

## Policy Paths for Supporting Sustainable Agriculture

HOW INVESTMENTS INTO SUSTAINABLE AGRICULTURAL PRACTICES CAN PROVIDE CO-BENEFITS FOR CLIMATE CHANGE ADAPTATION AND MITIGATION

- **Climate change will threaten** crop yields and agricultural productivity as droughts, flooding and reduced freshwater sources pose threats to agriculture and global food security.
- **Emissions from agriculture** related activities are responsible for 10-12% of global yearly emissions (Smith et al., 2007).
- **Benefits from sustainable agriculture** can work across multiple scales, working to reduce agricultural emissions, and improve carbon sequestration abilities of land, global food security, water use efficiency, and overall environmental health.
- **Negotiators must address** best strategies for incentivizing and achieving movement towards more sustainable agricultural practices globally.
- **Researchers must practice** non extractive and participatory research methods to ensure that findings are accurately informed by stakeholder needs and capacities.

### What's the issue?

As the effects of climate change pose increasing threats to food security and agricultural productivity, the issue of adaptation within agricultural systems becomes pressing in adaptation to climate change. Multiplied and diverse impacts of climate change work together to compound and exponentially increase threats to food security. As CO<sub>2</sub> becomes concentrated, density of important nutrients is shown to decrease, signalling concern for rising rates of malnutrition and undernutrition.

As the agricultural sector also contributes a significant portion of global anthropogenic emissions, action in creating sustainable agricultural systems poses interesting and promising co-benefits to climate change policy in both adapting to and mitigating climate change. A highly industrialized and globalized agricultural system places stressors on the environment and human systems and reduces the resiliency of agricultural practices in responding to impacts of climate change. These pressures include rising demands for food product, stress on small scale peasant and local farmers, local environmental pollutions from industrialized farming practices, erosion and decreasing soil fertility, deforestation, land use change, and land use conflicts among other stressors (IPCC, 2022; FAO, 2009). These pressures can be mitigated through bolstering sustainable agricultural practices.



Source: Zhang et al., 2017

### Why is this important?

Given the interconnectedness of the agricultural sector with climate change, economies, social justice, and environmental justice, the agricultural sector is an attractive entry point to move towards climate mitigation and adaptation to meet the goals of The Paris Agreement. Within the agricultural sector, there are a multitude of pathways that can be taken to move towards more sustainable practices, including agroecologically based farm management and integration, biodiversification, sustainable soil management practices, changes in water harvesting, developing place based approaches to reduce food transportation emissions, and adopting an organic farming model which can reduce environmental additives of fertilizers of pesticides, herbicides and fertilizers. These changes can also provide a slew of benefits aside from climate mitigation and adaptation, including increased food security to meet rising population demands, increased nutritional values, empowering local farmers, and economies, increasing resilience to climate effects, minimizing air and water pollution, bolstering the capacity of farmlands, saving water, and minimizing food waste and reliance on non-renewable energy (FAO, 2019).

Sustainable agricultural practices, including climate smart agriculture, will require external support to be executed in a way that is successful and equitable. Through increased access to financial resources, agricultural research and knowledge sharing, capacity building, and technology transfer, sustainable agricultural practices can be scaled up throughout the world to provide important benefits in the fight against climate change. Additionally, as these practices are implemented it is important to also center small scale farmers, women, indigenous peoples, and other vulnerable groups as participants in a changing agricultural system. Given that sustainable agriculture and food security have an impact on each of the 17 Sustainable Development Goals, it is pressing to act in this sphere to ensure equity and efficiency in climate action.

### **What happened at COP 27 on this issue?**

Within the UNFCCC, the only direct mechanism for addressing agriculture is a joint work programme between SBSTA and SBI called the Koronivia Joint Work on Agriculture (KJWA). Throughout COP27, the KJWA highlighted the findings of different workshop reports that have been submitted throughout the past year. While the KJWA meetings that I was able to attend focused on draft texts taking note on workshop recommendations, there was considerable debate among parties on the usefulness of “looking back on work that has already been done.” Parties from the Global South in particular expressed interest in “looking forward” and making progress on the goals of the KJWA to find pathways to implement best agricultural practices. While the KJWA is the only formal mechanism to address agriculture, many say that it is not enough. The program focuses on six issues: soils, nutrient use, water, livestock, methods for assessing adaptation, and the socioeconomic and food security dimensions of climate change across the agricultural sectors. The criticism lies in the limits imposed by these 6 issues and encourages the program to take a more holistic “food systems” approach which can congruently look at all aspects of the food system.

Aside from this, the KJWA aided in encouraging the SBSTA and SBI to establish the “four-year Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security.” This program will provide a more focused approach to implementation than the KJWA, and will seek to improve stakeholder communication and synergies, enhance research and knowledge sharing among parties, evaluate the progress on the shift towards sustainable agriculture, and provide support and technical advice to parties. Along with the exciting establishment of this four-year joint work plan, the secretariat will also establish a congruent online portal to ease access to information for parties and increase opportunities for action towards sustainable agriculture.

Additionally, during the COP the Food and Agriculture Organization of the United Nations (FAO) launched the Food and Agriculture Sustainable Transitions (FAST) Initiative to improve climate finance resources for agricultural transformation, support adaptation and mitigation, and champion food and economic security. The initiative also contains goals of enhancing knowledge production and sharing and supporting policy makers to consider agriculture in policy decisions. Also launched was the Initiative on Climate Action and Nutrition (I-CAN), a global flagship multisectoral based initiative aimed at supporting parties in acting on climate change while also promoting nutritional needs, healthy diets, and sustainable food systems. The launch of these two initiatives shows the support for agricultural sustainability beyond the UNFCCC, especially by adjacent UN organizations such as the FAO, and other NGOs.

### **Policy recommendations**

#### **1) Implement a separate fund dedicated to supporting the implementation of sustainable agricultural practices**

Small scale farmers in developing countries are the most vulnerable to climate change effects, while still producing one third of the worlds nutritional value, yet these farmers only receive 1.7% of climate finance (Quinones, 2022). Finance for a sector that is as large and as important as agriculture must be dedicated, to ensure that finance remains available and steady even as hot topic issues come and go on the international stage. A new, dedicated fund for sustainable agriculture can be better poised to work directly with experts to implement best practices, as well as ensure that finance for sustainable agriculture remains constant as funding goals change.

#### **2) Encourage place-based, participatory research in the agricultural sector to ensure solutions are effective**

As calls for increased research and knowledge sharing continue, it must be prioritized that this research is participatory by vulnerable and affected communities, and directly informed by their needs and abilities. For research findings to be accepted and acted upon, they must be non-extractive and based in real connections to place, as agricultural needs vary so much by region. This can also help to inform the best possible practices, and therefore ensure success.

#### **3) Mandate that NDCs contain detailed agriculture-specific solutions and responses that are consistent with goals**

While most countries contain mentions of agriculture in their NDCs, this number drops significantly as we look at specific policy proposals or sectoral responses as relating to agriculture. While these numbers have slowly increased with the recent publishing of new NDCs, the targets contained in most updated NDCs are not consistent with meeting a 1.5- or 2-degrees goal, given the share of emissions from the agricultural sector. The UNFCCC must ensure that NDCs are consistent with goals set by The Paris Agreement and that these NDCs are detailed enough to provide countries with pathways towards sustainable agriculture.

### **References**

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