



POSITION  
PAPER

SUSTAINABLE DIETS FOR ALL

# Food systems and climate change

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Food systems worldwide are not delivering healthy, sustainably produced food for the majority of people. Climate change is both a negative outcome of environmentally damaging food systems, and a threat to the future of food production and the livelihoods that depend on it.

The Sustainable Diets for All (SD4All) programme has been informed by the linkages between food systems and climate change, as well as health. This document highlights some of the ways in which the programme has addressed these linkages through its activities and influenced food and agricultural policies which have implications for tackling climate change. Based on learnings from the programme, we have identified a number of recommendations for policy, action and research on food systems and climate change.

## **Food systems and climate change: what's the connection?**

'Food systems' encompass all the interrelated actors and processes involved in the production, processing, distribution, consumption and disposal of food. All these actors and processes are bound up with climate change in a number of ways. Crucially, global food value chains are responsible for up to 30% of the greenhouse gas (GHG) emissions driving climate change.<sup>1</sup> Agriculture is responsible for around half of these emissions, as well as for other adverse environmental impacts linked to climate change such as biodiversity loss, deforestation and soil depletion.

At the same time, climate change itself poses a threat to the functioning of food systems. Rising temperatures, extreme and unpredictable weather patterns, and disruption to water cycles are already causing reductions in the yields of staple crops in some regions of the world.<sup>2</sup> Climate change presents a key threat to agroecosystems, food security and the many livelihoods dependent on food production, particularly in the global South. In an already flawed and inequitable food system, climate change therefore acts as a threat multiplier, further aggravating existing problems such as hunger and food insecurity.

While the global food system is an important driver of climate change, it also has the potential to contribute to climate change mitigation and adaptation; for example through the adoption of food production practices with low or no GHG emissions, or through reduced food waste and loss. Transitioning towards diets with lower environmental impacts could also contribute to mitigation and adaptation efforts while improving public health at the same time. Current global food systems are a threat to health as well as the environment, as evidenced by the rise of non-communicable diseases such as obesity, the persistence of undernutrition and outbreaks of pandemics

## **What is a sustainable diet?**

One of the central aims of the SD4All programme has been to improve access to and consumption of 'sustainable, diverse and nutritious' diets, especially among low-income communities. But what is a sustainable diet?

The EAT-Lancet Commission has published guidance on what, and how much, people should eat to be healthy and reduce the environmental impact of food systems. The specific foods and quantities vary across different regions of the world, but the recommended diet generally includes higher amounts of fruits and vegetables, whole grains, nuts and legumes, and lower quantities of red and processed meat, refined grains and starchy vegetables.

A healthy, sustainable diet needs to come from a sustainable food system: one that ensures food and nutrition security for everyone, without compromising the economic, social and environmental capacity of future generations to achieve the same. Adapting diets to be more climate-resilient is central to the notion of a sustainable food system.

*Source:* FAO (2018) Sustainable food systems: concepts and framework. <http://www.fao.org/3/ca2079en/CA2079EN.pdf>

caused by zoonosis,<sup>3</sup> as seen in the current Covid-19 crisis. Transforming food systems in order to adapt to and mitigate the effects of climate change therefore has the potential to generate positive health outcomes too.

## **Our work on food systems and climate change in Bolivia, Indonesia, Kenya, Uganda and Zambia**

The SD4All programme has worked in five low- and middle-income countries, building multi-stakeholder coalitions and enhancing the capacity of civil society organisations (CSOs) to advocate for more inclusive, sustainable food system policies that integrate climate resilience.

Through research and engagement with citizens, governments and partner CSOs, SD4All has addressed climate change through four central themes: 1) the need to shift from monocultures to more climate-resilient, agro-biodiverse agricultural systems; 2) the promotion of climate-resilient indigenous and local crops and varieties; 3) the need to shift consumption patterns towards climate-resilient diets; 4) and the role of informal markets in supporting a diverse, resilient food system.





'Food parliament' where citizens can discuss food system issues with local council members (Slow Food Uganda)

### 1. From monocropping to diverse production systems in Zambia and Uganda

The diversity of varieties, breeds and species found within a food system increases the resilience of agricultural ecosystems and is therefore an essential component of climate change adaptation. Diversity increases resilience in the system so that if one part fails, other parts can still perform critical functions. Over the past half-century many previously diverse farming systems have been replaced with a narrower range of crops cultivated using modern, standardised cropping systems.

In **Zambia**, the production of maize in monocultures is encouraged by national agricultural policies. This method has led to soil degradation and biodiversity loss, leaving farms vulnerable to the effects of climate change. The SD4All programme published a report showing that the 'true cost' of conventional maize production in Zambia should be 2 to 2.5 times higher, when its environmental impacts are taken into account.<sup>4</sup> Some of the report's recommendations have been taken up by the Zambian government. For

example, through the Food Change Lab process, SD4All partner Civil Society for Poverty Reduction worked with the government to establish a new e-voucher system which helped farmers access seeds and inputs for crops other than maize.

In parts of **Uganda**, low-income farming households are increasingly contracted by large plantations to produce cash crops such as tea and sugarcane, which are promoted by the government. The monocropping of cash crops at the expense of growing a mix of subsistence crops has led to decreased food and nutrition security among low-income rural families - and it has made agriculture more vulnerable to climate change. SD4All has supported Slow Food Uganda to advocate for diverse food production systems in Buikwe district. Through the establishment of a 'food parliament' where citizens discussed food system issues with local council members, the district adopted a resolution limiting the monocropping of sugarcane among smallholder farmers and recognising diverse production systems as essential for climate change adaptation.

## 2. Promoting indigenous food systems in Uganda and Bolivia

Indigenous crops and livestock breeds, combined with local, time-tested practices and knowledge around managing them, are often better adapted to local climatic conditions and are more resilient in the face of climate shocks.<sup>5</sup> In Uganda and Bolivia, SD4All has promoted indigenous food systems as one way of adapting to climate change, stemming biodiversity loss and improving the management of soil and water. The programme has also worked to improve availability of and access to indigenous foods as a means of ensuring local food and nutrition security.

In **Uganda**, SD4All partner Volunteer Efforts for Development Concerns (VEDCO) has trained ‘diet champions’ in Gulu district to promote the production and consumption of selected local vegetables.<sup>6</sup> The aim of their consultations with farmers and local authorities is for local vegetables to be adopted in future policy and regulatory frameworks, and to popularise their production and consumption. As part of the Food Systems Solution Platform, Slow Food Uganda also organised a festival celebrating and raising awareness of indigenous fruits.

In La Paz, **Bolivia**, efforts have been focused on promoting the production and consumption of native Andean grains such as quinoa and amaranth in response to rising consumption of imported, often processed, foods. As well as being nutritious and linked to increased biodiversity, these indigenous crops are better adapted to harsh weather conditions, and therefore more climate resilient. A ‘food change lab’ in La Paz culminated in the creation of a book of stories, recipes and games that challenge some of the negative stereotypes around indigenous foods and encourage people to cook with them at home.

## 3. Promoting diverse consumption in Indonesia, Uganda, Bolivia and Zambia

Consumption is the other side of the coin to production: sustainable farming practices will only succeed if there is enough demand for them. Our approach to consumption in SD4All has been twofold. First, we have sought to understand what people are eating and why. Civil society partners Kabarole Research Centre in **Uganda** and Tanoker in **Indonesia** used food diaries in which members of the community kept a detailed record of their meals and explained the motivations behind their food choices. This work has allowed us to show that diets are more diverse than previously thought, but that people struggle daily to afford the food they want and need.

Second, SD4All has sought to improve access to and use of more diverse foods. Increasing demand for more diverse

### Our approach to advocacy: putting citizens centre stage and furthering inclusive food governance

Central to SD4All’s approach has been advocating for more inclusive and sustainable food systems in which social and environmental benefits are widely shared.

Calls for change in the food system are too often top down, and can miss the concerns, priorities and lived experiences of the poor and marginalised.<sup>7</sup> We have worked closely with citizens and civil society organisations as partners in order to ensure that the voices of people on whom the food system depends are heard by policy and decision makers. SD4All has amplified the voices of people on low incomes and from often marginalised groups, including women and young people. In so doing, the programme has increased the capacity of citizens to influence food system agendas and communicate their ideas and demands directly to policymakers.

Involving actors from across the food system in evidence generation helps ensure that food systems are designed by and for the people they serve.<sup>8</sup> Through innovative methodologies such as change labs and multi-stakeholder coalitions, the programme has brought the whole food system ‘into the room’ to build long-term networks and relationships at and between local, national and global level, as well as identify short-term actions.

Finally, SD4All has contributed to an understanding of how global problems such as climate change are playing out in different contexts. Incorporating voices, stories and evidence from the ground into high-level narratives on food systems and climate change will be central to achieving a just transition to global food systems that deliver sustainable diets for all.

foods is a crucial step in the process of shifting both agricultural practices and food systems policies towards a climate-resilient pathway. Linking diversity on the farm and on the plate has been a crucial part of this effort. In **Zambia**, SD4All partner Consumer Unity Trust Society worked with citizens to raise awareness of the need to diversify diets away from a reliance on maize. In **Bolivia**, Hivos and partners Les Ningunes and MIGA promoted the production and consumption of Andean grains with its public awareness campaign *Fantásticas Andinas*, both to improve biodiversity and nutrition and to address the link between climate change and food systems.





Informal market in La Paz, Bolivia (Mauricio Panozo/Hivos)

#### 4. Informal markets as a lever for diverse and climate-resilient food systems

In all programme countries, SD4All has worked with partners and other local stakeholders to better understand and map the dynamics of local markets. Low income groups in urban and peri-urban environments depend on informal markets, where food is brought in from rural areas. Small-scale producers as well as processors, traders and vendors all play critical roles in local and regional food systems. An SD4All study in Zambia found that informal (open air or 'wet') food markets play a crucial role in providing fresh food to urban consumers, and in linking the urban poor with key local markets for fresh fruit, vegetables and meat.<sup>9</sup>

Some features of informal markets might also enhance their resilience to climate change. Production and

commerce are decentralised and involve millions of small-scale farmers and traders, giving the system the ability to react, change and adapt flexibly. Unlike supermarket supply chains, which require standardisation and prioritise a few crop varieties - often leading to a consolidation of actors in food systems - informal food markets inherently include many different actors, and are rich in diversity of goods, qualities and quantities. Despite their central role, informal markets are commonly marginalised or ignored by public policy. Recognising the value of and investing in informal food markets is key in both enabling low income groups to access adequate and affordable food, as well as in ensuring and promoting the production of a diverse range of different climate resilient and locally adapted crops.

# RECOMMENDATIONS FOR POLICY, ACTION AND RESEARCH

Working on the ground with citizens, farmers, food entrepreneurs and policymakers over the past few years has taught us many lessons about food systems and climate change. We have focused our recommendations for action and further research around three thematic areas which are central to the SD4All programme.

## 1. Strengthen the role of citizens and civil society organisations in food governance

### Policy and action:

- Addressing the complex challenge of climate change requires a careful balancing of different needs and perceptions (health, environmental, economic) and hence a broad coalition of actors; the role of citizens and their organisations in this effort is crucial. Governments and international institutions should make food governance more inclusive and participatory so that the lived experiences, voices and concerns of citizens - especially those who are poor and marginalised - are given the attention they deserve. On sub-national and national levels, governments should facilitate transparent and inclusive dialogues with food system stakeholders, and ensure the voices of the most marginalised and underrepresented groups are included. Robust accountability, complaint and participation mechanisms should be put in place.
- International non-government organisations (NGOs), funders and governments should recognise and actively support the role of grassroots civil society organisations in accelerating the shift towards sustainable food systems that deliver better outcomes for small-scale producers, low-income consumers and the planet.
- International NGOs and funders should further support citizens and CSOs to develop their capacities so that they are able to play an active part in advocating for better and more diverse food policies.

### Evidence:

- Ensure that research agendas reflect the needs of citizens and are driven by citizens themselves. Try to involve citizens and other stakeholders in the entire research process, from proposal stage to analysis. Where possible, use participatory research tools such as food diaries which increase citizen agency over the research process, and ensure the results will be useful to them when speaking directly to decision makers.

## 2. Promote and invest in diverse, climate-resilient food systems

### Policy and action:

- Agro-biodiversity is the key to thriving and resilient food systems. Governments should therefore make diversity a fundamental guiding principle of food policies, regulatory frameworks and development plans at local and national levels.
- Governments should facilitate an enabling policy environment that enables a wide range of diverse actors to contribute to and thrive within food systems, and should adopt legislation that prevents food system consolidation and market concentration.
- Donors and financial institutions should include mechanisms for strengthening food system diversity as conditions for interventions and investments.
- Governments, agribusiness and civil society organisations should promote food production practices which enhance agrobiodiversity, including indigenous food systems. Governments should include practices which enhance agrobiodiversity in development plans and investment schemes, including agricultural extension services and the promotion of short value chains.
- Donors and agribusiness should invest in small pilots to cover research, prototyping and seed funding of new ideas to stimulate local stakeholders to develop and test the business case of their ideas in practice.
- Governments, private sector and sustainable food advocates should raise the profile of climate-resilient, diverse diets locally and globally and highlight the links between healthy and diverse diets in lowering the impact of food consumption on climate change. Government should adopt policies to promote healthy, climate-smart diets (such as subsidies and taxes).



## Evidence:

- Gather evidence of what climate-resilient food systems and sustainable diets look like in local contexts. Gather knowledge of existing food consumption habits before trying to shift them; and understand what is available, affordable and convenient to everyone in the community, in order to develop informed and nuanced guidance on what a sustainable, nutritious diet looks like in specific contexts.
- Strengthen understanding of the relationship between production and consumption, and all the actors in between. There is no automatic link between diversity in production and diversity in consumption. Understanding this link is crucial to ensure that climate-resilient agriculture can improve access to healthy, sustainable diets. Climate-resilient production practices such as indigenous food systems need to be clearly linked to local diets and local markets, in order to have an impact on the wider food system. Likewise, solutions rooted in consumption, such as awareness-raising initiatives, need to take into account how the realities of local food production may limit their impact.

## 3. Support informal markets as levers for climate-resilient food systems

### Policy and action:

- Governments should acknowledge the key role of informal markets and enhance their ability to withstand and adapt to climate change. This involves first giving these markets greater recognition and legitimacy as allies in the challenge of addressing climate change; and second making the investments that can support and improve sanitation, nutrition and affordability.

### Evidence:

- Develop a more nuanced understanding of how informal market linkages can help food systems adapt to climate change. More research is needed to understand their role in fostering diversity in production and consumption.
- The resilience of informal markets is being tested by the Covid-19 pandemic. Understanding how they are vulnerable to external shocks causing temporary closures or restrictions of markets and reductions of imported food - and how to make them more resilient - is a critical component of improving the food system's ability to cope with a changing climate.

## Notes

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