ACBA Webinar Report

Protecting Agricultural Biodiversity and Constructing Scientific Food System Security

Contents

Background

Biodiversity is a cornerstone of food and nutrition security, climate change adaptation, and sustainable livelihoods. Agriculture is embedded within landscapes that form the habitats of all biodiversity. The State of the World's Food and Agricultural Biodiversity, the Food and Agriculture Organization (FAO)'s first report on the state of biodiversity in human food systems, warns of declining plant diversity in farmers' fields, endangerment of livestock species, and rising overfishing. Globally:

- Fewer than 200 of the approximately 6,000 food crop species substantially make up food production, with 66% of crop production reliant on only 9 species;
- More than $\frac{1}{4}$ of 7,745 native livestock breeds are endangered. Livestock production is also based on merely 40 livestock species, which provide most meat, dairy and egg products;
- Nearly $\frac{1}{3}$ of fish stocks are overfished, and more than half have reached their sustainability limits.

This webinar focused on sustainable agricultural practices that enhance food security and are compatible with biodiversity conservation. With a focus on contexts in Africa and China, the webinar explored sustainable use of biodiversity in agriculture, fostering agricultural and utilization of indigenous knowledge.

The outcomes of this webinar included:

1. Insights on the importance of agricultural biodiversity, and its relationship to sustainable patterns of agricultural production and consumption, human rights-based approaches which prioritize smallholder farmers and food sovereignty and security from local to global levels, and the tradeoffs between industrial agriculture and people-centered and nature positive agriculture;
2. Case studies which model circular and organic agriculture as viable alternatives to chemical-based agriculture, with evidence outlining productivity gains, profitability, scalability and replicability; and
3. Recommendations on a global food system that is secure and resilient to climate change, and that mitigates harmful impacts to biodiversity.

Proceedings

The Africa CSOs Biodiversity Alliance (ACBA) in collaboration with China's Civil Society Alliance for Biodiversity Conservation (CSABC) hosted this virtual discussion on Zoom on September 21, 2022 from 14:30 – 16:30 CST | 09:30 to 11:30 EAT.

The webinar was led by:

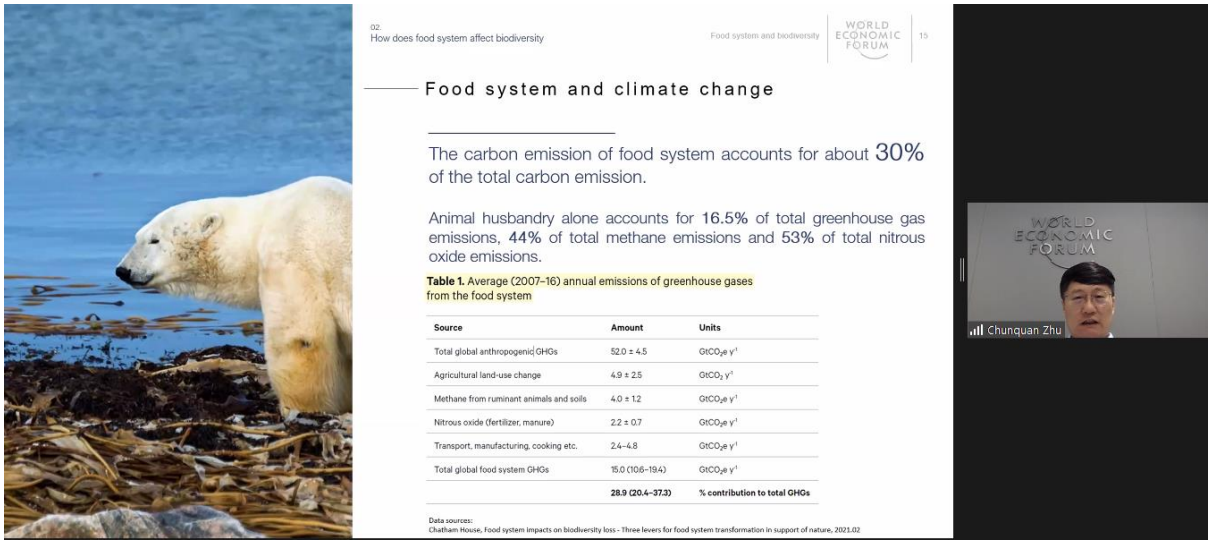
Moderator	**Speakers**	
Dr. Peng Kui	Mr. ZHU Chunquan Ms. Linzi Lewis	Mr. JIANG Gaoming

The dialogue opened with a brief introduction to ACBA, CSABC, and their partnership towards Africa-China collaboration among biodiversity CSOs. This was followed by a brief introduction to the status of the agriculture and the food system throughout the Global South.

Highlights

- Globally, food production takes up half of habitable land, accounts for 10% of global GDP, and over ¼ of jobs. Simultaneously, the use of land and seascapes for food production contributes to multiple threats to biodiversity. In China, food systems are at risk due to biodiversity loss while production patterns leading to overfishing, high carbon emissions, etc. and associated consumption patterns contribute to biodiversity loss;
- Agriculture drives 80% of land use change and 70% of fresh water consumption. In addition, agriculture exploits wildlife resources and is linked to habitat loss. It also contributes to pollution through pesticides, chemical fertilizers and agricultural waste;

- There is inequality in the global food system. It is important for innovations that have improved food production and consumption to benefit people globally, especially at the global level. Addressing the distribution issue will be beneficial to everyone. From the global perspective, the resources needed for food production, there are natural disparities based on climate, etc. The global food system should also be of service to these parts of the world, so international trade is an important complement to strengthening local value chains;
- Global food security requires consideration of biosafety agricultural biodiversity, farmers' rights, and incentives created by corporate expansion into agri-food systems. Maintaining agricultural biodiversity for instance entails a spectrum of ecological efforts to preserve crop and soil biodiversity, pollinators, fish stocks, etc.;
- Considering seed as the root of the agricultural sector, the 2 main alternatives are commodified seed or farmers' seed. In Africa and beyond, commodification of seed limits agricultural biodiversity and increases dependency and vulnerability of the food system, not least because corporatization of agriculture promotes the continued use of pesticides, monocropping, and other profitable but unsustainable practices;
- Throughout farmer seed systems remain integral to food security and to agricultural biodiversity. Farmers maintain a functional system by saving, freely distributing, exchanging and selling seed. In Africa, farmers, majority of whom are women and smallholders, account for 80% to 90% of seed supply;
- In addition to enough production, food security also involves affordability, and access. Land use and diversity in crop production also play a role: with high levels of monocropping of a few plant species, it's clear that this has increased vulnerability and dependency globally, heightening food insecurity. In constructing effective food distribution and production, local value chains must be strengthened and overreliance on global value chains, whose distribution channels are inequitable, addressed;
- The question of fair and equitable distribution of food is always left for "the future". One of the issues with China's food system is waste, which can be considered across 2 dimensions – land and food itself. This waste results land degradation, biodiversity loss, and can be linked to food-related deterioration of human health, including lifestyle diseases;
- Organic agriculture is not just about crop productivity. It's also about ensuring that farming practices designed in an integrated and scientific manner for circular agriculture: it is possible on one farm to produce crops, generate fuel for energy, have organic manure, and so forth;
- The current patterns of industrial production in China are unsustainable and cost-prohibitive, and it's important for the agricultural sector, especially farmers, to consider the future. The cost of maintaining these patterns is the rights of both farmers and people. Biodiversity loss and climate change have had an impact on agriculture, and this needs to be accounted for as success in agriculture is defined: what would be the levels of production if biodiversity and climate were stable?

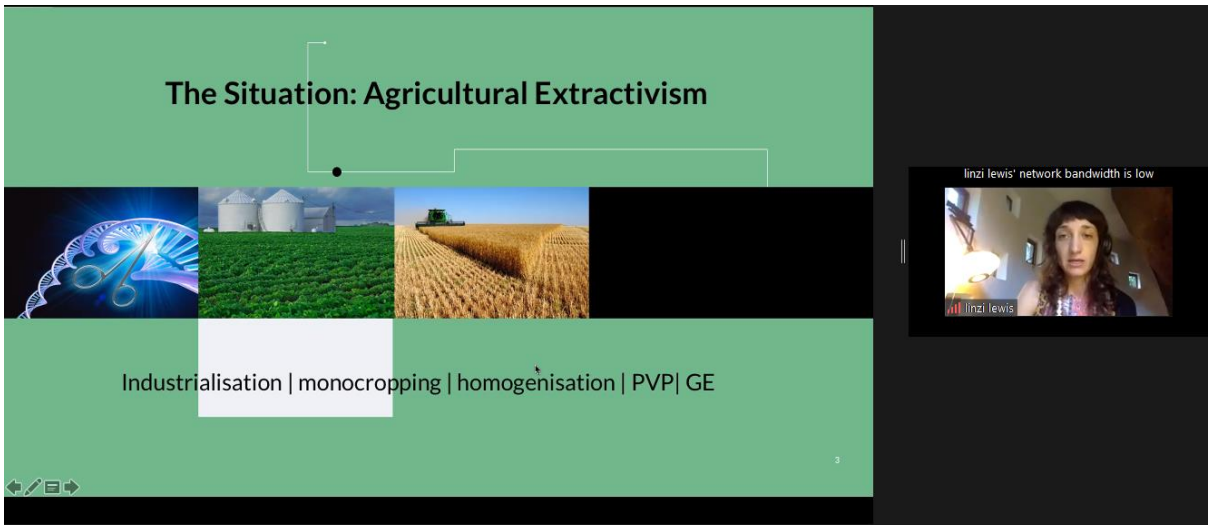


Way forward

- Climate change adaptation and mitigation will require a shift in production and consumption patterns in the food system as agriculture accounts for 30% of carbon emissions;
- In addition to the forthcoming post-2020 Global Biodiversity Framework of the Convention on Biological Diversity (CBD), 6 priorities to transition the global food system can support the resilience of people, biodiversity and climate: (1) Minimize land conversion and restore ecosystems; (2) Agriculture that is both productive and regenerative; (3) Healthy and productive oceans; (4) Manage forests sustainably; (5) Global diets that are underpinned by sustainable production, biodiversity, and sustainable consumption; (6) Transparent and sustainable supply chains;
- Organic agricultural production played a significant role in developing food security in China. Nevertheless, economies of scale and scope in food production have been key in ensuring food security for a large population. Industrial agriculture therefore needs to address its harmful aspects – pollution, waste, and high emissions. Added to this, ensuring that agriculture doesn't harm biodiversity will support meeting the needs of people, economy and nature;
- A resilient global food system entails putting farmers at the center, including prioritizing their rights, ownership and access. Besides, incentives in food production need to be realigned away from corporate-driven industrialization of agriculture and towards the needs of people for food security. Redefining agricultural productivity along the contribution of food production to human health, biodiversity and ecosystem services, efficient (and sustainable) use of land, biomass produced, among others;
- Pushing back against seed laws, policy and lobbying which would repress these systems is necessary to ensure that farmer seed systems continue to maintain agricultural biodiversity. Promotion of scientific evidence that counters

misinformation is also critical. It is notable that false comparisons often present monocropping as vastly more productive than organic farming and other alternatives;

- Local value chains often have the capacity to meet the local needs for food consumption. The challenge is arising from the lack of incentive for markets that can meet their own needs to do so sustainably for production needs and maintaining biodiversity. Where there is high capacity for production, there is increasingly a tendency to focus on exporting as this is profitable and for these same places to then become over-reliant and dependent on importing across the value chain: from seed, to fertilizer to food products themselves. The COVID-19 pandemic underlined this distortion of the global food system, and the fundamental role that local production plays in food security;
- The buy-in of farmers to sustainable agriculture is essential. Developing models informed by the holistic needs agriculture should meet, and science, it is possible to have resilient food systems which have sound economic value – cost saving and providing sustainable livelihoods, are integrated with biodiversity objectives – managing the inputs for production with minimal use of harmful pesticides and chemical fertilizers and are replicable and scalable by farmers and that are innovative in their use of agricultural biodiversity – mixed farming.



Conclusion

- For a nature positive food system, action at the local and national level will need to be underpinned by responding to the local, national and global impacts of climate change and biodiversity loss. Further, to enhance the resilience of the global food system and promote biodiversity, the following must be embedded: consensus and cooperation to mainstream biodiversity into agriculture, policy and regulations that promote transparency, accountability and sustainable practices in the global food industry, investment into green and sustainable agriculture;
- Securing the global food system is heavily reliant on strengthening farmers' rights and seed rights. This will support benefit sharing and the realization of the food rights of Indigenous Peoples and Local Communities and the preservation of traditional knowledge that retains diversity in food and its production. Additionally, it requires engaging politically – bilateral agreements and their related instruments can be used to embed with policy and laws which will in effect violate principles of access and benefit sharing, and other human rights considerations;
- Circular agriculture is an important alternative to chemical-based agricultural production. Not only is productive, it is a viable approach to agriculture that is compatible with biodiversity and ecosystem services. Scientific analysis of these and other alternative approaches should be promoted to provide lessons for scaling and countering the harmful impacts of unsustainable production and consumption.
- Technology and innovation in agriculture is also key to food security: biological innovations have supported the development of drought-resistant crops and to carbon capture for example. Conversely, agriculture must increase its contributions to adaptation, and not use technology and innovation to avoid systemic changes needed for effective resilience to climate change.

The webinar attracted over 60 attendees. Many thanks to the ACBA membership for their participation and sharing with their networks. The recording of the full webinar can be accessed here.

Annex
Poster

Agenda

Agenda	Items
Introduction	Welcome Housekeeping Overview of ACBA-CSABC collaboration 2020 to date Collaboration in 2022
Opening Remarks	Context of webinar Introduction of Session I speakers
Session I: Speaker 1	Issa Maman-Sani – Director, Environmental & Social Safeguards and Compliance (SNSC), African Development Bank Group
Session I: Speaker 2	Shang Shengping - Director, Strategy and Consulting, China International Contractors Association
Moderator	Introduction of Session II speakers
Session II: Speaker 3	Christine Mwangi – Regional Coordinator, Africa Sustainable Investments and Infrastructure (ASI), WWF Kenya
Session II: Speaker 4	Cheng Chen – Program Director, Nature Watch Program, Shan Shui Conservation Center
Q&A	
Closing Remarks	Takeaways Lead-up to next webinar Vote of thanks