“A disappointment,” “a failure,” “frustrating” – that is how many described the United Nations Framework Convention on Climate Change (UNFCCC)’s 26th Convention of Parties held in November 2021 in Glasgow, Scotland. The 26th Convention of Parties, more commonly referred to as COP26, brought together the UNFCCC’s 197 members states, private sector actors, civil society organizations, and a wide range of campaigners. The aim of COP26 was to bridge the gap between the current climate commitments of state and non-state actors and the urgent need for transformation to curb the global climate emergency. However, COP26 did not achieve that goal.

In this Policy Perspective, I offer my personal reflections on the lack of progress about food and climate at COP26, having participated in the summit as Deputy Director of the International Panel of Experts on Sustainable Food Systems (IPES-Food). With COP27 only months away in Sharm El Sheikh, Egypt, it is worth looking back on the empty promises made during the previous negotiations to ensure these setbacks are not replicated in November 2022. In this piece, I particularly examine the shortcomings of the Koronivia Joint Work on Agriculture negotiations and initiatives like the Agriculture Innovation Mission for Climate. My overarching aim is to argue that effectively addressing the climate emergency will require transitioning to sustainable food systems based on the principles and practices of agroecology and food sovereignty. Taken together, agroecology and food sovereignty constitute the comprehensive approach needed to transform food systems and acknowledge the current food system’s role in the climate crisis.
The Problem: The Global Industrial Food System and Its Links to Climate Change

In no small part, the lack of progress at COP26 can be traced to the UNFCCC’s lack of attention to the substantial impact of food systems on climate change (Benton et al., 2021; Chandrasekhar & Viglione, 2021; Weston & Watts, 2021). During the two weeks of climate negotiations at COP26 in Glasgow, not a single day was dedicated to food systems, nor did they prominently feature in most countries’ climate commitments.

Box 1
Food systems are complex web of actors, processes, and interactions involved in growing, processing, distributing, consuming, and disposing of food. These systems also include the policy environments and socio-cultural norms shaping food habits. Considering food systems in their entirety means considering the interaction of these processes, and their operation within specific environmental, social, political, and economic contexts (IPES-Food, 2015). While agriculture and land-use are the subject of debate within the UNFCCC, a food system approach has yet to be adopted in formal negotiations around food, agricultural, and land-use systems.

All countries that are party to the UNFCCC are obligated to develop and periodically update their individual Nationally Determined Contributions (NDC). The NDCs constitute a national climate action plan to reduce national emissions and adapt to climate impacts. However, none of the world’s largest carbon emitting countries have articulated concrete targets to reduce emissions from their food and agricultural systems (FOLU, 2021). Globally, only two NDCs earmark specific funds for sustainable food systems transition. And with the exception of agricultural production issues, only very few countries articulate specific targets (such as dietary shifts or household-level food waste) with respect to their foods systems (FOLU, 2021).

The private sector – another dominant voice in climate debates – is not faring any better. None of the 350 most influential food and agricultural companies are on track to support a transition to sustainable food systems (World Benchmarking Alliance, 2021).

The failure of state actors and the business sector to recognize the effects of the dominant food systems on the climate cannot be overstated. In 2015, food systems were responsible for at least one-third of total global greenhouse gas emissions (Crippa et al., 2021). Since then, the global food system has only become more energy intensive, as production, processing, packaging, retail sales, and transportation of food products expand rapidly (UN, 2021). Food systems are also most at risk from the climate crisis themselves, with farmers and food workers at the front lines of climate impacts – facing extreme weather events, pest and disease outbreaks, and changes in temperature that threaten yields and livelihoods.

For decades, the dominant food system and its harmful consequences have been driven by capitalism and the logic of industrialization (e.g., mechanization, extractivism, intensification, specialization, and homogenization) (McIntyre et al., 2009; IPBES, 2018; IPES-Food 2016). These paradigms continue to shape how and by
whom food is produced, distributed, marketed, and consumed, and reinforce the economic and political power of a small number of actors, particularly multinational corporations (IPES-Food, 2016; Bailey et al., 2018). The result is a global industrial food system locked in a vicious cycle of producing an ever-increasing volume of cheap, low-nutrient food, which perpetuates unhealthy food environments and that in turn worsen social and environmental degradation (see Fig. 1).

Box 2

Food environments are the physical space(s), as well as the socio-cultural, economic, and political contexts, where the public engages with the food system to acquire, prepare, and consume food. Food environments determine food availability, accessibility, affordability, quality, and safety (Fanzo et al., 2021; EPHA, 2020). Food environments are now considered a primary driver of environmental degradation and declining public health (WHO, 2021).

The alternative: Sustainable food systems based on the principles and practices of agroecology and food sovereignty

Sustainable food systems can be a major part of the solution to the climate crisis. There is growing and conclusive evidence that sustainable food systems – based on the principles and practices of agroecology and food sovereignty – could create the social and environmental resilience that is so urgently needed today (see FAO, 2021; IPBES, 2018; IPCC, 2019; McIntyre et al., 2019; UNEP, 2019).
Agroecology is a science, practice, and movement that offers an alternative to the industrial vision for food and agriculture systems by considering their impacts within the wider social and ecological systems they are embedded in (Gliessman, 2015). Rooted in local knowledge and Indigenous knowledge and traditions, and in the interdependent relationship between people and nature, agroecology seeks to create long-term social, economic, and environmental resilience by drawing on natural synergies and diversity (Gliessman, 2015; HLPE, 2019).

Box 4
Food sovereignty is “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Via Campesina, 2003).

Taken together, the practices of agroecology and food sovereignty can yield a wide range of ecological benefits based on diverse knowledge systems, including traditional and Indigenous knowledge, such as keeping carbon in the soil, promoting biodiversity, reducing and repurposing waste, and restoring natural resources (Altieri & Nicholls, 2020; FAO, 2021). In being power sensitive, the values and practices of agroecology and food sovereignty uphold farmers and workers’ rights, equity and well-being, and support decent livelihoods and healthy and nutritious food for all (IPES-Food, 2016; Gliessman, 2015). Most importantly, these approaches seek to address the root causes of the problems created by the dominant food system. Both agroecology and food sovereignty offer an integrated and participatory approach to transforming food systems and solving the climate crisis by considering all aspects of food systems from agriculture to post-consumption.

Box 5
Traditional knowledge “is a cumulative body of knowledge, know-how, practices and representations maintained and developed by peoples with extended histories of interaction with the natural environment. These sophisticated sets of understandings, interpretations and meanings are part and parcel of a cultural complex that encompasses language, naming and classification systems, resource use practices, ritual, spirituality and worldview” (UNESCO/ICS 2002, p.9). Indigenous territories, for example, are said to hold 80% of the planet’s biodiversity, with Indigenous food systems playing a crucial role in environmental conservation (IFAD, 2021).

The failure of COP26 to endorse agroecology and food sovereignty

If their role in curbing climate change seems so clear, why then did COP26 fail to acknowledge agroecology and food sovereignty approaches and the potential of food systems transformation? How did the Summit fall short?

It is not to say that formal COP26 discussions were entirely devoid of discussions about food and agriculture. Agricultural production was included in number of
pledges, initiatives, and programmes, including the launch of the USA and UAE-led Agriculture Innovation Mission for Climate (AIM4C) initiative, the Policy Action Agenda for a Just Transition to Sustainable Food and Agriculture, various pledges to prevent or end deforestation, and the ongoing Koronivia Joint Work on Agriculture.

However, those various pledges and initiatives are what Teresa Anderson, climate policy coordinator at ActionAid International, called “a carefully orchestrated bombardment of announcements with very little backing” (Chandrasekhar & Viglione, 2021). In other words, many of the promises and initiatives announced at COP26 simply re-instantiate the power dynamics at the heart of climate negotiations. The ‘solutions’ put forward favour only marginal policy changes that perpetuate business-as-usual over truly transformative solutions (Spash, 2016; Rees, 2021; Sheather, 2021).

The discussions’ outcomes also indicated the lack of intergovernmental consensus on climate change and how it should be solved. In fact, they were compared to the international community’s failure to adopt a coordinated approach to address the COVID-19 pandemic (Arora & Mishra, 2021). Two examples, the Koronivia Joint Work on Agriculture and the AIM4C Initiative, can be used to examine how COP26 failed to inspire transformative change.

**The Koronivia Joint Work on Agriculture at COP26: what went wrong**

Established in 2017 at COP23, the Koronivia Joint Work on Agriculture (KJWA) recognizes that agriculture practices and land-use have the potential to address the climate crisis. Through the UNFCCC process, KJWA complements the development of National Determined Contributions by state actors, National Adaptation Plans, and the realization of the United Nations Sustainable Development Goals. KJWA addresses six interrelated dimensions of climate change on agriculture, including soils, nutrient use, water, livestock, methods for assessing adaptation, and socio-economic and food security dimensions.

At COP26, the KJWA negotiations typified the power dynamics that constrain transformative decision-making about food systems. While negotiators agreed on the need for “sustainable and climate-resilience agricultural systems” (note that this language already draws focus away from understanding food systems in their entirety), discussions were unable to conclude at COP26 as planned because of lingering disagreement over the KJWA’s concluding recommendations (UNFCCC, 2021a). The extent of these disagreements is evident in the heavily bracketed text being carried over into 2022 for further deliberations.

One main area of contention during the negotiations was the proposed inclusion of “agroecology” as one of the possible solutions to climate change in the KJWA’s concluding recommendations (UNFCCC, 2021b). Disagreements mounted despite a sound body of evidence demonstrating agroecology’s potential to create climate resilience (see Leipper et al., 2020). The recent call by over 1,200 international organisations, farming groups, and food experts stressing the need to place agroecology, organic, and regenerative agriculture at the top of the international agenda remained unheeded (IPES-Food et al., 2021). The Africa Group, the Least Developed Coun-
tries group, and the European Union championed agroecology’s inclusion. However, the USA and India strongly opposed it (see Leippert et al., 2020).

The KJWA offers a much-needed global mechanism to discuss the impacts of food and agricultural systems on the climate, and more support and visibility is certainly needed for processes that make the crucial connections between agriculture and climate within the UNFCCC. However, the KJWA at COP26 was also heavily criticized by farmers organizations and civil society actors because they failed to substantively include them in the negotiating process (NFU Canada, 2021; NFU Cymru, 2021). That type of exclusion continues to raise the question of whether international food systems governance is truly inclusive and participatory. Ultimately, it remains to be seen whether the KJWA process will seek to respond to the needs and interests of those at the frontlines of climate and food systems change.

AIM4C: empty promises at COP26

Powerful state and private actors also used COP26 as platform to launch a series of initiatives that will do little to change the status quo. The USA and UAE-led AIM4C Initiative\(^2\) pledged to address climate change by increasing investments and support for climate-smart innovation, research, and development by US$4 billion over the next five years. However, that pledge was strongly criticized by think tanks, civil society actors, and farmers organizations because it attempts to re-frame damaging industrial agricultural practices as part of the solution to climate change and fails to include meaningful participation from those most impacted by it (see ActionAid, 2021; Compassion in World Farming, 2021; ETC Group, 2021; IPES-Food, 2021; Weston & Watts, 2021).

By narrowly conceptualizing the technologies and innovation needed for climate resilience (e.g., climate-resilient crops and livestock breeds), the AIM4C initiative merely furthers a productivist approach that is centered on agribusiness-led ‘silver bullet’ innovations. It does not appear to support the diverse, locally tailored, Indigenous- and farmer-led approaches that have gained momentum and proven to be resilient in practice. The past few decades have demonstrated that pursuing the latest ‘techno-fix’ has done little to meaningfully address global food security and climate issues, even as they have posed new and additional risks to human and environmental health.

The techno-fixes at the heart of initiatives like AIM4C may only served to maintain reliance on energy-intensive inputs and practices that contribute to the climate crisis and many other problems to the detriment of agroecological approaches (see for example, Clément & Ajena 2021). In an assessment of the failures of COP26, Sheather (2021) notes that without tackling the foundations of capitalism and the cur-

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1 Concern about the global governance of food systems was also raised with regards to the UN Food Systems Summit that was held in 2021 (see Fakhri 2022; Clapp et al., 2021).

2 It is worth noting that the Bill and Melinda Gates Foundation has also been central to this initiative. Its US $315 million contribution to AIM4C will support research conducted through the Consultative Group for International Agricultural Research (CGIAR) system. Both the Gates Foundation and research institutes within the CGIAR system have been heavily associated with efforts to perpetuate ‘Green Revolution-style’ approaches to development in the global South (Bergius & Buseth, 2019; Patel, 2013).
rent weaknesses of global governance, “the technology (to affordably and effectively capture carbon) is not there. To rest our hopes of a future on a non-existent technology is, to say the least, on the rash side.”

Indeed, for years now, billions of dollars have been invested in the latest ‘climate-smart’ innovations, but those solutions have never fully delivered. A recent report by the UN Food and Agricultural Organization, UN Development Programme, and UN Environmental Programme found that 87% of the US $540 billion global farm subsidies today are either price distorting or complicit in supporting food production and farming practices that are harmful to the environment and society (FAO, UNDP & UNEP, 2021).

While innovation will be key in curbing the climate crisis, a narrow view of science and knowledge should not determine the category of viable solutions. Instead, solutions should include the experiential knowledge and successes of food systems practitioners on the ground. Indeed, few of the AIM4C signatories have dedicated any meaningful funding to research focused on alternative food systems paradigms, such as agroecology. For example, projects with an emphasis on agroecology represented only 0.6–1.5% of the US Department of Agriculture’s Research, Extension, and Economics budget (DeLonge et al., 2016), and only 5% of the UK’s annual agricultural budget (Pimbert & Moeller, 2018). Similarly, the Bill and Melinda Gates Foundation, a major contributor to the AIM4C initiative, dedicates less than 3% of its agricultural research funding in Africa to solutions that included elements of agroecology (Biovision & IPES-Food, 2020). By continuing to prop-up and support the dominant food and agricultural approaches, such initiatives fail to acknowledge (and perhaps deliberately perpetuate) the major power imbalances that maintain the status quo.

The treatment of civil society and major farm- and food-worker constituencies at COP26 says much about their ‘place’, and that of food systems, in international climate negotiations: they are an afterthought. However, ignoring the impact of the dominant food systems on the climate crisis is no longer an option. Even if all non-food emissions disappeared overnight, emissions from the industrial food system alone would still undermine the possibility of the planet’s temperature remaining below a 1.5 °C increase by the end of the century (Ritchie, 2021). Sustainable food systems can be a major catalyst for addressing climate change, but only insofar as that possibility is recognized by the international community.

**Changing future COPs**

If food systems are to become part of the formal debate at future COPs, as they are likely to be at COP27 in Egypt in November 2022, ensuring substantial participation and inclusivity of a real diversity of food systems constituencies will be key. The dominant food system, and the logic that drives it, has become too embedded in our socio-economic fabrics. Only a participatory, collective, and global approach will be able to meaningfully create change. Breaking away from the political and structural conditions that prevent us from adopting ambitious climate action will require a willingness to break down existing echo chambers. It will mean acknowledging the limi-
tations and flaws of the dominant food system. It will entail considering approaches, such as agroecology and food sovereignty, and ending the perpetuation of the false narratives that support the status quo. It will require basing solutions on a diversity of sciences and voices, respecting traditional knowledge and experiential knowledge, and fundamentally rethinking the values and principles that underpin food systems to create lasting change.

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