productivity while reducing costs and negative environmental impacts. Use of technology across food systems can deliver co-benefits for climate

[3] Record drought gripped much of the U.S. in 2022, January 2023, National Oceanic and Atmospheric Administration
[4] Wallander et al., 2017, *Farmers employ strategies to reduce risk of drought Damages*, USDA-Economic Research Service

and nature, but also for farmers' socioeconomic sustainability and resilience. Working to ensure agriculture innovation systems and technologies are accessible to and meet the needs of smallholders is particularly important. Uptake of climate-smart technologies in agriculture depends on producers' access to technologies, understanding of their use and benefits, and willingness to adopt them.

Technologies that can support improved climate adaptation, mitigation, food security, conservation of biodiversity, and other co-benefits in agriculture include precision agriculture, digital tools, biological alternatives to fossil-based inputs, circular economy methods to use materials more efficiently, feed improvements and additives, biotechnology, post-harvest processing and storage, and others. Use of technology can complement traditional and low-input approaches, including by improving the efficiency of management interventions and reducing waste. Use of climate-smart technology can also play a role in translating needs and objectives into bankable investments.

This workshop can explore currently available and in-development technologies that support implementation of climate action, policy models to support co-development and scale up deployment, and partnerships to improve capacities and resolve barriers to development and deployment. Climate-smart innovation and technology includes the application of indigenous traditional ecological knowledge, and this workshop could invite civil society and representatives of the LCIPP to share models for inclusive co-creation and use of innovation. Participants can also discuss trade-offs and co-benefits of applying climate-smart technologies holistically alongside other approaches.

4. Incentive-based approaches to support climate action and long-term sustainable development

Consumers, including intermediate processors, increasingly demonstrate a preference for goods produced using sustainable, climate-smart practices. A growing number of purchasers of agricultural commodities place a premium on products that can demonstrate these attributes. However, barriers such as high transaction costs, difficulty in estimating and reporting benefits, and high implementation costs of some climate-smart agriculture projects impede opportunities for producers to effectively participate. Farmers' up-front cost of adopting climate-smart practices or engaging with practice standards can be high, and a barrier to participation.

A range of approaches exist to incentivize more sustainable and resilient agriculture production, including results-based or practice-based payments, participation in certification and labeling schemes, sustainable supply chain initiatives, non-financial incentives including risk-sharing and capacity building, and markets for low-carbon bioenergy and other biobased products. These approaches can promote voluntary adoption of conservation practices, support a circular economy in agriculture, and leverage private-sector demand for benefits associated with climate-smart practices. They can also complement public investment and climate investment structures within the UNFCCC.

This workshop can focus on innovative and effective policy approaches to incentivize transition to and maintenance of sustainable, climate-smart production practices, including incentives for adaptation and ways to avoid maladaptation or trade-offs between short- and long-term goals. Participants can explore in depth the role of the public and private sectors in enabling producers of all sizes to benefit from incentive-based approaches. Decision 3/CP.27 highlighted that farmers are stewards of the land and inclined to apply sustainable management approaches, but their

vulnerability is a challenge in fulfilling this important role. Policy responses are more likely to succeed if they consider the role of farmers as key agents of change, and advance all three dimensions of sustainable development.

5. Understanding diverse approaches to sustainable agriculture to advance synergies and cobenefits

National governments and other entities involved in implementing climate action in agriculture and food security use a range of terms to describe their efforts: agroecology, regenerative or climate smart agriculture, permaculture, nature-positive production, circular economy, carbon farming, agroforestry, and others. Though preferences among these terms have been hotly debated in international fora, these approaches often include similar or identical practices and have similar objectives. Where differences are meaningful, shared understanding of those differences – or even agreement among proponents – is sometimes lacking. As a result, rather than advancing implementation of effective action, the broad number of terms can lead to confusion or duplication of effort and divert focus from what is needed to overcome implementation barriers.[5] Farmers and local and national planners may struggle to differentiate approaches and understand different criteria, costs, tradeoffs, outcomes, and benefits. This may lead to inadequate or ineffective provisioning of technical support to producers.

A workshop exploring these differences and similarities could clarify the state of art and practice with experts and implementation partners, and facilitate peer-to-peer sharing from farmers and Parties. This workshop can also showcase evidence and outcomes among the various approaches. To achieve lasting results at scale, implementation of climate action in agriculture and food security must be a cooperative effort working towards common goals, and Parties must be able to understand potential options, existing practices, and the methods and evidence related to each. We need a better understanding of the tools and approaches already available, including what crucial aspects they have in common as well as the challenges and opportunities they present.

Views on elements of the SSJW referred to in paragraphs 14-15 in 3/CP.27

The evolution from the KJWA to SSJW brings new focus on implementation of climate action, which in the context of the SSJW relates to the planning and execution of local, national, regional, or international climate policies and programs in agriculture that build adaptive capacity and resilience, manage climate risk, mitigate GHG emissions including through carbon sequestration, and improve food security. Workshops and related output of the SSJW should focus on supporting enabling environments for action, and identifying and overcoming barriers to implementation. At SBSTA 58 Parties should establish a roadmap of workshop topics to achieve the objectives in 3/CP.27 paragraph 14 via the workshops, related reports, and implementation of the Sharm el-Sheikh online portal referred to in paragraph 16. In 3/CP.27, Parties also requested that the Secretariat support the SSJW by preparing an annual synthesis report on relevant work undertaken by entities under the Convention, as well as relevant international organizations. These reports can complement the Sharm el-Sheikh online portal, and can better inform Parties and stakeholders

[5] Oberč, B.P. & Arroyo Schnell, A., 2020, *Approaches to sustainable agriculture. Exploring the pathways towards the future of farming*, Brussels, Belgium: IUCN EURO.

about available tools and resources, the scale of relevant action under the Convention, and the potential for additional synergy and coherence.

Approaches to climate action in agriculture and food security must be context specific. While information sharing among Parties supports effective implementation and cooperation, there is no single approach that works for all. In order to facilitate free exchange without prejudice, and focus on issues most relevant to implementation, we recommend the UNFCCC Secretariat include workshop reports in the requested annual synthesis report, while Parties focus on recommendations for implementing the climate action within the mandate of 3/CP.27 and avoid negotiating consensus views on technical workshop outcomes.

Throughout KJWA, Parties' exchange fostered rich and constructive shared learning. Similarly, the active participation of representatives of constituted bodies, the operating entities of the financial mechanism, international financial institutions, farmers, and civil society all contributed to better understanding of progress, approaches, and gaps in climate action to address issues related to agriculture. This open and inclusive participatory approach should continue, at SB58 and throughout the four-year SSJW, with renewed emphasis on enabling and upscaling implementation.

Decision 3/CP.27 calls for holistic and inclusive approaches, taking into consideration regional, national, and local circumstances to deliver a range of multiple benefits. Future work under the SSJW should build on the KJWA outcomes where appropriate, reflecting the crosscutting findings of the KJWA recognized in Decision 3/CP.27, and should in particular:

- Center the views and experience of farmers, who are key agents of change in food systems.
- Take a gender-informed approach; without recognizing the varied and critical roles women play in food systems, implementation of climate action will not produce lasting benefits.
- Be science and evidence-based, inclusive of indigenous traditional ecological knowledge.
- Avoid duplication of effort and coordinate with ongoing relevant processes within the UNFCCC and across the relevant work of external partners.
- Build partnerships for action, including regional initiatives and public-private partnerships, while leveraging existing platforms and initiatives that already convene such partnerships.
- Consider opportunities and tradeoffs of climate action in the near-, medium- and long-term to avoid maladaptation and build a foundation for inclusive, lasting low-emissions development.
- Emphasize the unique co-benefits of climate action in agriculture and food security. Though mitigation, adaptation, and other co-benefits are often addressed in separate, parallel discourse – the SSJW has a unique opportunity to address them together, amplifying the value of climate action in agriculture and food security.

Synergy with work under the Paris Agreement

We continue to recommend the SSJW serve both the COP and CMA. Taking such a decision would permit the SSJW to undertake activities related to the Paris Agreement and generally make its work more relevant and timely for decisionmakers.