

# Global implications of the European Food System

A food systems approach - summary

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## Key findings

The objective of this study is to enhance the knowledge on the global implications of the EU food system. In particular, the study provides:

- an analysis of the trade relations between the EU and the rest of the world from several angles (total, by geographical blocs, by income blocs and by trade agreements), with a focus on Low- and Middle-Income Countries (LMIC);
- case studies of the effects of EU trade in three products – cocoa, soy and fish - on local food systems, based on social, environmental and economic indicators;
- an explorative analysis of possible changes in the EU food system and its impact on the food systems in third countries.

### *Trade analysis*

The analysis shows that the majority of EU-trade is internal trade (73% for both imports and exports in 2016). The extra-EU trade shows an increase in imports from all geographical blocs except for Oceania in the period 2000-2016. Latin-America and the rest of Asia (including China) are the main exporters to the EU28; the rest of Asia (including China) and Northern and Central America are the main destination of EU exports.

The group of upper-middle-income countries is the main origin of extra-EU28 imports and ranks second – after the group of high-income countries – as export destination. EU28 imports from and exports to low- and lower-middle-income countries is modest and rather stable in the period 2000-2016 (8% and 4% respectively). The share of upper-middle-income countries in total EU28 imports and exports was 11 and 8% respectively in 2016. Compared to 2000 these shares are quite stable (13% and 6% respectively).

The share of low-income and lower-middle-income countries in total trade with the EU according to preferential trade agreements is small and fairly stable for the period 2000-2016. It was 8% for imports from the EU in 2016 and 4% for exports of the EU. The three major imported products from the EU by countries with a preferential trade agreement are fish, cocoa and fruits and nuts.

### *Case studies*

The case studies focus on fish, cocoa and soy. Fish and cocoa are important traded items with lower middle income and low income countries. Soy is included as a representative product for the trade with high income countries.

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The analysis of the effects of EU trade for cocoa, soy and fish focused on four performance metrics: competitiveness of agrifood business, environmental impacts, equitable outcomes and conditions, and a balanced and sufficient diet. The analysis shows that EU agricultural trade has negative impacts, particularly on land use, deforestation and loss of landscape value, water scarcity, farm worker welfare and curtailed agricultural development potential. There is also an understanding of the benefits that EU agricultural trade has and has had, particularly in terms of export revenues, rising wage income, increased human capital, and food availability. Not all impacts are quantifiable nor are they comparable across products due to a lack of data.

New policies to shape the direction of the EU food system and to deliver on the relevant Sustainable Development Goals (SDG 1,2, 8, 12, 13, 14 and 15) need to be informed by an understanding of the impact of trade and of available choices and the potential trade-offs they imply for all participants in the system, i.e. farmers and fishermen, traders, the food industry and final consumers.

### Complementary results

The global impact of the EU28 food system should not be deduced only from its trade relations with third countries, yet should include all company-specific value chain activities taking place across the EU border. Such global value chain activities are not always easily traceable due to a lack of (detailed global) data on foreign direct investments in food and agriculture.

The food systems approach adopted in this paper shows the potential benefits of trade for e.g. income or food security, but also the potential negative impacts on for instance the environment or socio-economic goals. The ranking of the goals will define the overall outcome. Thus the analysis also shows possible trade-offs and entry-points for intervention by actors in the global food systems, including the EU. One example is the trade-off between income generating activities versus restraining further activities for environmental reasons (for example fishing rights).

#### *Exploring future changes*

Assessing how trade relations of the EU with LMIC in particular may evolve in future, requires an analysis of major trends in consumption and production in the EU and how their interaction may affect trade. Various scenarios are possible in which the pros and cons of consumer trends and their impacts on production and consumption issues differ as well as their routes to mainstreaming or marginalisation.

A scenario analysis would therefore be an appropriate tool to address this question, but is outside the scope of this study. Instead we have made a short-list of relevant trends.

#### *... regarding consumption*

Regarding trends in consumption, it is important to realise that the share of the EU in global consumption (in value) is declining, from around 40% at the beginning of this century to less than 30% in the next decade. Conversely, the share of the global middle-class consumption of Asian countries – particularly, China and India – is projected to rise to over 40%. It is therefore crucial to take into account the nutrition transition trends in these countries towards more animal-based products as well as more processed foods. Consumption patterns shift towards higher food energy supplies and higher intakes of saturated fat and cholesterol. The globalisation of similar dietary patterns is known as the nutrition transition.

Trends in the fringe of the EU food system relate to flexitarianism (part-time vegetarianism), to locavorism (consumer interest in 'authentic' local food) and conscious consumerism (slow food, organic food and the likes).

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### *... production and the food chain*

Production in the EU food sector is characterised by fewer but bigger farms and firms in agriculture and the food chain. Second, there is an increasing intensification of primary production; still, large areas of Europe have low-intensity agriculture, especially in more mountainous areas or other areas with less favourable circumstances for scale increase and/or intensification of production.

Third, ICT and the possibilities this may create for other business models within the agriculture and food sectors is of increasing importance. A fourth important trend is the increased role of standards and non-tariff restrictions (NTM) - in particular Sanitary and Phytosanitary Rules (SPS) and Technical Barriers to Trade (TBT) - in international trade. In addition to the public standards in the area of food safety, private standards regarding quality and sustainability are also gaining importance.

In this study, we assume a 'business as usual scenario' for the trends in consumption, production and the food chain and for the size and direction of EU trade with third countries. Our assumption of the absence of considerable changes could be justified as follows. First, we think that the three consumption trends of flexitarianism, locavorism and conscious consumerism will stay in the fringe of the EU food system. Second, we do not expect a sudden change in the current trends in production and the food chain, which implies a continued sustainable intensification of production and an increasing role of NTMs. The main implication of this business as usual scenario for the food systems in third countries is that their exports to the EU will be faced with an increasing role of sustainability and non-tariff measures and that hence production systems need to be adapted accordingly.

Changing demands of the European processors and retail require an adaptive response by farmers and/or other parts of the food value chain. If farmers and the food value chain are able to do so, this may result in benefits for both farming and the wider economy (through processing and packaging). However, for low- and middle-income countries the necessary transformation of their food systems presents challenges for producers, especially smallholders. Domestic barriers, like lack of access to finance, markets and transport, as well as the barriers created by standards on quality, traceability and certification, often make their participation in integrated value chains very difficult. In many countries, the ongoing fragmentation of farmland may further hinder smallholder farmers' capacity to adopt new technologies.

Initiatives to increase the sustainability of chains often focus on certification. Agreements are made, for example, on the minimum remuneration for farmers ('Fair Trade') and farm workers ('Living Wage'), or instructions are given for improving the production method (Utz - 'Good Agricultural Practices') or sustainability of production ('Rainforest Alliance'). The case studies for soy and cocoa make clear that these are important aspects to focus on. Impact studies show that overall effects of certification are rather modest and tend to reduce over time. More promising routes are sector-wide agreements and covenants to use only sustainable products (such as sustainable timber in the construction business).

### Recommendations

In our study we use the food systems approach. Food systems are the compounded and connected activities of primary agriculture and fisheries and the related use of input, the processing, transformation, distribution and consumption of food, and the impact of these activities on environment, social conditions and outcomes and public health.

The food systems approach describes the different elements of our food systems and the relationships between those elements. It focuses on all activities related to the production, distribution and processing of food and looks at the outcomes of these activities, both in terms of food security, socio-economic aspects (income, employment, equity) and the environment (biodiversity, climate).

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There are many dependencies between geographically distant food systems, and trade flows are tangible connectors between food systems, yet there are many more examples. The concept of telecoupling is a particularly useful tool to tie distant places together in global systems analysis.

Telecoupling refers to socio-economic and environmental interactions over distances, in particular at international scales. Examples of distant interactions within the natural system are climate teleconnections (distant interactions between climate systems) and urban land teleconnections (land changes that are linked to underlying urbanisation dynamics); economic globalisation is an example of distant interactions between human systems. The telecoupling framework could be a useful tool to further enlarge the understanding of the EU's trade impact on global food systems and to give input for EU governance.

#### *Data*

The analysis of complex and dynamic food systems leads to rapidly expanding data requirements. The multiple interactions of food systems with the Sustainable Development Goals, with the Zero Hunger goal (SDG2) at the core of a web of interactions with other SDGs, form possible cascades in analyses that again call for expanding data needs. It is recommended from this perspective to invest in data linking and data access, and to allow multidisciplinary studies. Open data initiatives such as the Global Open Access Data Network present a remarkable opportunity for food systems research in LMIC. The brunt of open data in LMIC is geared to support research on agriculture, livelihoods and environmental impact; it covers much less of the perspectives on food processing & transformation, on distribution & provision, and on increasingly complex behavioural drivers of food choice, habitual diets and nutrition outcomes. The brunt of data on the downstream food systems activities sits with the private sector, in LMIC as well as in the EU.

#### *Partnership*

Food systems challenges cross both boundaries and borders, and are intrinsically not different in EU than in African or Asian countries. They require partnership. Transformation commences with shared insight into challenges, as well as the analysis of the barriers and catalysts for behaviour change in the system. Experimental approaches are a core element of a systems approach to research and innovation. More attention is needed for changes in the food consumer culture through diffusing social norms and habits regarding eating preferences or practices. Such (subtle) changes can be (secretly) cultivated by food companies, advertising and marketing, food policies or changes in the food environment (e.g. new food outlets or developments in the affordability or accessibility of particular food products). Soft values such as knowledge, environmental management, consumer preferences, even impacts on SDGs are embedded in material trade flows and financial values. In this regard, the impact of foreign direct investment (FDIs) on food systems outside the EU and the potential for sustainable finance warrants specific attention. With recognition of the cultural context to problem definition and perspectives on solutions, the commonalities and shared interests between the EU and its global partners in addressing food security challenges provide a platform for mutually beneficial international collaboration in the area of food systems science and innovation.

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