



Sustainable agri-food value chains

How policies can support the shift towards more resilient food systems

Current food systems¹ are mostly unsustainable from an economic, social and environmental point of view, being responsible for about one third of global greenhouse gas (GHG) emissions (Vermeulen *et al.*, 2012). They are also highly vulnerable to the impacts of climate change, such as increase in outbreaks of pests and diseases, food losses and supply chain damages caused by extreme weather events, and their related economic and social impacts (Mbow *et al.*, 2019).

Aiming towards more resilient and robust food systems is key to achieving food security, which is even more threatened by the impacts of the COVID-19 crisis.

The need for a transformational change of food systems is undeniable. Policy makers can be the powerful and needed agents of that change, especially in developing countries. Through economic incentives and policies such as subsidies, tax exemptions and the establishment of standards, they can promote market transformation and support a shift towards more sustainable food systems.

Sustainable agri-food value chains: transforming the food system

A sustainable food value chain is defined as “the full range of farms and firms and their successive coordinated value-adding activities that produce particular raw agricultural materials and transform them into particular food products that are sold to final consumers and disposed of after use, in a manner

that is profitable throughout, has broad-based benefits for society, and does not permanently deplete natural resources” (FAO, 2014).

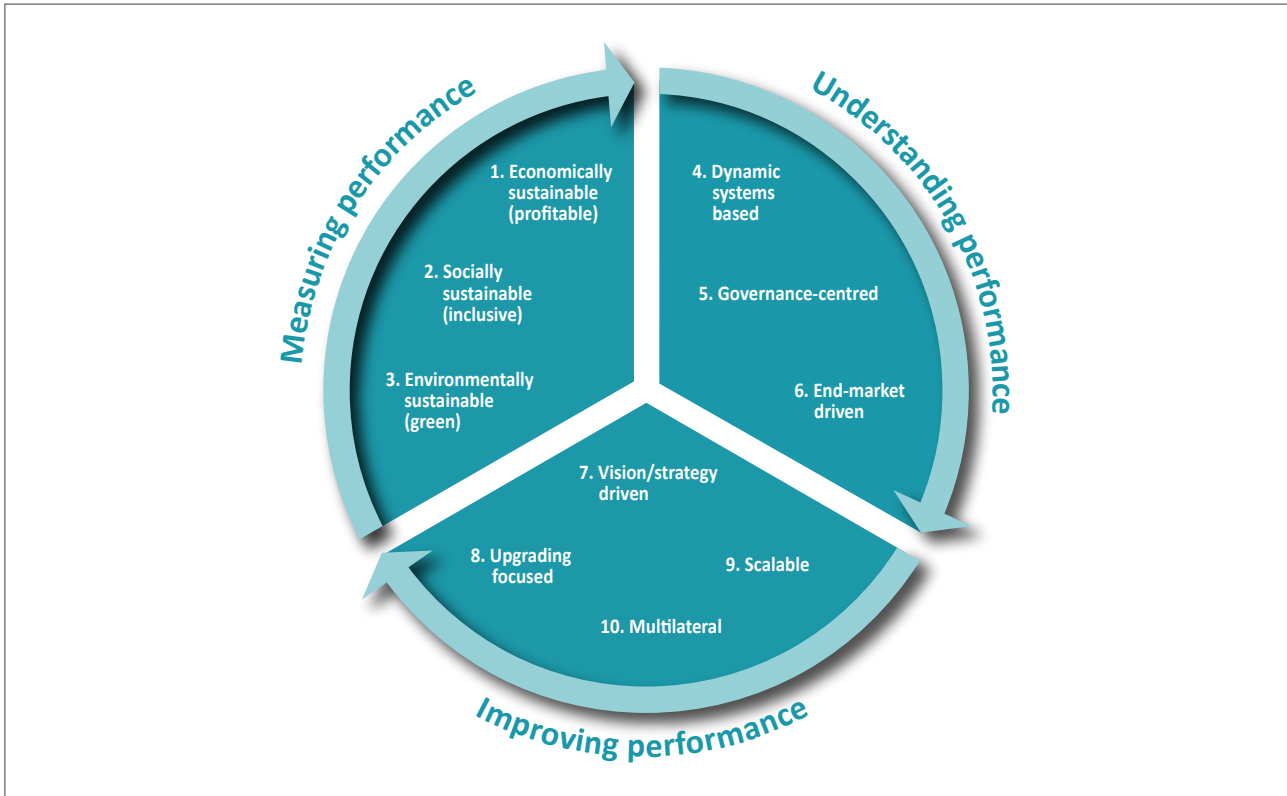
Agri-food value chains are systemic and cross-cutting by nature. Policy makers and practitioners can be guided by the ten inter-related principles governing those value chains (illustrated in Figure 1), leveraging them in achieving a transformational change of their food systems in three phases:

- i. **Measuring performance:** This phase assesses a value chain in terms of the economic, social and environmental outcomes that it actually delivers in relation to an initial vision of what it could deliver in the future.
- ii. **Understanding performance:** This identifies the core drivers of performance by taking into account three key aspects: how stakeholders and their activities are linked to each other and to their economic, social and natural environment; what drives the behaviour of individual stakeholders in their business interactions; and how value is determined in end markets.
- iii. **Improving performance:** This phase follows a logical sequence of actions: developing a specific and realistic vision and an associated core value chain development strategy that stakeholders agree on, based on the analysis conducted in phase 2; and selecting the upgrading activities and multilateral partnerships that support the strategy and that can realistically achieve the scale of impact envisioned (FAO, 2014).

¹ The food system includes all elements (environment, people, inputs, processes, infrastructures, institutions) and activities that relate to the production, processing, distribution, preparation and consumption of food and their socioeconomic and environmental impacts.

FIGURE 1

Principles of sustainable food value chain development (FAO, 2014)



Promoting sustainable agri-food value chains: national and international progresses, and their link to NDCs

Both developed and developing countries have already been making efforts to implement more resilient food systems. Some actions taken at national policy level positively impacted the agri-food value chains. The Brazilian School Feeding Programme (i.e. PNAE) for instance, is an institutional market that emerged from a decree (i.e. Law no 11.947) specifying that at least 30 percent of food purchases dedicated to public schools should be acquired directly from family farmers, and priority given to those using organic or agroecological practices. This programme successfully demonstrated that public policy can simultaneously address food and nutrition security, social inclusion and biodiversity-friendly agriculture by providing strong support to family farming, which is closely linked to agroecological food production.

When developing their intended nationally determined contributions (NDCs) ahead of the UNFCCC Paris Agreement, several countries included food system-related activities. Food value chain considerations appear predominantly in the NDCs from Least

Developed Countries (LDCs) and Small Island Developing States (SIDS) (58 percent), while in terms of geographical distribution, 43 percent of the NDCs with relevant references are from sub-Saharan African Parties (Wieben, 2019). Looking at the continent as a whole, 43 of the African contributions include food value chain dimensions in their NDCs, which equals to 80 percent of the total submissions from the African continent, while exactly half of all SIDS have mentioned different priorities related to food systems or value chains. In Kenya for instance, the stage of food production includes plans to enhance the resilience of the agriculture, livestock and fisheries value chains by promoting climate-smart agriculture and livestock development, which will have climate benefits from both mitigation and adaptation activities to be implemented.

Policymakers should consider applying a “food system approach” to frame their NDCs more holistically.

On the one hand, other actions that could be implemented along the agri-food value chains to enhance mitigation benefits are for example improved infrastructure for agri-food logistics, reduction of post-harvest losses, facilitated market access, improved resource efficiency along the supply chain, improved

waste reduction and valorisation through circular economy approaches.

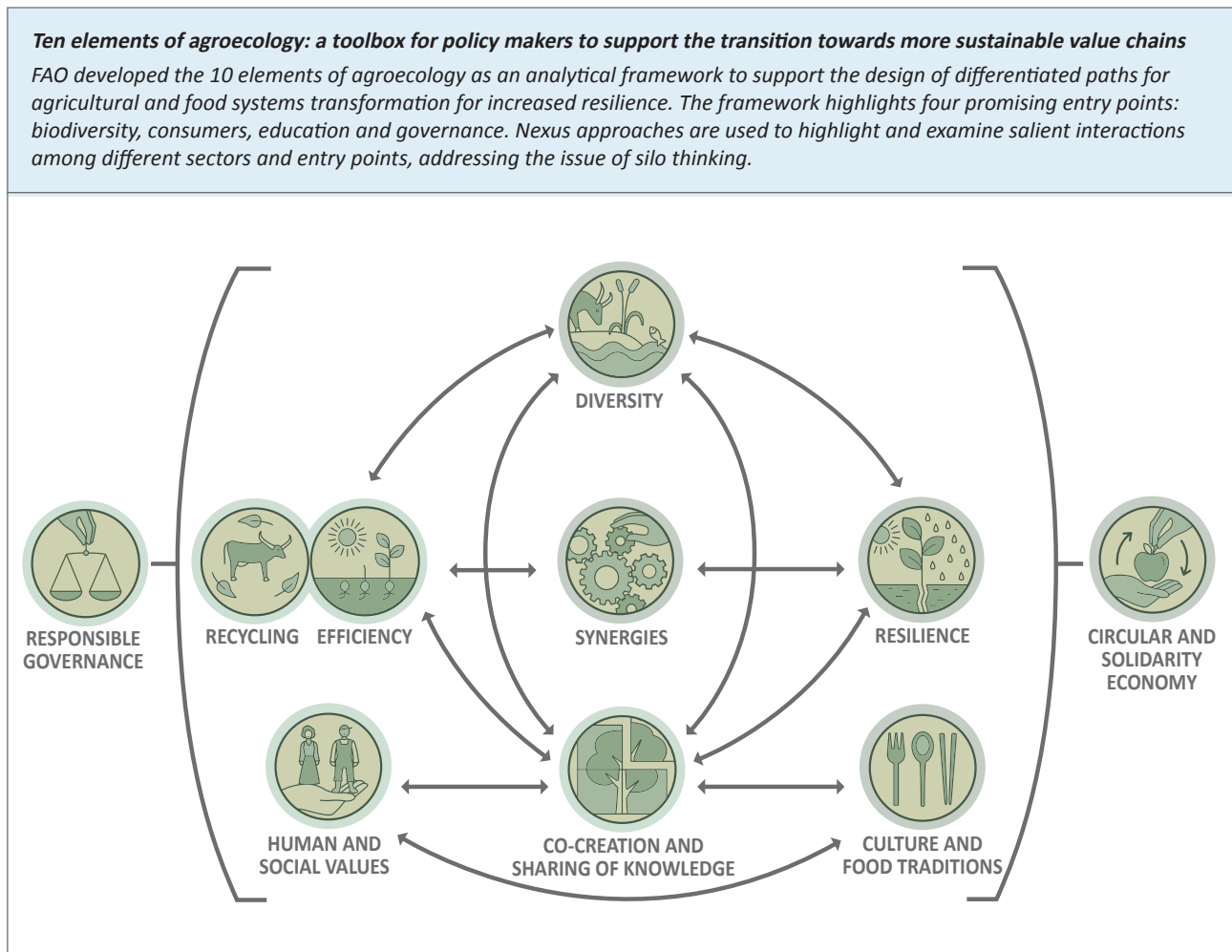
On the other hand, additional measures that could be taken to promote sustainable food value chains through reducing vulnerability and strengthening value chain actors' adaptive capacities include early warning systems, insurance and risk mitigation schemes, adapting crop calendars (harvest planning), improved pest and disease management, provision of infrastructure and technology, capacity building activities, diversification of income generation, promotion of climate-smart agriculture, agroecology and sustainable livestock development.

On the multilateral scene, countries have made commitments in different fora to promote more

sustainable food systems. In 2015, the United Nations Members committed to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture” in one of their Sustainable Development Goals (SDG2). At the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2015, the Paris Agreement recognized “the fundamental priority of safeguarding food security and ending hunger and the particular vulnerabilities of food production systems to the adverse impacts of climate change”. As a response, two years later, at COP23 in Bonn, the international community adopted a decision to have a workstream on agriculture through the Koronivia Joint Work on Agriculture (KJWA) (FAO, 2021).

FIGURE 2

The ten elements of agroecology (FAO, 2018)



Implementing sustainable agri-food value chains: main challenges

Several challenges have been delaying the implementation and positive changes towards resilient food systems. Smallholder farmers and communities might not be able to realize the benefits of adopting new production and consumption practices due to maladapted policies that disturb the market, for example subsidies to inorganic fertilizers. Market failures may also depend on consumer choices and the extent to which consumers can influence their food system. The disconnection between food production and consumption limits the capacity for alignment of single actors and collective action towards positive economic, environmental and social impacts. It is important to embrace holistic frameworks to guide transitions towards sustainable food systems, as showcased in Figure 2 presenting the ten elements of agroecology (FAO, 2018; Barrios *et al.*, 2020).

The Enhancing NDCs for Food Systems paper produced by Climate Focus, UN Environment, WWF and EAT aims to provide recommendations for policy makers to increase ambition of their NDCs by leveraging the climate mitigation and adaptation potential of a transition to sustainable food systems. The paper includes a checklist of measures that can be considered at the different stages of the food system, including agroecological approaches. Policy makers can reflect on the measures that are most appropriate for their countries and specific context. (Schulte *et al.*, 2020).

However, it has been difficult for policy makers and practitioners on the ground to bridge the gap between local and national practices as well as global commitments. Linking the different policy settings and frameworks at different levels in diverse fora can be challenging, especially for countries with limited capacities. Commitments made at national and international levels may not get translated into actions on the ground, requiring more integration across sectors and scales, and assistance in the form of capacity-building, technology transfer, infrastructure and financial support. There is often a lack of policy structures, processes, tools, or social capital at the local landscape scale (Sinclair *et al.*, 2019), even though it is at this level where ecosystem services are apparent and where they can be effectively managed. Without the ability to act and develop public policies that look at synergies and trade-offs at this scale, it will be very difficult to manage a transition towards sustainable agri-food value chains. Private sector actors are also required to shift towards more sustainable goals, encouraging innovation and enabling better consumer choices.

Responding to both local and national expectations and desires, as well as global commitments, is a major constraint to real transformative change of agri-food systems.

Food systems have a high potential for climate change mitigation, but this is often not sufficiently reflected in the NDCs. There is also limited reference to changing diets and reducing food loss and waste in the NDCs. Before COP26, countries are expected to update and enhance their NDCs. This revision process provides important opportunities for governments to address the food system more coherently.

Successful policy frameworks to pave the way towards more sustainability

Policy makers can be important agents of change and have positive impacts towards more sustainable agri-food value chains. For instance, in India policy makers have played the role of a transparent intermediary and facilitated the information flow over prices for both producers and consumers. The procurement of conventional market produce from open markets is an example of a “transparent intermediary” function. Prices for some commodities are fixed in advance as a “Minimum Support Price (MSP)” by a central government body, the Commission for Agriculture Cost and Prices. The government aims to act as a support tool for farmers to ensure price control, functioning as a direct purchaser of produce from the farmers. In case of open-market pricing volatility, the government also issues periodic bonuses over and above the calculated prices. Basic MSP calculation relies on various factors including farmers’ input costs, price parity, historical prices, demand-supply, among others (FAO and INRAE, 2020). While the concept of this scheme is widely appreciated in India, realities for implementing such policy framework depend on market factors, on government deficits and the political climate.

Adopting policy frameworks that support sustainable agri-food value chains can result in numerous benefits at economic, social and environmental levels, such as climate change mitigation and adaptation, improved nutrition and diets, economic prosperity and social inclusiveness. In the African, Caribbean and Pacific (ACP) countries, the ‘All ACP Agricultural Commodities Programme’ (AAACP), which ran from 2007 to 2011, drew on the expertise of five international organizations, including FAO. The overall objective of the AAACP was to



reduce income vulnerability and improve the livelihoods of producers dependent on agricultural commodities – in the ACP regions – by building the capacity of actors, including policy makers, along commodity chains to develop and implement sustainable value chain strategies. Building the capacity of policy makers to design policies that incorporate sustainable value chain approaches has resulted in the development of

integrated commodity strategies which are currently being implemented by AAACP partners across the ACP regions (UNDP, 2017).

The different principles and frameworks presented here are only few examples of how policies can be guided to achieve transformational change of food systems, measuring, understanding, and improving their performance.

2021: sustainable agri-food value chains in the spotlight?

There are three big summits planned to take place in 2021, at the intersection of food security, climate change and biodiversity. The UN Food Systems Summit, the UNFCCC COP26 as well as the COP15 of the Convention on Biological Diversity (CBD) will offer a unique opportunity to push for more sustainable food systems. It will be critical to build bridges between the different conventions and fora to lead to coherent policy actions and concrete changes on the ground.

Negotiators from least developed and developing countries should be supported in participating in and attending these three critical conferences. Preparatory workshops should be organized at national and regional levels involving all ministries concerned by food systems (i.e. agriculture, environment, trade, finance, planning, etc.), as well as representatives of farmers, agri-food processors and consumers; to develop their submissions, strategies and prepare for their participation. Coherent positions should be taken across the three meetings (through briefings about negotiations' outcomes to policy makers and private stakeholders, communication mechanisms to be implemented across the different negotiating teams, etc.), to make sure adequate policy frameworks and tools are developed, and to promote sustainable agri-food value chains at the global, national and local scale.

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CONTACTS

- ▶ Rashid S. Kaukab, Executive Director
rsk@cuts.org
- ▶ Leslie Sajous, Programme Officer
ldb@cuts.org

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