



Transforming Food Systems: Regional Perspectives

Regional Consultation Report in preparation of IFAD's Rural Development Report 2021



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Investing in rural people

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1. Introduction

This report shows the results of the regional consultation supporting IFAD's Rural Development Report on Food System Transformation.

The purpose of this regional consultation process is to provide region-specific dimensions to the overall key messages of the 2021 IFAD Rural Development Report on Food System Transformation. It highlights regional deviations in priorities for food system transformation and points to effective priority incentives, investments and innovations.

The regional consultation has three different objectives. First, it aims to outline the differences in food system challenges regional food systems face. Second, it provides an overview of region-specific strategic options towards more inclusive, sustainable and healthy food systems. Third, it identifies the most feasible and effective policies and incentives for food system transformation.

Within the regional consultation, attention is paid to different themes around food system transformation. For example, it identifies key food system challenges and their most important drivers. Furthermore, the consultation identifies key priorities for food system transformation as well as constraints to achieving food system change. Finally, the regional consultation offers insights into key strategies for food system transformation: incentives, investments, and innovations considered vital to transforming food systems.

Based on empirical data, this report shows how agri-food professionals around the globe think about food system transformation.

This report is based on empirical data collected among 621 agri-food professionals and 28 regional food system experts around the world. Chapter 2 describes the methodology used for the data collection and analysis while also providing the sample composition of the online survey and semi-structured interviews.

Chapter 3 offers insights into the food system issues that are considered to be most urgent in different regions while also showing the groups that are thought to be most affected by these food system issues. Chapter 4 shows what respondents perceive to be the key drivers of different food system issues and the key constraints to addressing these issues.

Chapter 5 deals with entry points for food system change: it shows what respondents consider to be promising intervention areas in the food system and what they perceive as effective food system transformation strategies. Promising policies, incentives, investments and innovations are described in chapter 6, alongside insights on the implementation of food system policies.

Chapters 7 and 8 conclude this regional consultation report by presenting its main findings and summarising the implications of these findings for the content of IFAD's Rural Development Report on Food System Transformation.

2. Methodology

This regional consultation used a mixed-method approach, combining insights from an online survey and semi-structured interviews.

Three components are at the core of this regional consultation process: an extensive quantitative online survey among agri-food professionals from around the globe, a collection of semi-structured interviews with regional food system experts and a series of webinars to validate the results of this regional consultation.

For this regional consultation, a parallel mixed method design (see Creswell & Clark, 2010) is used, as is shown in figure 2.1 below. In this research design, the qualitative and quantitative data collection and analysis are done in parallel, after which their results are merged and synergised in this regional consultation report.

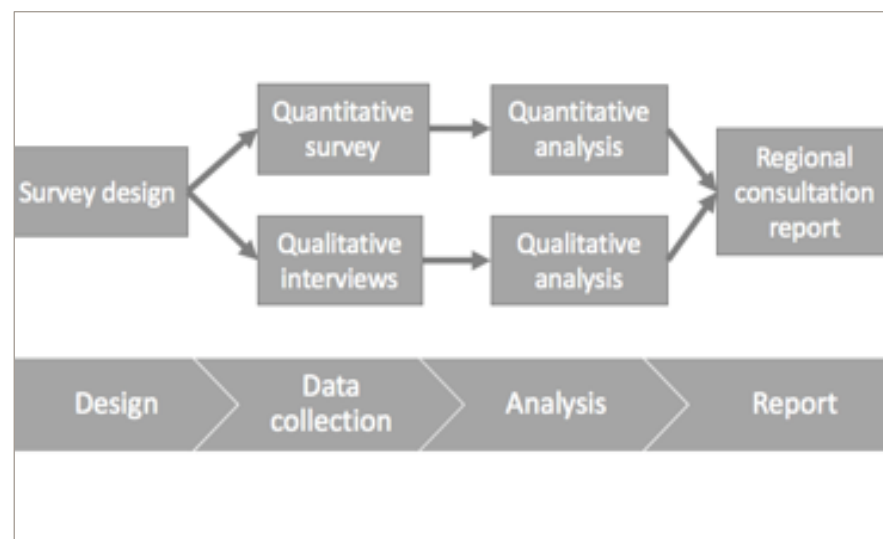


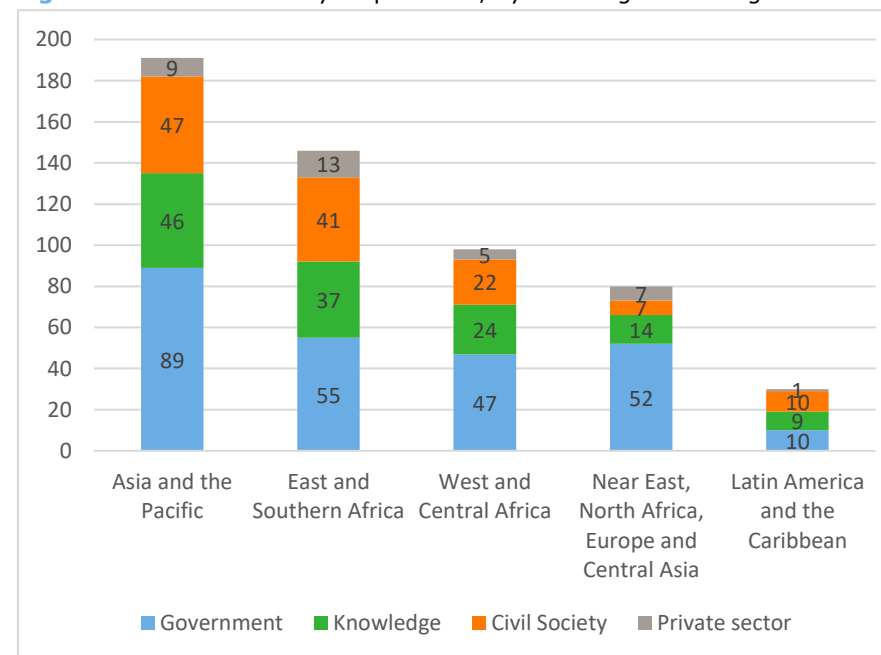
Figure 2.1 Use of parallel mixed methods design for this report

A large online survey was carried out among a wide variety of agri-food professionals across IFAD regions and organisation types

The largest component of this regional consultation is an online survey sent out to agri-food professionals in the network of IFAD, Wageningen University & Research, the Netherlands Food Partnership, WBCSD and Oxfam.

In total, 621 respondents filled out the online survey. Asia and Africa are best represented among this sample, corresponding to their larger populations. A large share of respondents (45%) work in government, with relatively fewer respondents in civil society, knowledge organisations and the private sector.

Figure 2.2 Online survey respondents, by IFAD region and organisation type



Semi-structured interviews were held with a selection of regional food system experts from different IFAD regions and organisation types

To complement the quantitative survey, a number of qualitative, semi-structured interviews were carried out with regional food systems experts. These were selected from the network of IFAD and Wageningen University & Research. The purpose of these additional interviews was to add expert-based detail and examples to the data coming from the quantitative survey. Moreover, these interviews played a crucial role in triangulating and validating the findings from the quantitative survey.

Respondents for these interviews were selected based on their knowledge of the food systems in their region. Care was taken to include a similar number of respondents from all IFAD regions and different organisation types. In addition, IFAD regional economists and country directors were invited for the interviews.

Table 2.1 In-depth interview respondents, by region and organisation type

	Government	Private sector	Civil Society	Knowledge	IFAD experts	TOTAL
Asia and the Pacific	0	2	1	2	2	7
East and Southern Africa	1	2	2	0	2	7
Latin America and the Caribbean	2	0	0	1	3	6
Near East, North Africa, Europe and Central Asia	2	1	1	1	2	7
West and Central Africa	1	1	1	1	2	6
TOTAL	6	6	5	5	11	33

A range of methods was used to analyse the data from the online survey and semi-structured interviews

The qualitative analysis started with the transcription of the semi-structured interviews, which were cross-checked with the audio recordings. Using Atlas.ti, the data was coded using the key themes of the Rural Development Report: food production, food processing, food governance, diets and nutrition, animal products, agri-food trade, midstream dynamics and food loss and waste. In Excel, the answers to each question were categorised, identifying the most mentioned answer categories. After that, the data was incorporated in the form of quotations, key messages and case studies.

For the quantitative analysis, the data from the online survey was cleaned and edited to check the responses for overall consistency and to identify data gaps. This data was then coded and analysed in-depth within Excel and SPSS. This resulted in different bar graphs, spider diagrams, flow diagrams and heat maps that were incorporated into the regional consultation report.

3. Key food system issues

3.1 Most important food system issues

Food system priorities vary by region

The results from the quantitative online survey indicate that across regions, availability, affordability, nutrition, living income, food safety and sustainability are ranked among the most prioritised food system issues. Apart from that, each region has varied food system issues that are considered of the highest relevance. In Asia and the Pacific, it is the nutritional quality of food. In East and Southern Africa, food availability is viewed as the most urgent food system issue, while in West and Central Africa, income below living standards is considered a more pressing issue. For the Near East region, food safety is viewed as most important. The Latin America and the Caribbean respondents ranked sustainability and the environment as the most urgent food system issue.

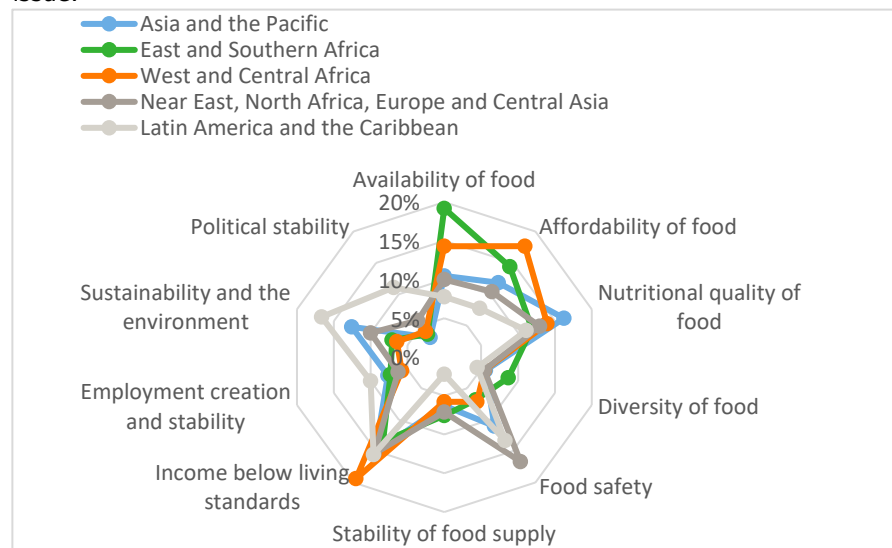


Figure 3.1 Food system issues ranked most urgent by agri-food professionals

While each region has different priorities, all the key food system issues are relevant in all regions. Sustainability, for example, is also important in the West African region; Box 3.1 provides an example of how in the West-African Sahel, the food system’s sustainability has been addressed.

Box 3.1 The role of livestock in greening the Sahel: the case of Burkina Faso

In the Central Plateau of Burkina Faso, over 200,000 hectares of land have been rehabilitated, using improved soil and water conservation techniques and making use of the vital role of livestock in the area. Recurring droughts in the 1970s and 1980s had converted much of the area’s productive land into barren areas where little would grow. Tassa or zai, improved traditional planting pits, are filled with organic matter and livestock manure.

The organic matter and the manure in the zai attract termites, which increase the soil’s water-holding capacity. Moreover, the manure contains seeds from woody species browsed by livestock, improving the soil quality. As a result, the improved soils can support local grain production, thereby improving food security in the region. The increase in production due to the greening of the Central Plateau is estimated at an additional 80,000 tons of food per year.



Tassa or zai, improved traditional planting pits incorporating manure/compost

The organisational type of the respondents is a determinant of their food system priorities.

Online survey results show that agri-food professionals in government organisations rank income below living standards and the nutritional quality of food as key food system issues. Box 3.2 shows an example of a project addressing both the food system issues of income and nutritional quality. Civil society professionals most often select living income, followed by the availability of food. Knowledge professionals consider the affordability of food slightly more important than living income, while the private sector professionals prioritise food safety above living income. The table below shows the distribution among organisation types of those that selected these issues in their top three.

in %	Government	Knowledge	Civil Society	Private sector
Living income	15%	15%	16%	15%
Availability of food	14%	13%	14%	15%
Affordability of food	13%	17%	12%	10%
Nutritional quality of food	15%	12%	13%	7%
Food safety	10%	9%	8%	16%
Sustainability	10%	9%	13%	10%

Figure 3.2 Prioritisation of the six food system issues per stakeholder group

Box 3.2 Fish farming in Sierra Leone to improve food and nutrition security

Communities in the district of Tonkolili in northern Sierra Leone face high levels of child stunting due to food insecurity and malnutrition. Income-generating activities in the district are limited, aggravated by the decline in mining activities in the area. Since 2015, a Feed the Future project funded by USAID has implemented new aquaculture practices in Tonkolili to boost farmed fish production to increase food and nutrition security as well as livelihood opportunities

As a consequence of the project, farmers are constructing their own ponds for tilapia production, providing nutrition-rich food for home consumption and generating a steady source of income by marketing the fish in the area. As part of the project, youth were involved in training activities providing knowledge about the role of nutrition in healthy diets.



A fish farmer in Tonkolili district, northern Sierra Leone

Regional food system experts identify poor market linkages, malnutrition and food availability as urgent food system issues in their context

In the semi-structured interviews, a large share (30-40%) of regional food systems experts indicate that poor market linkages, malnutrition and food unavailability are the most urgent food system issues in their context.

Policy gaps, access to technology and climate change are considered among the most urgent food system issues by one-fifth of the interviewees. Other food systems issues that were given high priority are the fragmentation of solutions, limited resources, ecosystem degradation and the effects of Covid-19 on food systems. Respondents prioritised a wide range of problems, implying that in all regions, there are multiple problems at play that need to be resolved together, rather than a few dominant problems that can be easily fixed with singular responses. Box 3.3 offers an example of how poor market linkages in Bangladesh were addressed by improving road and energy infrastructure.

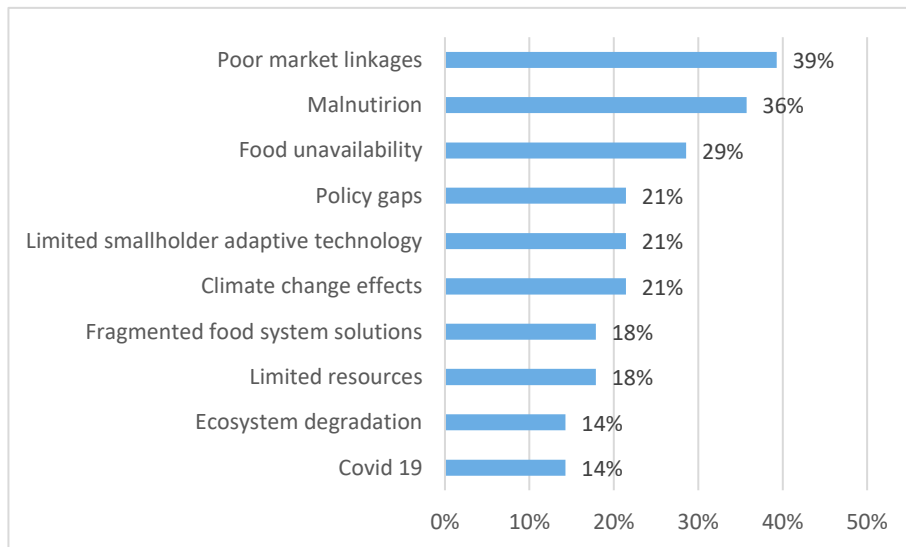


Figure 3.3 Share of food system experts who selected category as most urgent food system issue

Box 3.3 The blue revolution in Bangladesh: the role of infrastructure in improving aquaculture markets

Over the past two decades, the country of Bangladesh has seen revolutionary growth in its aquaculture sector, contributing to rural livelihoods and improving the diversity of diets. Since 1990, the production of farmed fish in the country has quadrupled, real prices of commonly consumed fish varieties have declined, while fish consumption has almost doubled.

The explosive growth of the Bangladeshi aquaculture sector has benefited from reduced transaction costs. Improved infrastructure in the country has played a crucial role in bringing these costs down. Between 2000 and 2010, there was a significant increase in total road length, the share of rural households with electricity rose from 20 to 50 per cent phone ownership rose from 0.2 per cent to 75 per cent. These developments have helped lower the cost of the fish trade, allowing for the fast expansion of aquaculture in the country.



Aquaculture pond in Bangladesh

3.2 Groups most affected by food system issues

In most countries, agri-food professionals see children and women as the groups that are most affected by food system issues

In our online survey among agri-food professionals, children are generally ranked as most affected by urgent food system issues, except among the subset of countries with low structural transformation (ST) and high rural transformation (RT). Respondents from countries with low structural transformation more often indicate that the elderly are affected by food system issues than countries with high structural transformation. While respondents from all countries consider women to be much more affected than men, the difference is lowest in high ST / Low RT countries. Finally, ethnic minorities are more often seen as affected groups in high structural transformation countries. Some respondents indicated other vulnerable groups are most affected by food system issues, such as indigenous peoples, immigrants, refugees and people with disabilities. Box 3.4 shows how in the semi-structured interviews with regional food system experts, the vital role of women and youth in food systems was a recurring theme.

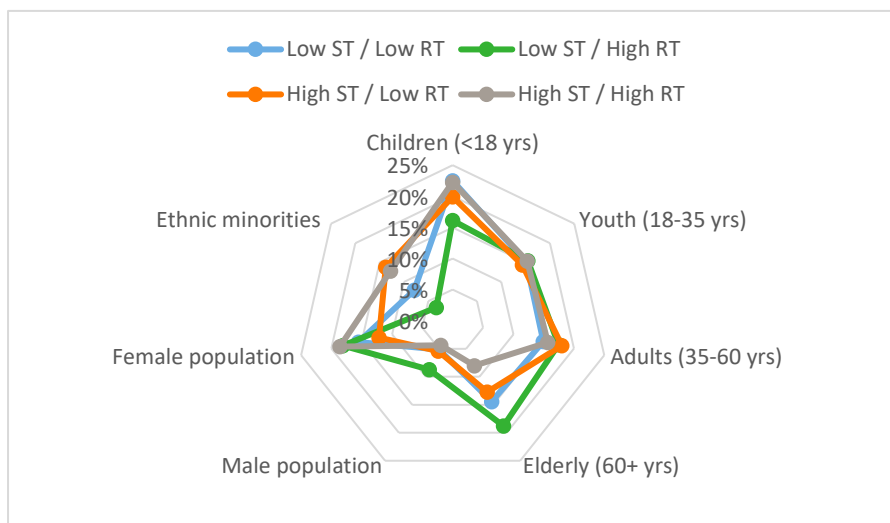


Figure 3.4 Groups considered to be most affected by food system issues from online survey respondents

Box 3.4 Women and youth need support for their essential role in farming

In our regional consultation with food system experts across IFAD regions, the importance of supporting the significant role that women and youth play in food systems was a recurring theme.

Across regions, food system experts stress the disproportionately large workload rural women have, doing most of the household work and much of the manual labour on the farm. At the same time, they indicate that women have limited access to land, knowledge, inputs and finance, stressing the need to make sure food system interventions sufficiently benefit rural women. As one expert from a knowledge organisation in West and Central Africa put it: *'We know what we should do to close the gap. To close the gap should facilitate access to key productive resources, land and technological innovations.'*

Regarding the role of youth, food system experts across regions indicate the tendency of youth to leave agriculture and move to urban areas for work. Many experts stress the need to make agriculture more attractive for youth. Others indicate that young people can play a crucial role in different parts of the food system, not only in farming but also in food processing, manufacturing, logistics, trade and retail. Youth can play an essential role in agricultural innovation, as they are often higher educated and eager to try out new things.

One private sector expert from East and Southern Africa described it as follows: *'But the young people, who are energetic, the people who are susceptible to new ideas actually, outside, they're in the urban towns looking for work, white-collar jobs. So I think if we could encourage more young people to stay at the farm, I think it would be easier to work with young people, because bringing new ideas to the young people, it's easier for them to adjust these new ideas and implement them.'*

Regional food system experts identify women, smallholder farmers and the poor as much affected groups by food system issues in their context

In the semi-structured interviews among regional food system experts, a majority of respondents (54%) indicate that women are most affected by food system issues in their context. Many respondents referred to smallholder farmers (43%), the poor (36%) and children (18%) as the most affected by food system issues. Finally, smaller shares of respondents believe that youth, rural population, pastoralists and indigenous people see most of the impact of the food systems issues they witness in their context. As shown in box 3.5, many of the regional food system experts also indicated the need to include the voice of these groups of stakeholders in the design and implementation of food system policies.

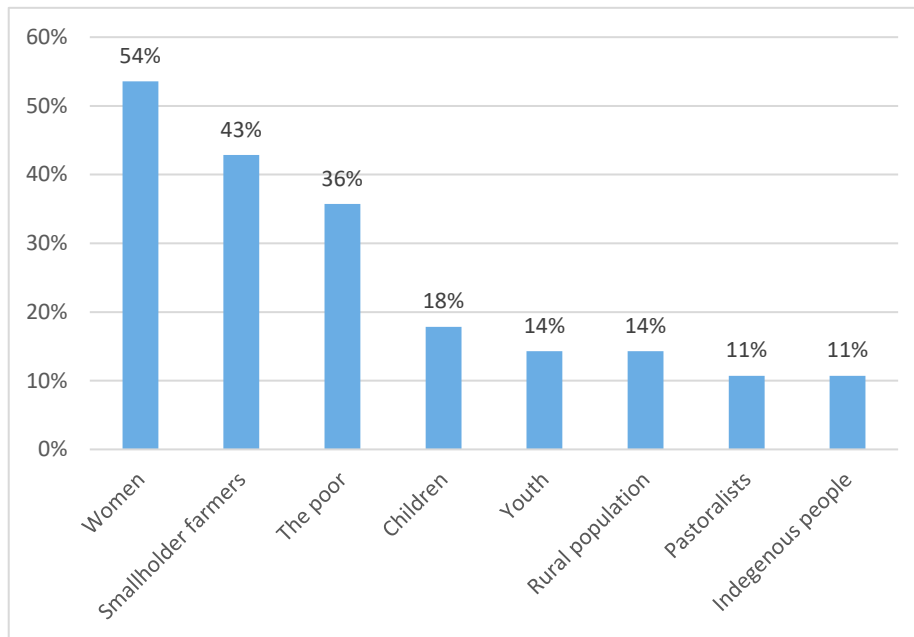


Figure 3.5 Groups considered most affected by food system issues

Box 3.5 Including the voice of stakeholders in food system policies

In our semi-structured interviews with regional food system experts around the world, many respondents indicated the need to involve a broad group of stakeholders in developing food system policies. In this call for more inclusion, most attention goes to smallholder farmers and SME's, responsible for a large share of food production.

An example of this sentiment is given by a civil society representative in East and Southern Africa: *'The message I would give to the policymakers is that it would be good to involve all the stakeholders right from the ground, from the bottom, like the farmers, the breeders, all stakeholders, when they are drafting policies. Because these people know even far better than those people who are in leadership (...) A bottom-top approach is required when policies are being developed.'*

Attention is also paid to the critical role stakeholder involvement can play in facilitating food system innovations. One government official from the Latin America and the Caribbean region described this view as follows: *'It is very important to obtain the commitment of the community in the process. In my experience, innovation processes are successful where the communities are committed in the early stage.'*



Farmers from East Africa Climate-Smart Villages participating in Africa Climate Week in Ghana, March 2019

Agri-food professionals indicate that children are affected most by the availability and nutritional quality of food

Adults, women and youth are considered to be impacted a lot by living income and sustainability issues. Also, for the less prioritised food system issue of employment creation, youth are by far indicated as the main group affected. These findings are comparable across every region, irrespective of how the data is analysed against different regional categorisations. Box 3.6 shows how explicit attention to the role of women in food systems can help improve access to healthy diets.

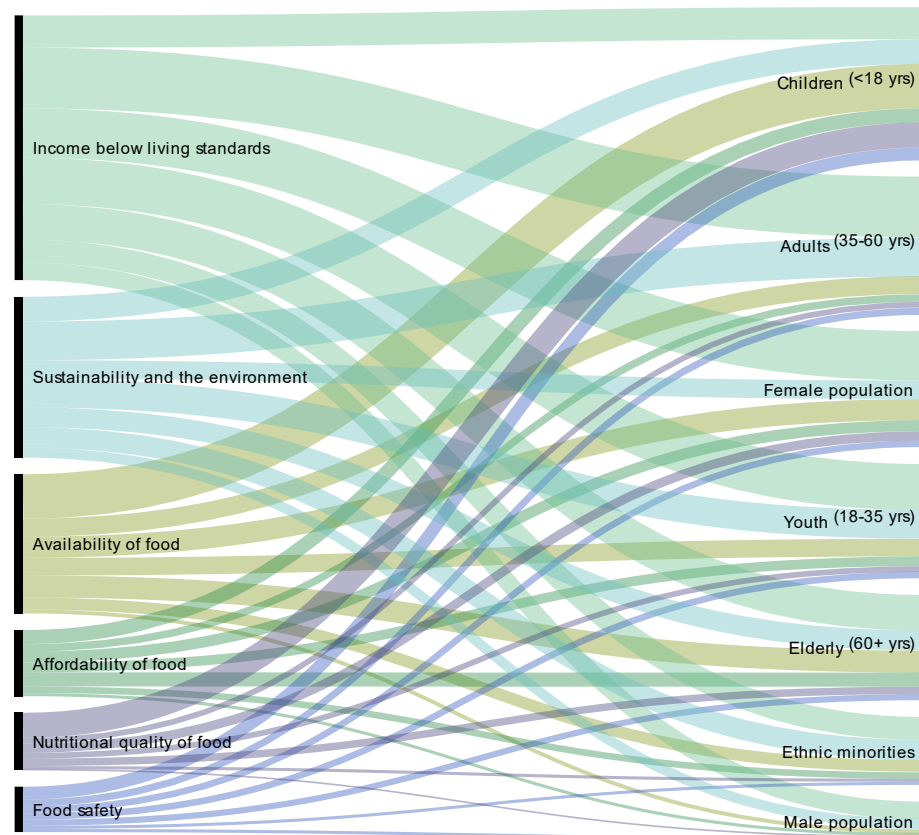


Figure 3.6 Groups affected (right) by the six key food system issues (left)

Box 3.6 Addressing gender bottlenecks in nutrition-sensitive agriculture in Bangladesh

A recurring message among the food system experts interviewed across all IFAD regions is that children and women are most affected by issues of malnutrition, and addressing their bottlenecks in accessing healthy food needs to be prioritised. Across regions, women are seen to play a critical role in providing access to healthy diets in the household through their role in growing, purchasing and preparing food as well as through their involvement in feeding their children.

An interesting example of a nutrition-sensitive agricultural programme with a central focus on the role of gender is IFPRI's Agriculture, Nutrition, and Gender Linkages (ANGeL) pilot project in Bangladesh, which lasted from 2015 until 2018. This pilot included agricultural training, nutrition behaviour change communication (BCC) and gender sensitisation training for husbands and wives together. An RCT study carried out on the pilot project found that ANGeL increased both women's and men's empowerment and raised the prevalence of households achieving gender parity. Encouraged by the positive results of the pilot project, the government of Bangladesh is now implementing ANGeL nationwide.



Female farmer participating in the ANGeL pilot project in Bangladesh

4. Drivers and constraints

4.1 Drivers of food system issues

Market dynamics, policies and regulations, and environmental constraints are viewed as key drivers of food system issues

The online survey results among agri-food professionals show that in the Asia and the Pacific, West and Central Africa and the Near East regions, market dynamics, policies and regulations, and environmental constraints are seen as the most important drivers of food system issues. Box 4.1 illustrates how trade-offs between regional and global trade are vital in driving food systems. In East and Southern Africa, access to finance is considered slightly more important than policies and regulations, while in Latin America and the Caribbean, access to finance has never been indicated as the main driver. In Latin America and the Caribbean, power misuse and imbalances, as well as conflict and security, are much more important drivers than in the other regions.

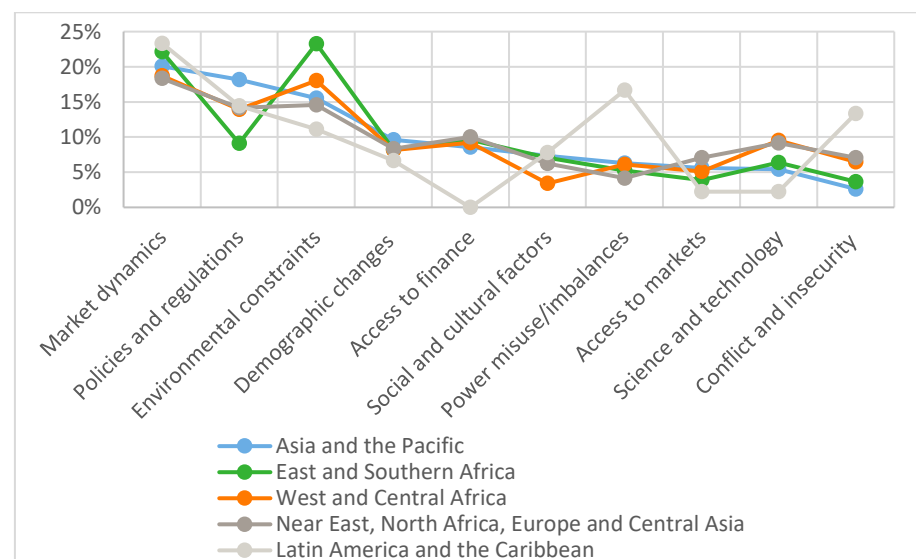


Figure 4.1 Share who finds driver to be key in propelling food system issues

Box 4.1 Trade-offs between strengthening domestic production and promoting regional and global trade

There are considerable differences in opinion about the role of trade in improving access to food among our respondents. On the one hand, some argue that strengthening domestic food production can reduce the dependency on imports. Consider the following contribution of a civil society respondent from East and Southern Africa: *'Why are we importing some things that can be produced by our own farmers when we have not worked on our own market systems and distribution systems?'*

Other respondents point to the fact that protection of domestic markets can also have adverse side effects for exports and affordability. This view is illustrated well by the following quote of a knowledge organisation respondent from the Asia and the Pacific region: *'We do not export, rather we try to substitute import. So big farmers tend to focus more on the substitutes for import rather than trying to capture international markets.'*

Again others argue that regional markets with neighbouring countries could play a key role in improving access to food, as removing trade barriers between countries could bring down the price of many food crops. As one IFAD expert from East and Southern Africa put it: *'It is also the trading regime, and accessing markets. There are too many taxes and laws and things that are not harmonised if you are moving food. Tanzania feeds Kenya a lot with particular crops that- You know, going through the borders, the permits and passes and so on. That already involves quite a lot of margin out of things'.*



Trucks queuing at a border crossing point near Namanga, Tanzania

Regional food system experts identify lack of finance and poor governance as key drivers of food system issues in their context

When asked about the major drivers of food system issues in their country and professional context, regional food system experts identify limitations in access to finance as a key driver of many food system issues such as food availability, affordability, nutrition, living income, food safety and sustainability. In these semi-structured interviews, poor governance (29%) and lack of required knowledge (21%) are also identified as key drivers. Box 4.2 illustrates how in the interviews with regional food system experts, governance was a very prominent theme. Social norms and behaviours, poor agricultural management and dietary shifts are also identified as dominant drivers of food system challenges. Climate change and structural inequalities have also been identified as drivers of food system issues by respondents across regions. As with Figure 3.3, this diversity also points to the need to work from a food systems perspective, in which the dynamic interaction of multiple factors is explicitly used in developing strategies for systems change.

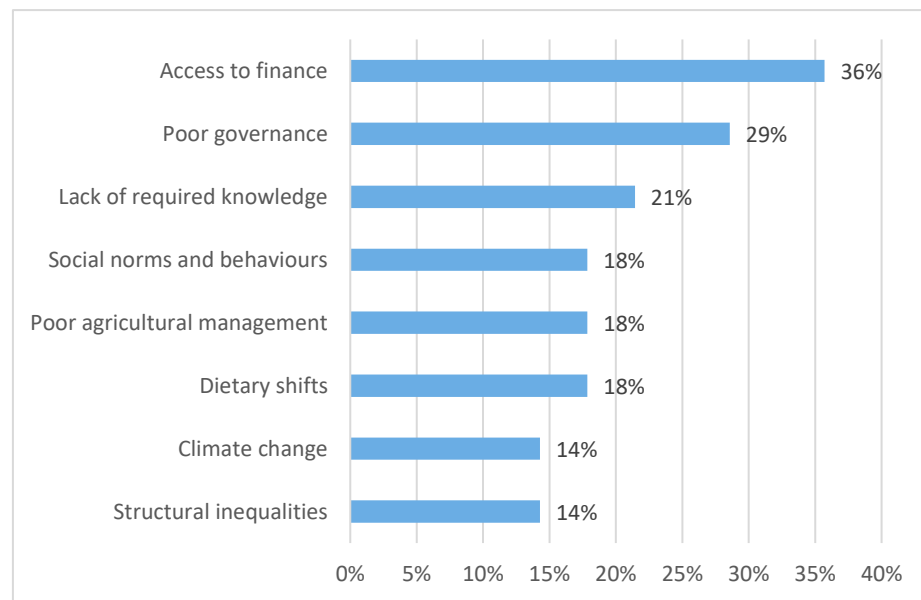


Figure 4.2 Most important drivers of food system issues

Box 4.2 The role of collaboration and partnerships in food systems

Food system experts in our regional consultation also pointed to the need for more collaboration and partnerships between different actors in the food system. Cross-sector collaboration is seen as crucial for breaking the siloes between sectoral approaches and finding synergies between different food system objectives. Others point to the need to build trust between food system actors with different interests and perspectives. One government respondent from the Latin America and the Caribbean region phrased it as follows: *'I think we have many problems with the governance of food systems, from the micro-level to the macro level. A key issue is the lack of trust between different actors in the food system. More collaboration between food system actors is key to build a foundation of trust in the food system.'*

Other respondents see a need for more collaboration due to the increasing complexity of food systems challenges. Many food system issues are collectively shared and also require collective solutions. Connecting knowledge from different parts of the food system is seen as a way to find those solutions. A government official from the West and Central Africa region put it like this: *'We need to develop platforms where we really positively encourage people who are knowledgeable in different parts of the food system and encourage them to work together, especially during this time of crisis.'*



The Upper Tana-Nairobi Water Fund, a collaboration of farmers, private sector, civil society and government

Agri-food professionals strongly recognise the role of diets and power plays in influencing food system outcomes

In the online survey, agri-food professionals were asked to reflect on the relevance of different statements to their context. The statement that diets are key drivers for land use and climate change resilience was considered very or extremely relevant by half of the respondents (50%), while a minority of 5% of respondents indicated it was not at all relevant to their context.

The statement that with reduced poverty, the consumption of animal-based products in diets increases was considered very or extremely relevant by 49% of respondents, while 19% thought this statement not relevant at all or only slightly relevant to their context.

Two-thirds of respondents (67%) found the statement that unequal power balances in food systems cause undesired food system outcomes either very relevant or extremely relevant. Box 4.3 illustrates how interventions addressing power dynamics within households can contribute to more inclusive food systems. That poor people are most vulnerable to poverty and malnutrition as consumers is confirmed by 88% of the respondents.

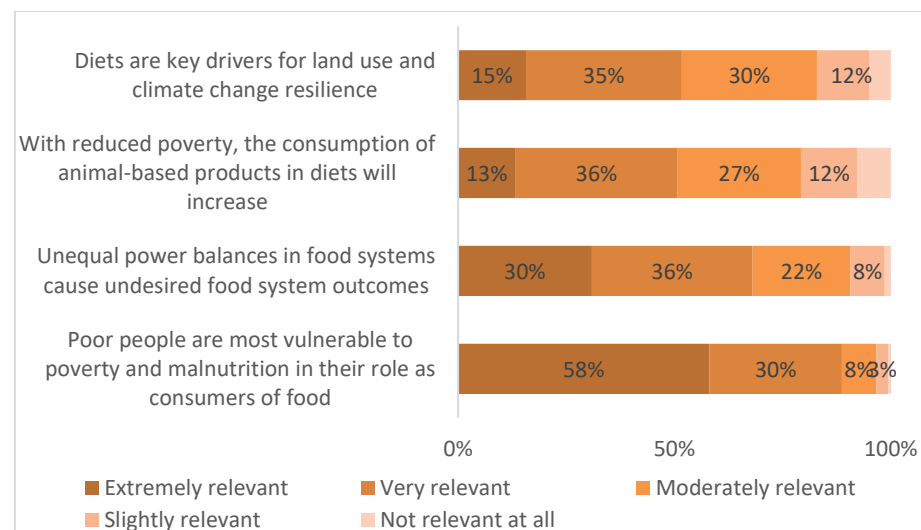


Figure 4.3 Relevance of statements relating to food system drivers

Box 4.3 Discussing gender roles in agricultural households in Mali

Creating awareness about gender dynamics can help improve the position of female farmers and contribute to more inclusive farming practices. Recent work of CARE International in Mali used gender daily clocks to raise awareness of the daily activities of men and women. By facilitating conversations between men and women about the division of the workload on the farm, preconceived notions about gender roles were challenged, and male farmers started to share the workload on the farm more equally. These gender dialogues also created space for conversations around household income decision-making and giving female farmers more control over farm and household investments.



Gender assessment in Gourel Bodio, Mopti, Mali.

Food system drivers influence multiple outcomes but are specifically related to certain key food system issues

Agri-food professionals participating in the online survey consider market dynamics, such as seasonal food availability and pricing, as the most critical driver of food affordability. According to the in-depth interviews with regional food system experts around the globe, there is a need to make sure that the food available in their region meets the nutritional requirements of a healthy diet. Some argue for pricing mechanisms to make healthy foods more affordable. In contrast, others point to the need for nutrition-sensitive agriculture, in which foods produced fill nutrition gaps in people's diets.

Environmental constraints impact the sustainability of food production and the availability of food. Across different regions, food system experts increasingly advocate for climate-smart farming. Forest fires in Indonesia, locust swarms in East Africa and severe droughts in other parts of the world were all referred to and show the growing impact of climate change on food systems. One food system expert from a knowledge organisation in the Latin America and the Caribbean region illustrated this with the following example: 'You have areas in the Guatemalan highlands, which are traditionally very important for food production, suffering huge droughts. That leads to people not being able to produce, to feed themselves, or to sell to the market, and then opting for migration.'

In addition, policies and regulations and access to finance are seen as the key drivers of low-income levels among smallholder farmers. At the same time, policies and regulations are also viewed as important drivers of food safety. According to the online survey respondents, the nutritional quality of food is influenced by the drivers of science and technology and social and cultural factors. Power imbalances mainly contribute to the food system issue of living income.

Responses were quite consistent across all regional differentiations. While this does not add the element of surprise, it does reinforce findings as presented in the RDR2021 report.

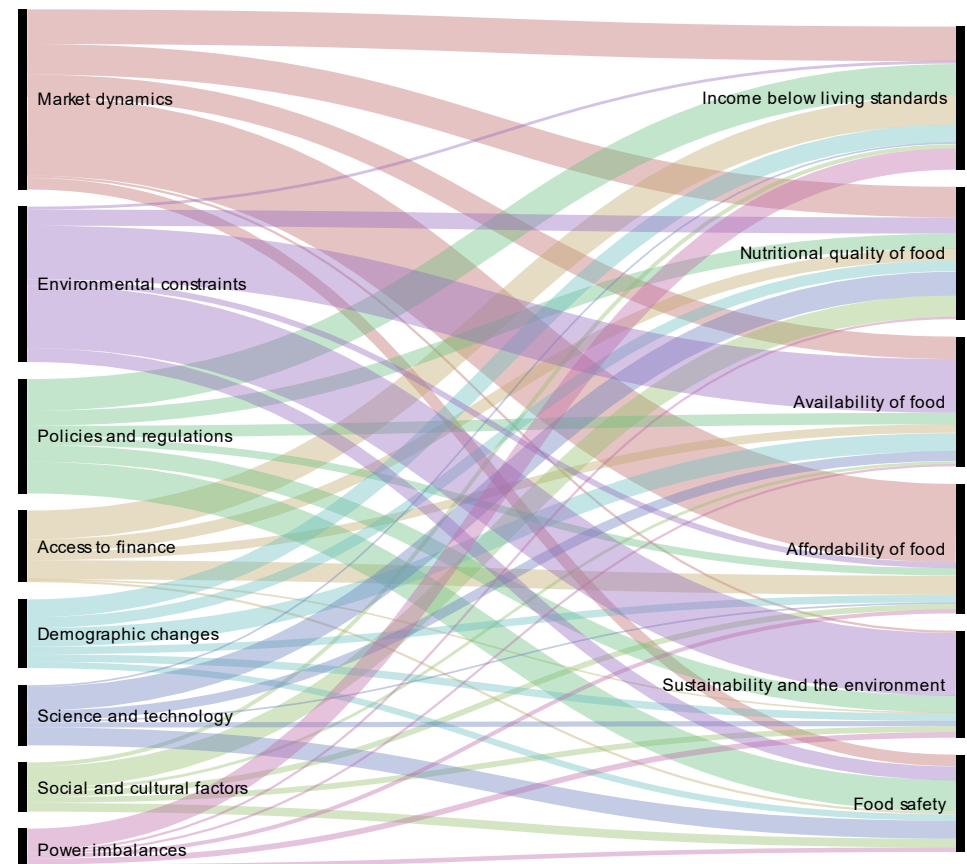


Figure 4.4 Linkages between food system drivers (left) and issues (right)

4.2 Constraints to addressing food system issues

Knowledge, technology, climate and environmental resources are seen as key constraints to addressing food system issues

There are significant challenges that continue to hinder attempts by different actors (government, civil society, knowledge institutions and the private sector) to address food system issues and their key drivers, as identified in section 4.1. According to agri-food professionals participating in the online survey, gaps in knowledge and technology are major constraints in solving food system issues. Box 4.4 shows how digital platforms can help disseminate knowledge on bottom-up innovations in agriculture. Respondents working as government officials identify climate and degradation of environmental resources as major constraints. Respondents from the private sector pinpoint access to finance as a key constraint. Other constraints raised are demographics, security issues, inadequate infrastructure and several food conditions, including availability, quality, safety, diversity, affordability and food losses & waste.

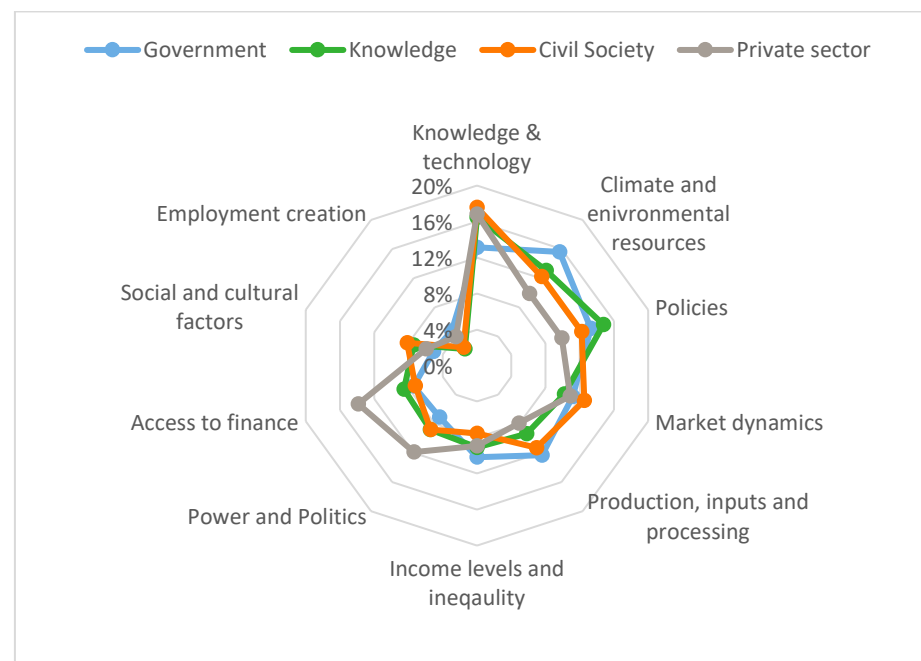


Figure 4.5 Biggest constraints in addressing FS issues, by organisation type

Box 4.4 MITA: A virtual market for agricultural technologies in West-Africa

The West and Central African Council for Agricultural Research and Development (abbreviated as CORAF in French) has developed a digital platform with a collection of over 1600 agricultural technologies and innovations in the region. The MITA database offers a vast range of bottom-up innovations, inventive techniques and technical solutions for farming, post-harvest handling and processing of a wide variety of agricultural products, ranging from vegetables, cereals, roots and tubers to livestock and aquaculture. The database contains a good overview of the price of each technology or innovation and the relevant national research institute, which can be contacted for more information. The website provides a good starting point and an invaluable resource for starting entrepreneurs in agri-business.



Plastic ponds for fish production, one of the technologies on the MITA platform

Regional food system experts identify the lack of a comprehensive policy framework as a key barrier to realising changes in the food system

In the semi-structured interviews, regional food system experts were asked to identify the main difficulties, barriers and challenges in bringing about the necessary changes in the food system. Half of the experts (50%) indicated that the lack of a comprehensive policy framework addressing different food system objectives was a major barrier to realising food system change in their context. Box 4.5 illustrates how respondents from these interviews point to the need for more holistic food system policies to address systemic issues in food systems.

Other barriers mentioned by the respondents include limited access to the contextually appropriate technologies and overall changes in the economy, such as instability due to political upheaval. Respondents also indicated the unwillingness of different stakeholders to change as a barrier, as well as the sector-focused implementation of policies, which ignore the interconnections between different corners of the food system. Finally, multiple respondents also mentioned climate change, lack of access to capital and different ecological strains as important barriers to food system change.

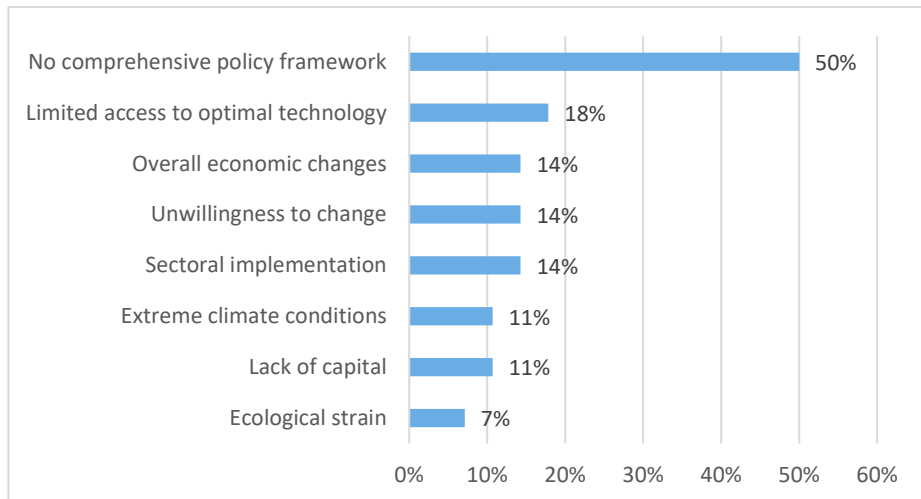


Figure 4.6 Most important barriers to realising food system change

Box 4.5 Towards integrated and cross-sector food system policies

A recurring message from the in-depth interview held with regional food system experts around the globe was the call for more integrated, cross-sector food system policies. Many respondents argue that more holistic food system policies are needed to address systemic issues beyond the separate domains of food security, nutrition, health and the environment.

One government official from Latin America and the Caribbean formulated this as follows: *'One of the major barriers is you have national and subnational governments that are structured around sectorial policies. So agriculture is over here, environment is over here, health is over here, and they don't talk. So trying to deal with any of these issues around food systems that are necessarily systemic, from a sectorial perspective, is a recipe for disaster. You end up with people trying to optimise their pieces rather than the whole.'*

According to respondents, more integrated food system policies should map and mitigate trade-offs and look for synergies between different policy objectives. Moreover, a good understanding of tipping points and knock-on effects is needed to map how one part of the system affects the other parts. Food policies should move away from their focus on improving food availability towards a much more central focus for improving nutritional status as the core objective of food systems.



Public procurement programs in Brazil, stimulating multiple goals: growth, diversification and nutrition

5. Entry points for food system change

5.1 Intervention areas

Two areas are seen as most promising for food system transformation: government policies and improving markets and infrastructure

Among agri-food professionals participating in the online survey, government policies and regulations, as well as market access & infrastructure, are generally seen as the two most effective intervention areas for food system transformation. Box 5.1 illustrates how regional food system experts see improving markets and infrastructure as key to the development of midstream activities. In contrast, countries with low structural transformation and high rural transformation have most confidence in research and technological innovations as most promising intervention areas to change the food system.

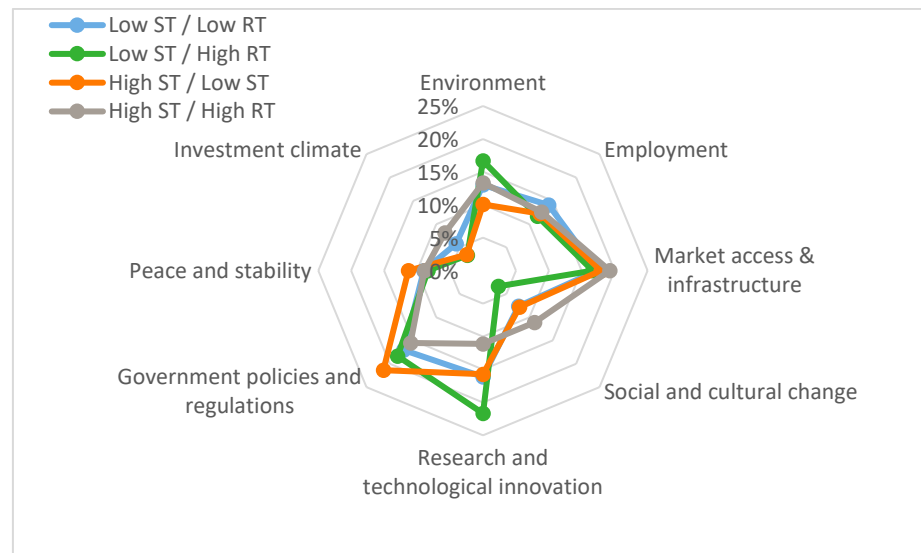


Figure 5.1 Most promising intervention areas

Box 5.1 Improving markets and infrastructure for the development of the food system midstream

Among the food system experts in our regional consultation, poor infrastructure is seen as an important area for improvement, especially when it comes to marketing and selling produce. As one civil society respondent from East and Southern Africa put it: *'There is also still a challenge of poor infrastructure. The roads which are transporting the food from the villages to markets in urban centres, which makes it very difficult for people to access food in urban centres. People from rural areas don't have anywhere to sell their foods since the roads are not very good.'*

Other respondents stress the need to invest in storage, marketing and packaging infrastructure to develop midstream activities further. A government official from West and Central Africa illustrated this as follows: *'They need to have proper storage possibilities, proper marketing infrastructure, proper packaging possibilities, and everything else that is needed to be able to market it. The market also needs to be aware of the product that is coming, to expect that product, which means proper promotion, proper marketing strategy, proper standards that need to be in place.'*



The use of plastic crates instead of baskets proved to substantially reduce post-harvest losses in Lagos and Ibadan, Nigeria

Regional food system experts identify going beyond production and more systemic interventions as important entry points for food system change

When asked about the most needed food system changes in their context, over a third (36%) of regional food system experts participating in the semi-structured interviews indicated the need to broaden the focus from looking at food production to all other steps in the value chain, from trade and processing to retail and consumption. According to respondents, more integrated food system policies should map and mitigate trade-offs and look for synergies between different policy objectives.

Moreover, a good understanding of tipping points and knock-on effects is needed to map how one part of the system affects the other parts. Food policies should move away from their focus on improving food availability towards a much more central focus for improving nutritional status as the core objective of food systems. Box 5.2 provides an example of a move towards a more integrated food policy with more emphasis on nutrition in Bangladesh.

Secondly, as seen in figure 5.2 below, some respondents (29%) highlighted the need to work towards more systemic interventions, addressing multiple food system outcomes simultaneously. Other changes mentioned as most needed were improving market efficiencies, policy strengthening, investing in environmental sustainability and technology and addressing social, cultural norms around food.

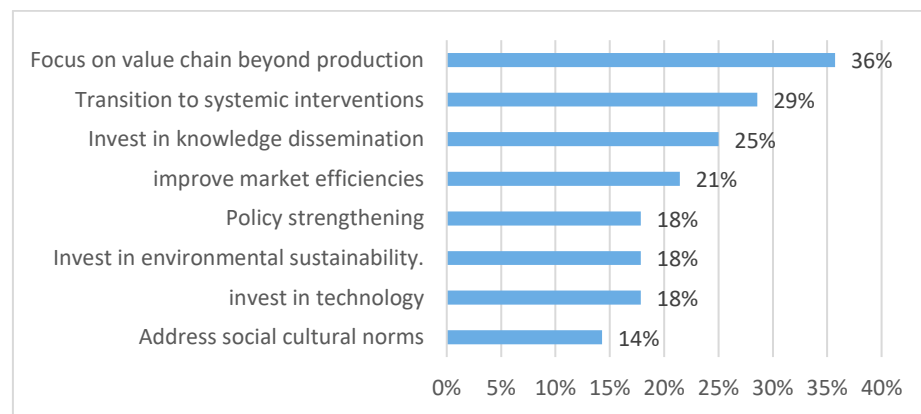


Figure 5.2 Share of respondents mentioning food system change

Box 5.2 Developing a more integrated food policy: the example of Bangladesh

Over the past two decades, Bangladesh has made a major shift from a food security policy focused mainly on increasing national food production to a more comprehensive and integrated policy framework around food and nutrition security. After the 1999 Development Forum in Paris, which emphasised the need for a comprehensive food security policy, the Government of Bangladesh established a Task Force of nine different ministries. Their collaboration laid the foundation of the National Food Policy, which was adopted in 2006.

This National Food Policy emphasises the critical linkages between food availability, access and nutrition outcomes. It recognises that a combination of measures is needed to reduce hunger and malnutrition effectively. Recent efforts have further strengthened the links between nutrition, agriculture and poverty reduction. In 2014, The first zinc-biofortified rice variety was released to Bangladeshi farmers to address micronutrient malnutrition. Based on a successful two-year pilot, the country's most recent Five Year Plan (2016-2020) now supports the integration of nutrition education into social safety programs, leading to reduced stunting and improved household income.



Behaviour Change Communication (BCC) on nutrition, integrated in Bangladesh social safety programme

Sustainable production and food governance are considered to be the most important themes for realising food system transformation

Among respondents of the online survey, sustainable production is seen as the most important theme for policies to address in transforming food systems, with 93% of respondents considering this theme as very or extremely important. Sustainable production is also very central in the semi-structured interviews with regional food system experts, as described in Box 5.3. Other themes considered to be of great importance are food governance, food markets and trade, diets and nutrition and food losses and waste. Food processing and animal products are indicated as the least important.

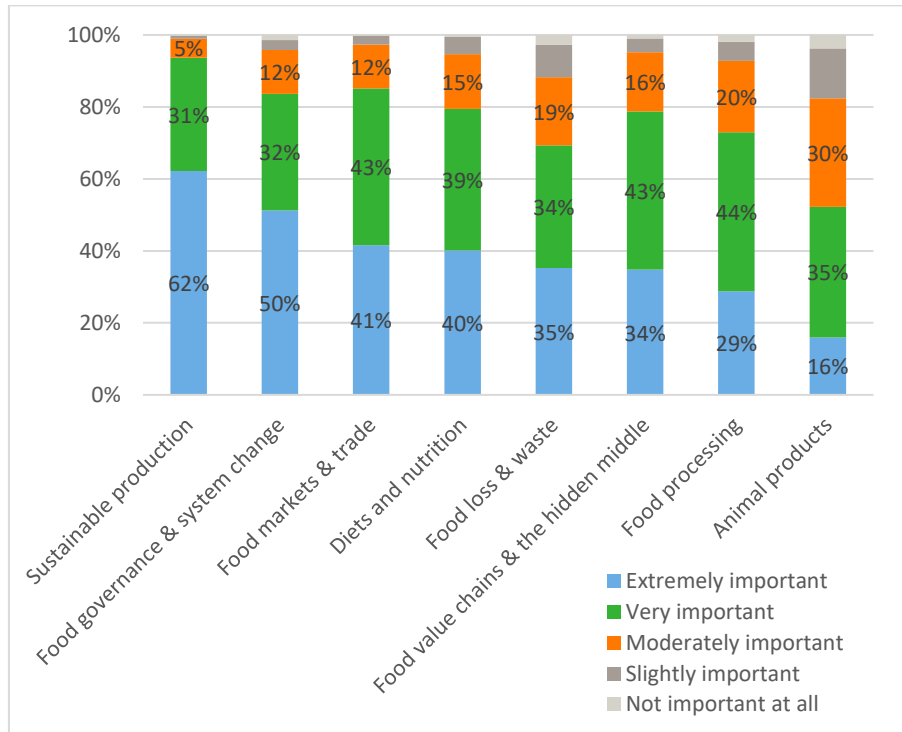


Figure 5.3 Importance of themes for realising food system transformation

Box 5.3 More sustainable production to guarantee the future of farming.

Many of the food system experts consulted for this report, across IFAD regions, indicated the need to move to more sustainable forms of production to protect the environment and prevent degradation of crucial resources. One government official from Latin America and the Caribbean region put it as follows: *'The intensification generates money but generates a lot of sustainability problems. This way, it is not possible to continue. The soybean sector, livestock, rice sector, they are all very intensive and generate problems with methane, with soil erosion, water contamination. Now the trade-off is: perhaps we need to obtain less money but in a more sustainable way. We need to implement a more sustainable agri-food system.'*

Across different regions, food system experts indicate the urgency for adopting climate-smart farming practices is growing



Carlos Gutierrez, Guior, eastern Guatemala, facing food shortages as a result of climate change

5.2 Effective strategies

For each food system issue, a different set of strategies is prioritised

What online survey respondents consider effective food system transformation strategies depends on the most urgent needs in the region and target population. Across regions, raising agricultural productivity is regarded as the most effective strategy to solve food availability. Improving access to healthy diets is seen as the most important strategy to address the nutritional quality of food. Box 5.4 shows that in the semi-structured interviews with food system experts, access to healthy diets is also seen as a critical strategy for food system transformation. For strategies to be effective, alignment with the relevant food system issue is vital.

Food system strategies	Rural poverty reduction	Raising agricultural productivity	Improving access to healthy diets	Reducing food loss & waste	Increasing circularity	Addressing unequal power balances	Boosting private sector development	Improving the position of female producers	Creating non-farm employment
Availability of food (supply)	13%	70%	4%	7%	1%	1%	3%	1%	0%
Affordability of food	37%	29%	5%	6%	3%	6%	5%	2%	7%
Nutritional quality of food	7%	11%	70%	3%	0%	2%	5%	2%	0%
Diversity of food	13%	21%	35%	8%	7%	1%	10%	4%	1%
Food safety	6%	13%	46%	16%	3%	3%	9%	5%	0%
Stability of food supply	6%	35%	3%	24%	8%	5%	17%	1%	3%
Income below living standards	39%	7%	1%	2%	0%	13%	14%	5%	19%
Employment creation and stability	10%	9%	0%	1%	3%	8%	35%	3%	31%
Sustainability and the environment	13%	12%	3%	27%	17%	10%	10%	6%	3%
Political stability	11%	3%	5%	5%	5%	57%	8%	3%	4%

Figure 5.4 Food system transformation strategies per issue

Box 5.4 Access to healthy diets through promoting more nutritious foods

In semi-structured interviews with food system experts around the globe, many of them recognise the need to make sure that the food available in their region meets the nutritional requirements of a healthy diet. Some argue for pricing mechanisms to make healthy foods more affordable. In contrast, others point to the need for nutrition-sensitive agriculture, in which those foods are produced which fill the remaining nutrition gaps of people's diets.

Online survey respondents mention various examples of programs that support the production of nutritious foods. In Burundi, a WFP program supports the production, aggregation, and processing of dairy combined with a school feeding program that promotes milk and cheese consumption. In Kenya, IFAD supports aquaculture projects to provide an affordable local alternative to the imported tilapia from China.



IFAD-supported aquaculture production in Kenya

Raising agricultural productivity is considered an important strategy but not sufficient to solve poverty and nutrition food system issues

Just over half of the online survey respondents (55%) consider the statement that creating more off-farm employment in food processing and trade can substitute for decreasing work in farming either very relevant (37%) or extremely relevant (18%) to their context. Close to a third of respondents (27%) find this statement moderately relevant, while 16% of respondents find it only slightly relevant (11%) or not relevant at all (5%). A majority of the respondents (83%) considers technical innovation and behavioural change essential to reduce food losses. Four out of five respondents (80%) find the statement that SMEs in the hidden middle play a vital role for inclusive food system transformation, either very relevant (42%) or extremely relevant (43%) to their context. Box 5.5 provides an example of how in Sri Lanka, government-supported food courts offer a platform for female-led companies providing healthy, affordable, and traditional Sri Lankan food options.

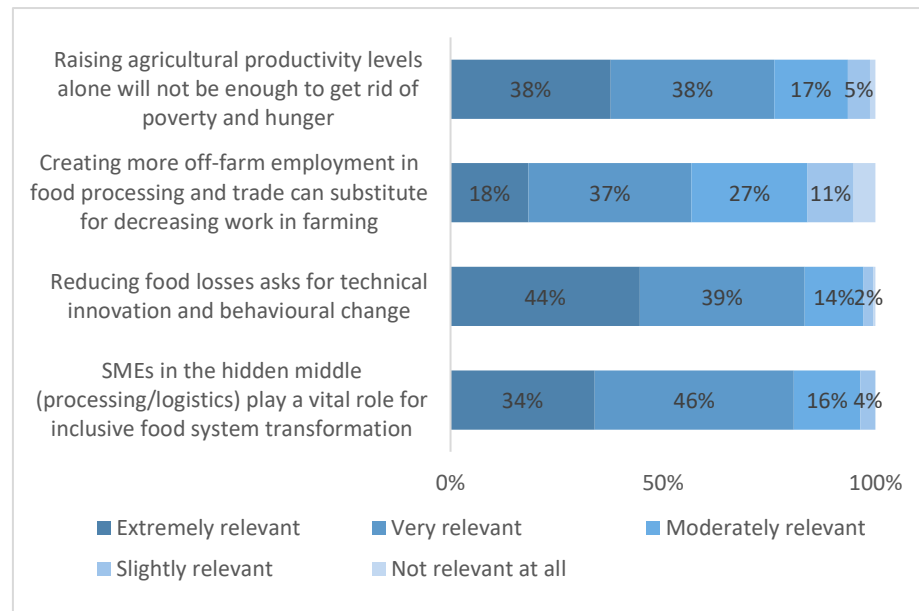


Figure 5.5 Relevance of statements on realising change in food systems

Box 5.5 Promoting traditional foods through female-owned food stores in Sri Lanka

Spread over the Sri Lankan island, you find open-kitchen spaces called Hela Bojun, which translates directly to 'local food stall'. These food courts are an initiative of the Ministry of Agriculture, aiming to promote female entrepreneurship, improve the consumption of traditional foods and increase access to healthy diets. The women working in these markets cook and serve mostly vegetarian staples made with Sri Lankan ingredients.

While the government provides the market facilities and food safety training programs, female vendors take care of their own resources and raw materials. They rent their stall from the government and pay for cleaners, security and maintenance. The Hela Bojun thus provide financial independence for the vendors while offering a wide variety of healthy and affordable food options for Sri Lankan consumers.

Women working at Hela Bojun, a government-supported food court serving traditional Sri Lankan foods



Regional food system experts identify technology access and climate-smart agriculture as effective food system transformation strategies

When asked what strategies need to be adopted to ensure food systems structurally address poverty and health issues, close to one-fifth of regional food system experts (18%) participating in our semi-structured interviews prioritised improving access to technologies and climate-smart agriculture.

Other strategies are diversifying agriculture, stimulating farmer organisation and improving rural education. Box 5.6 illustrates how in the semi-structured interviews, food system experts underscored the importance of agricultural diversification for improving access to healthy diets and improving resilience.

Finally, access to finance, broadening food system objectives and increasing data availability are mentioned as priority strategies to transform food systems. Experts from the different regions identified different strategies as the various regions have different food system priorities.

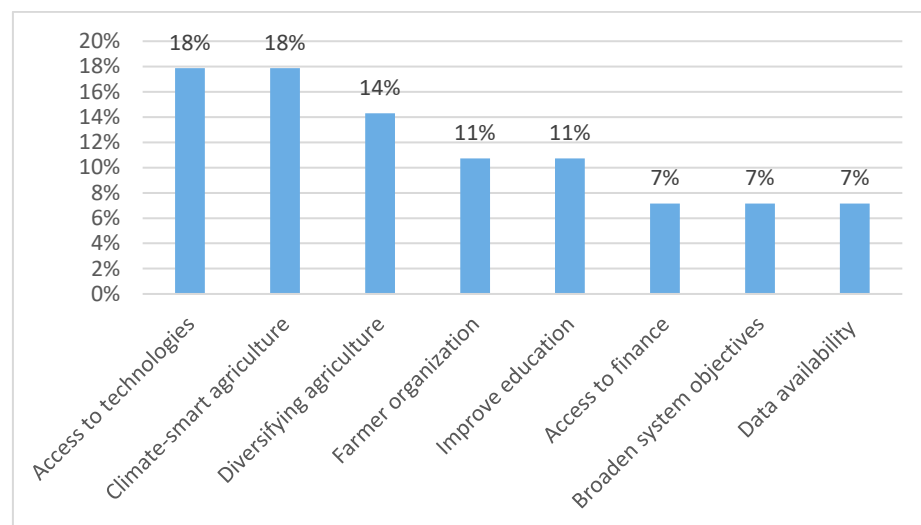


Figure 5.6 Long-term strategies to be prioritised

Box 5.6 Diversification can contribute to healthier diets and food system resilience

A key topic brought to the fore in our regional consultation among food system experts across IFAD regions is the role agricultural diversification can play in creating healthier diets and improving food system resilience. On the one hand, experts stress the need to invest more knowledge and resources in nutritious foods beyond cereals. One of the regional food system experts from the Latin America and Caribbean region put it as follows: *'The main crops, maize and rice, have had a lot of investments and so there's been a lot of production. And many of the diets across the region are based on maize and rice, and wheat to a lesser extent. So a lot of investment has been put on those, and not so much on the more nutritious foods: fruits, vegetables, other kinds of small livestock.'*

Other experts stressed the role diversification could play in creating more resilient food systems by reducing environmental degradation and generating a more stable and diversified income for farmers. This view was well worded by a civil society respondent from East and Southern Africa: *"We can also have the agricultural sector, prioritising diverse production. Because you find that we have seen monoculture, intensive farming, is a stretch to the entire food system. Whereby it limits people from accessing food, diverse nutritious food, and it limits people from getting enough money from agriculture."*



Raya Azebo, a beneficiary of the BENEFIT-CASCAPE Improved Papaya Production program in Ethiopia

Respondents point to better understanding the links between health, nutrition and resilience in food systems

This statement was considered most relevant, with 90% of the online survey respondents rating it very or extremely relevant. Two other statements were also thought to be of very high relevance: 'Improving rural-urban linkages is a key condition for supporting food system transformation' (85%) and 'Improving diets has large returns in terms of reducing health costs' (84%). Box 5.7 illustrates the cost of not addressing the double burden of malnutrition.

'Increasing self-sufficiency of food will be helpful to improve food system performance' according to 77% of the respondents. The statements on rural poverty reduction and circular food systems were rated slightly less relevant.

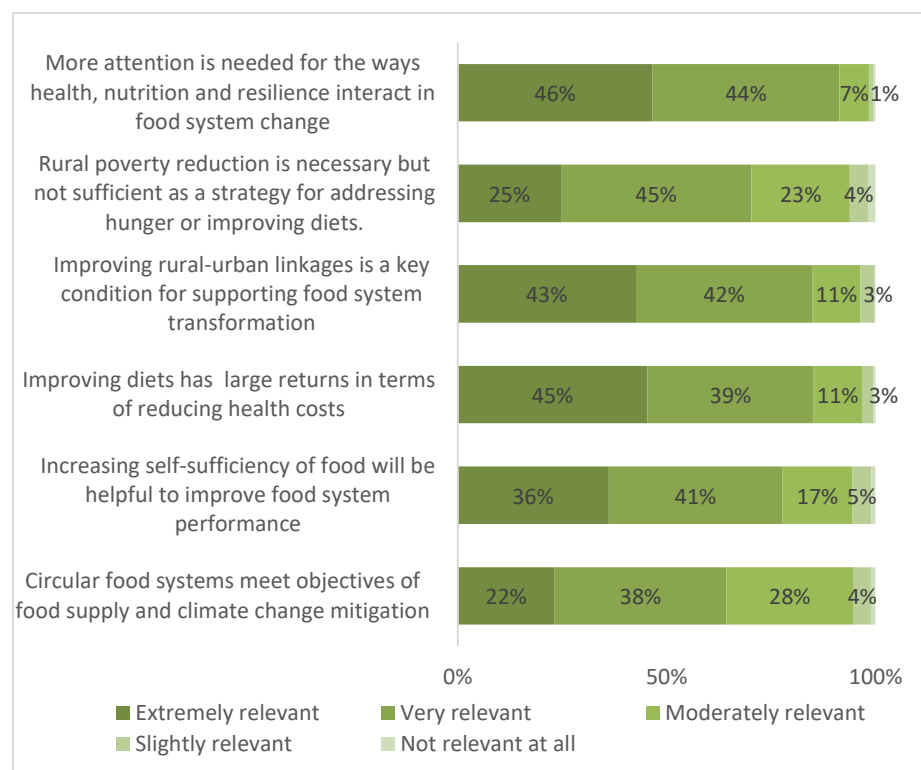


Figure 5.7 Relevance of statements on entry points for FS transformation

Box 5.7 The cost of not addressing the double burden of malnutrition

Maternal and child undernutrition contributes to more than 10% of the world's disease burden, and at least 2.6 million people die each year due to being overweight or obese. That means there are significant socio-economic gains to address the double burden of malnutrition, and not addressing malnutrition comes at a considerable cost. According to FAO estimates, malnutrition costs the global economy up to US\$3.5 trillion or US\$500 per person annually. Not addressing the double burden of malnutrition may cost countries a significant share of their GDP, as is shown in figure 2.8 below.

Country	Losses in USD	% of GDP	Source
Chile	493 million	0,2%	WFP (2017) The cost of the double burden of malnutrition: social and economic impact
Ecuador	4.3 billion	4.3%	WFP (2017) The cost of the double burden of malnutrition: social and economic impact
Egypt	3.7 billion	1.9%	Global Panel (2016) The Cost of Malnutrition: Why Policy Action is Urgent
Ethiopia	4.7 billion	16.5%	Global Panel (2016) The Cost of Malnutrition: Why Policy Action is Urgent
Swaziland	92 million	3.1%	Global Panel (2016) The Cost of Malnutrition: Why Policy Action is Urgent
Mexico	28.8 billion	2.3%	WFP (2017) The cost of the double burden of malnutrition: social and economic impact
Uganda	899 million	5.6%	Global Panel (2016) The Cost of Malnutrition: Why Policy Action is Urgent

The cost of the double burden of malnutrition by country

5.3 Groups benefiting from food system strategies

Regional food system experts identify women and smallholder farmers as groups most impacted by food system interventions

In the semi-structured interviews, regional food system experts were also asked which groups of people they thought were impacted most by the interventions they considered to be most effective in addressing food system issues.

A large share of experts indicated that women (25%) and smallholders (21%) had benefited from the interventions they had described as effective. Youth (14%) and children (11%) were also frequently mentioned.

Box 5.8 shows an example from West Africa in which farmers were involved in high-level policy dialogues on the future of their food systems.

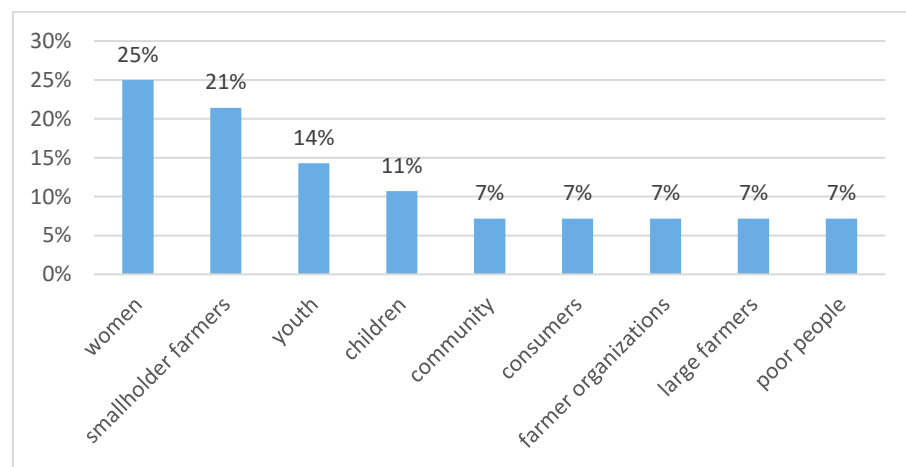


Figure 5.8 Groups most likely to be impacted by FS interventions

Box 5.8 Policy dialogues between West African Farmers, NGO's and policymakers

In 2012, a rare, inclusive gathering took place in Accra, Ghana, where a large group of farmers from across West Africa engaged in a two-day high-level policy dialogue with representatives from AGRA and other NGO's active in the region. The dialogue was chaired by UN Special Rapporteur on the Right to Food, Olivier de Schutter, and included a video conference with members of the House of Parliament in London.

Organised by IIED, the dialogue was intended as a next step towards more inclusive, bottom-up and farmer-centred processes in policymaking on food, agriculture and land. The series, called Excluded Voices, is part of IIED's initiative to organise citizen juries to discuss with agricultural development experts and policymakers. During the policy dialogue, West African Farmers also had the opportunity to exchange with small-scale farmers from other parts of the world (Iran, India, Thailand) on the issue of agricultural policy.



High-level dialogue between West-African farmers, AGRA, various NGO's and UK members of parliament

Respondents consider women to be the primary beneficiaries of raising agricultural productivity and reducing rural poverty

According to the respondents in our online survey, women are expected to benefit more than men from the most effective strategies to realise food system transformation. This perception relates to the findings in section 3.2, where women were perceived to be most affected by food system issues. Box 5.9 illustrates how regional food system experts see a vital role for women in animal production, thereby increasing access to a more nutritious diet.

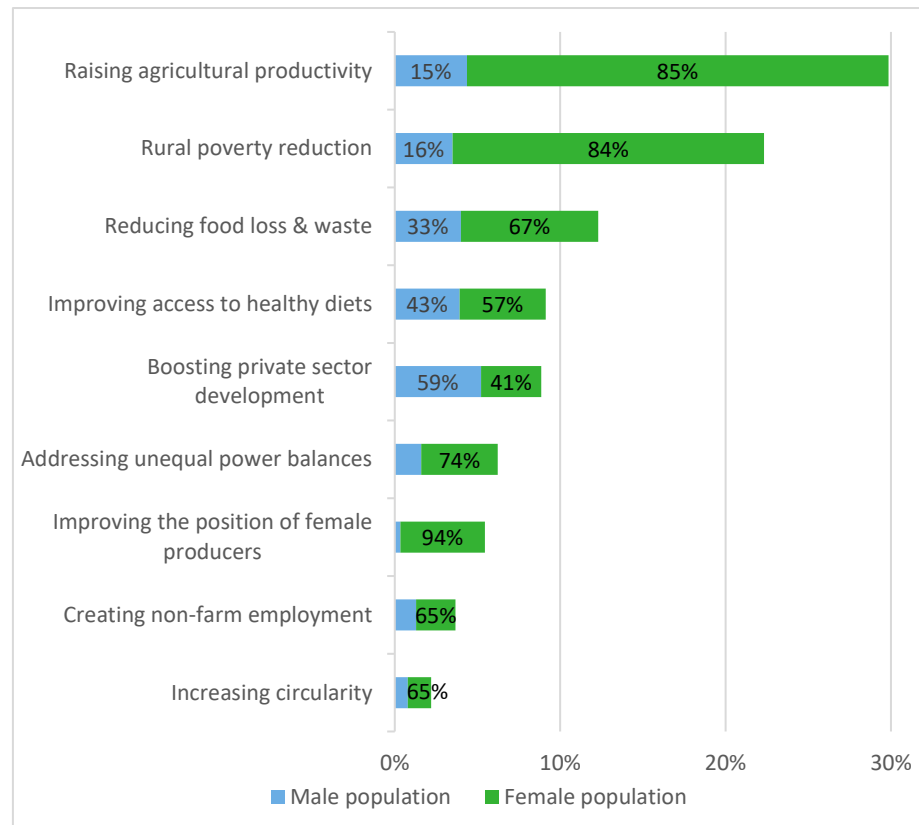


Figure 5.9 Perception of how effective strategies benefit gender groups

Box 5.9 Women and pastoralists are key in scaling up animal production to meet growing demand

In our regional consultation with food system experts across IFAD regions, people acknowledge the growth in consumption of animal products, as incomes are rising and food cultures are shifting. One knowledge organisation respondent from the Asia and the Pacific region said: *'When it comes to broiler chicken, it grew on its own because there was sufficient demand for chicken meat. With the growth in population and income, people started to consume more meat.'*

Different regional experts stress the important role women play in animal production, from livestock to fisheries. This is illustrated by the following example of a government official from the Latin America and Caribbean region: *'For example in the south of Peru, around the Titicaca Lake, we have a very interesting experience in the value chain of trout. Women in this area are promoting aquaculture and engage with small enterprises to promote the export of trout.'*

Other respondents stress the importance of pastoralists in animal production and the need to involve them in decision making: *'I think we still neglect the animal production for ruminants, the pastoralists and herding people, they are not part of the decision making. The laws are there, the paperwork is starting, but when it comes to the decisions, they are not at the table.'*



A female fisher at work near Lake Titicaca, Peru.

6. Promising policies for food system transformation

6.1 Promising policies

Respondents across regions prioritise food system transformation policies involving sustainable agriculture and technological innovation

Among online survey respondents, sustainable agricultural development is the most preferred policy recommendation across regions. In Asia and the Pacific, policies on safe and healthy diets are seen as more important than research, extension and technological innovations. Box 6.1 illustrates the crucial role of technology in reducing food loss and waste. In the Near East and North Africa region, market interventions are relatively more often recommended.

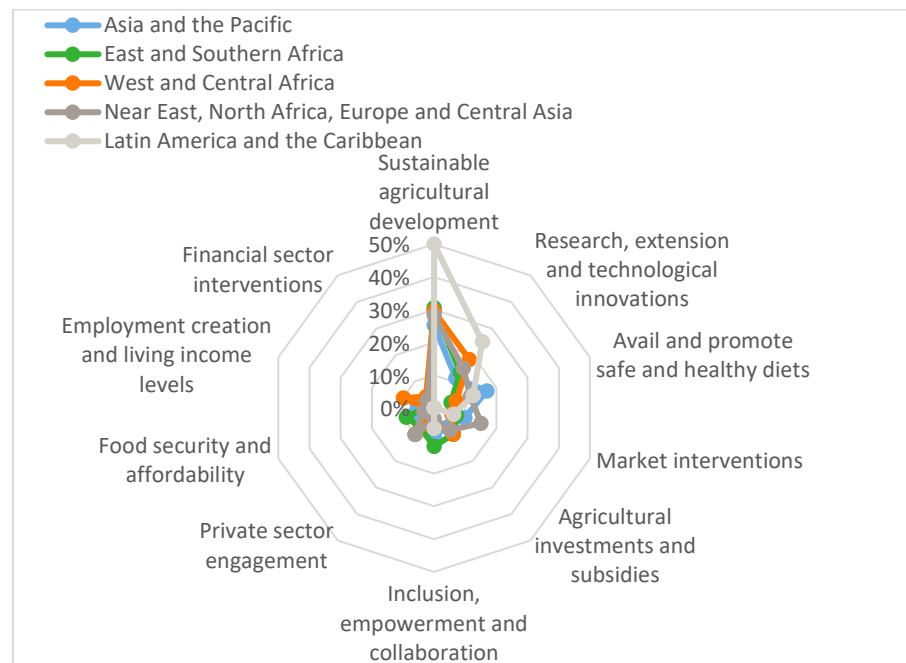


Figure 6.1 Share of respondents choosing policy recommendations

Box 6.1 The role of technology and post-harvest handling in reducing food loss and waste

Food system experts in our regional consultation also stress the important role technology and improved post-harvest handling can play in reducing food loss and waste. One private sector respondent from the West and Central Africa region explained the role of technology in food loss reduction as follows: *'If you have these technologies, that can help you to reduce farm losses, and post-harvest losses. Preserving what you have produced is an important driver of harvest losses reduction.'*

A civil society respondent from East and Southern Africa stressed the need to invest in post-harvest equipment to reduce food loss and waste: *'You find that we don't have the latest equipment for post-harvest equipment, which can help to process the products into processed or semi-processed products. Even if it's the season of mangoes, you find some of the mangoes rotting on the trees in Northern Uganda, yet if there would be equipment to process these mangoes into juice, it would be good for farmers to make extra income from such fruits.'*



Mango packaging facility in Casamance, Senegal

Regional food system experts identify loans and digital technologies as the most effective ways to realise food system transformation.

When asked about the interventions, investments and innovations that they see as most effective to address food system issues, regional food system experts mention providing loans to farmers and unlocking investments (39%). They also refer to expanding the use of digital technologies (36%) and organising large-scale agricultural development programs (29%). Box 6.2 illustrates the role technology can play in improving food system outcomes, zooming in on a program providing solar-powered milk coolers for smallholder dairy farmers.

A quarter of in-depth interview respondents also mentioned stimulating midstream activities and improving access to technology as effective policies to address food system issues. One-fifth of respondents considered moving to more sustainable production, using standards and certification and setting up platforms and partnerships as the most effective policies towards transforming food systems in their context.

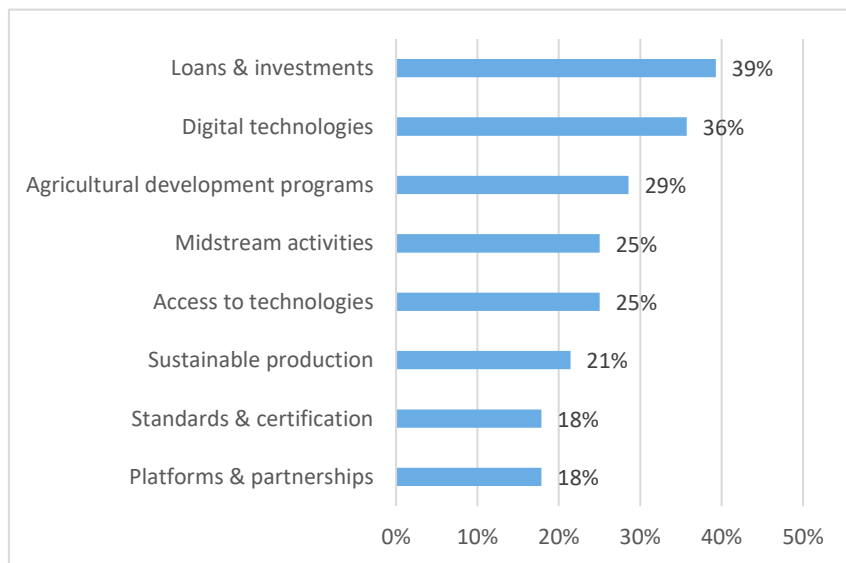


Figure 6.2 Policies viewed as effective to realise food system transformation

Box 6.2 Solar-powered milk coolers providing small-scale storage for smallholder dairy farmers in Ethiopia

Smallholder dairy farmers in Ethiopia often walk long distances to bring their milk to the local factory. This reduces the quality of the milk and the efficiency of storing and transporting the milk. Researchers from Wageningen University, together with milk cooler company Mueller and local milk processor Rut & Hirut Milk Processing, developed a small-scale solar-powered milk cooler in which smallholder dairy farmers can store their milk in metal containers of 40 litres.

Prototypes of these solar-powered milk coolers have now spread over different other countries in Africa, ranging from Tunisia to Uganda. In Kenya, Tanzania and Zambia, the Dutch development organisation SNV has introduced biogas-powered milk chillers, which are more affordable to smallholder farmers and run on the manure of the milk cows.



Solar-powered milk cooler in Ethiopia

Policies to engage the private sector in food system transformation are considered most relevant

Around 80% of agri-food professionals in the online survey indicated the following statements to be extremely or very relevant to their context: 'Public investment and policy incentives are needed to engage the private sector in food system transformation processes'. A similar percentage of respondents (77%) considers it relevant that food policies focus on instruments that simultaneously address health, stability and mobility. Less than one per cent consider these two statements not relevant.

The ability of governments to force food companies to contribute to healthy and sustainable diets and desired food system outcomes is rated slightly less relevant. Box 6.3 provides an example of how the Chilean government has successfully introduced regulations to achieve healthier diets.

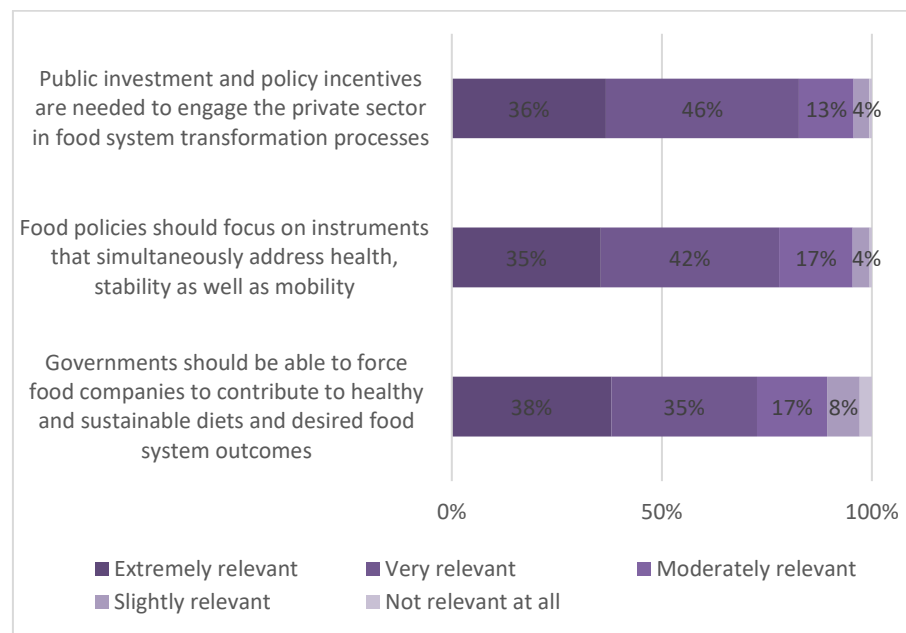


Figure 6.3 Relevance of statements on food system transformation policies

Box 6.3 Food labelling and marketing legislation to promote healthy diets in Chile

To address growing obesity numbers, Chile implemented its Law of Food Labelling and Advertising in 2016. This national regulation included mandatory front-of-package nutrition labels, restrictions to child-directed marketing and the banned sales of foods and beverages containing added sugars, sodium and saturated fats in schools around the country.

A recent study compared beverage purchases before and after introducing the legislation and found a 23.7% decrease in the consumption of beverages high in sugar, saturated fat, sodium or calories.



Figure 2.7 Front-of-pack labelling on nutritional values in Chile

Regional food system experts identify improving access to technology as an important policy message for food system transformation

In the semi-structured interviews, the regional food system experts were also asked which key message around food system transformation they felt that policymakers in their region should hear. A number of these messages (14%) related to the need to improve access to technologies such as irrigation and machinery. Box 6.4 illustrates the critical role digital technologies can play in connecting demand and supply in food systems.

The messages also suggested showing the cost of inaction if no food systems approach is adopted, focused on the need to make food production more sustainable or better include farmers into policymaking. Other policy messages related to improving access to finance, moving from policy to implementation, protecting small-scale production and organising food system platforms.

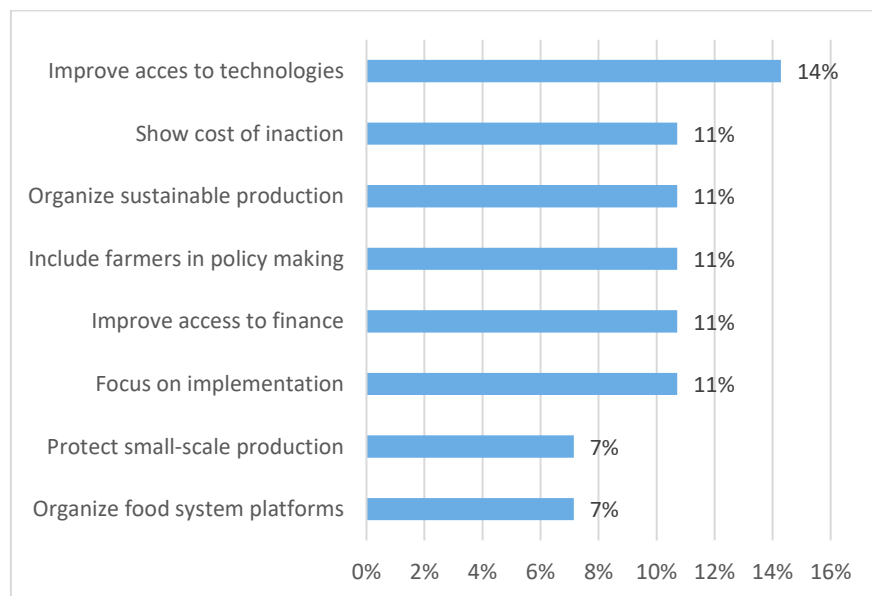


Figure 6.4 Key messages for policymakers

Box 6.4 Mkulima Young, a digital marketing platform for marketing agricultural produce across East Africa

Mkulima Young, an online marketplace for farmers that offers free services to buyers and sellers of agricultural produce in Kenya, Uganda and Tanzania, shows the critical role digital technology can play in boosting rural economies. On the platform, everyone with a cell phone and an internet connection can sell and buy vegetables, fruits, livestock, meat, dairy and even farm equipment. The platform allows buyers to make a bid and sellers to select the buyer with the best price.

The platform has its own website but is also active on social media, where young farmers post the agriculture produce they have on offer, adding a few pictures and a short description of the quantity, price and location of the farm. This makes it much easier for farmers to find a market for their products and have an overview of which vegetables are in demand. For retailers, the platform makes it much easier to source their produce locally for an affordable price.



Produce advertised on Mkulima Young

6.2 Policy implementation

A wide range of actors is needed to bring about system change together.

Among the regional food system experts participating in the semi-structured interviews, producers and governments are seen to have the most impact on food system transformation. Also, knowledge organisations, agri-food companies and financial organisations are acknowledged to play an important role. Box 6.5 illustrates the role agri-food companies can play by developing midstream activities that can provide employment for rural youth.

Civil society, consumers and service and input providers follow this group and multilateral organisations are seen as having the least impact. Still, the differences are relatively small; the overall conclusion is that all actors groups are important in bringing about system change.

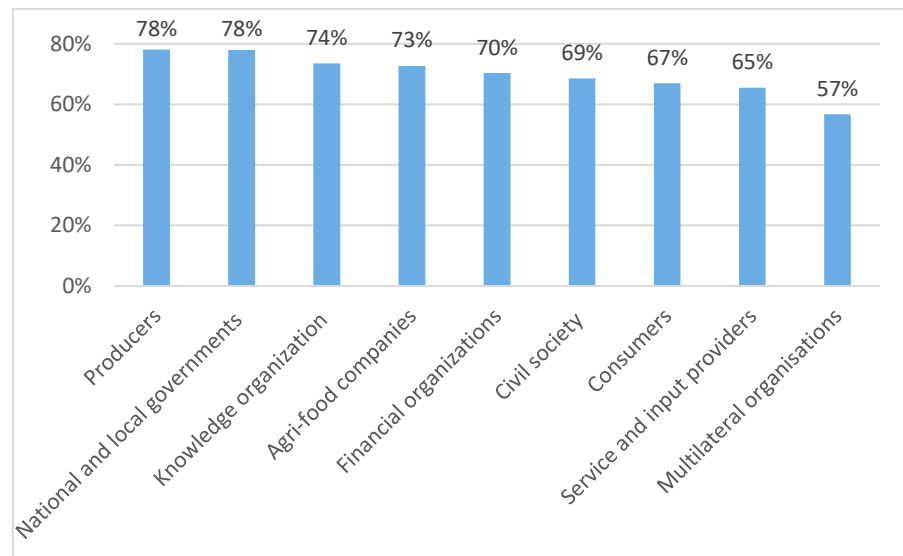


Figure 6.5 Groups that are seen to have the biggest impact to mitigate food system challenges

Box 6.5 The potential of midstream activities to employ rural youth in agriculture

In our regional consultation, many respondents indicate they see a need for structural transformation, in which more food is produced with less labour, and people move from farming to processing, logistics or marketing of food. As one respondent from the Near East, North Africa, Europe and Central Asia region puts it: *'We need to help people to either to grow their farm or to get out of agriculture and focus on other things. We need to create many more jobs in the non-farm part of the food system.'*

Many respondents agree that developing more midstream activities in agriculture could also help address the large issue of youth unemployment. Rural youth can play a crucial role in developing non-farm activities and future-proofing food systems. As one private sector respondent from the East and Southern Africa region put it: *'You know, young people are going to urban areas to look for money. The mindset of the society in my country is that agriculture is for the old people, people who are already retired, and it's a difficult job, it doesn't pay. But for me, it is the other way around. We have to change that perception so that we can encourage more and more young people to come back. Because they can take up ideas fast, they have the energy, they are privy to new information, they have the internet, they can get information about agriculture anytime they want.'*



Aminu Ndakogi Kanko, youth leader and rice aggregator in Nigeria

Regional food system experts see the trade-off between economic and environmental food system outcomes as a major point to be addressed

When regional food system experts were asked about the key trade-offs they see in the policy options to address different food system challenges, the trade-off between economic goals (e.g. productivity) and environmental goals (e.g. biodiversity, climate) was brought up by 43% of the regional food system experts. One-fifth (21%) of respondents mentioned the trade-off between policy and implementation. Most of them indicated that while the right policies are in place, the actual implementation of these policies is often lacking. This relates to another trade-off that was mentioned between objectives and resources. While policy objectives are often ambitious, insufficient resources are allocated to facilitate the implementation of those policies, hindering their effectiveness. Another trade-off mentioned by several respondents was the trade-off between economic and nutrition objectives, where food systems are sometimes geared more to efficient production of staple crops rather than a greater diversity of crops that are needed to produce optimal nutrition outcomes.

The trade-off between politics and markets was also regularly mentioned, where import substitution and protecting domestic markets hindered the optimal functioning of food markets, thereby increasing consumer food prices. Another trade-off mentioned was between policy and politics, where private sector lobbies hindered government policy or party politics created policy uncertainty. Finally, some regional food system experts mentioned the trade-off between nutrition and environmental objectives, where the move to more nutritious food crops turned out to have a larger negative environmental impact. Box 6.6 offers an illustration of these trade-offs as mentioned by regional food system experts.

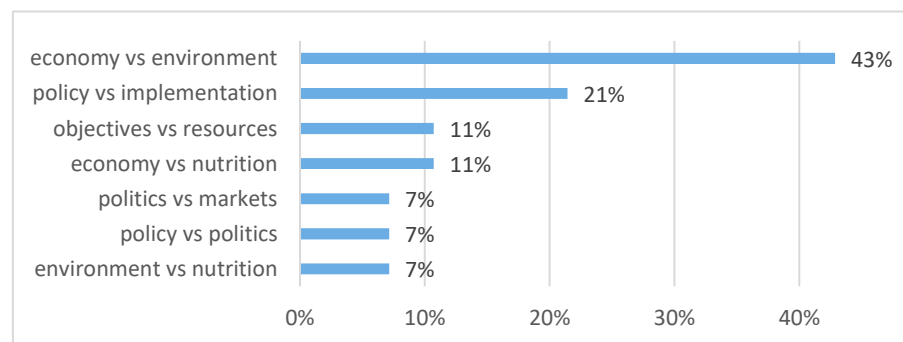


Figure 6.6 Most important trade-offs between food system policy options

Box 6.6 Trade-offs between creating more employment, sustainable production and access to healthy foods

In our regional consultation, food system experts across regions mention the trade-offs in their food systems between creating more employment, protecting the environment and improving access to healthier diets. One knowledge organisation respondent from the Latin America and Caribbean region mentioned: *'People aren't yet optimising for the dietary quality agriculture and health outcome trade-offs. So it's still mostly prioritising the economics in terms of income, employment.'*

According to many regional food system experts consulted, creating the right incentives to move markets towards more diverse and nutritious food products proves difficult. This is illustrated by the following contribution of one of the consulted food system experts: *'I work with a lot of large multinationals that are very happy to have standards around sustainable production systems, and social inclusion and all sorts of things like that, but then when you say to them "Great, now you have sustainable plantain, or whatever, into your factory, but you're still making really poor quality low nutritional products that you are pushing onto the poor, you really don't have much of a choice," and there is very limited willingness to have that conversation.'*



Kenyan dairy farmer next to her biogas digester, converting cow manure into fuel and fertiliser

7. Conclusions

Food availability, affordability, nutrition and the environment are seen as key food system issues, affecting women and children the most

Agri-food professionals and regional food system experts around the world consider food availability and affordability, nutrition, living income and sustainability as the most urgent food system issues. Which of those issues is seen as having the highest priority varies per region. For example, while in Asia, nutritional quality is most prioritised, in Africa, food availability and improving incomes are seen as most urgent. Women and children, especially among poor smallholder families, are seen as most affected by these food system issues.

Efforts to transform food systems should focus on those food system issues that are considered the highest priority in a specific region, as each region prioritises another food system issue to be most urgent. In these efforts, women and children should receive special attention, as they are seen as most affected by issues in the food system.

Siloed policies, limited policy implementation, lack of investment and climate change are thought to be key drivers of food system issues

Policies and regulations, market dynamics and environmental constraints are seen as the key drivers of issues in the food system. A key concern is the limited capacity of governments to address multiple objectives at the same time (e.g. nutrition, living income and biodiversity). Policies are often sector-specific, siloed approaches with limited resources devoted to implementation. Climate change is considered a severe threat to food systems in many places.

To realise food system transformation, more integrated food policies are required that address multiple policy areas (health, economy, environment) at the same time. More investment in sustainable, climate-smart agriculture is needed to bring about the necessary changes.

Integrated food policies, technological innovation and diverse, climate-smart food production are perceived as important entry points for food system change

Government policies, sustainable production and improving market access are seen as important leverage points to change the food system. More comprehensive food policies addressing multiple objectives are seen as entry points for food system change. To realise change, a shift is needed from focusing on agricultural production alone to supporting the whole value chain, with a focus on healthy diets.

Climate-smart solutions, technological innovation and crop diversification, are seen as pathways for food system transformation. Most experts agree the private sector has a key role to play in turning around current food systems. Finally, there is a call to pay more attention to trade-offs and possible synergies between different food system objectives, with most attention going to the trade-offs between economic and environmental objectives.

More sustainable production systems, financial innovations and digital solutions are considered critical building blocks of food system transformation

Agri-food professionals and regional food system experts involved in this regional consultation prioritise interventions, innovations, and investments that involve sustainable production, digital technologies, reducing food loss and waste and promoting healthier and more sustainable diets.

This requires an active role for governments, investing in more sustainable farming practices, expanding funding for agricultural research and introducing regulation that improves access to healthy diets. At the same time, the private sector will need to lead in boosting innovation and digitalisation, while taking responsibility to make food more healthy and sustainable.

8. Relevance for RDR2021

Most of the priority issues, drivers and promising intervention areas coming out of the regional consultation confirm the conclusions and propositions put forward in the RDR2021.

This confirms that the evidence-based analysis of the RDR2021 corresponds well with the experience-based conclusions of the hundreds of respondents of the consultation. The propositions put forward in the RDR2021 are therefore also likely to be recognised and actionable for a broad professional audience.

An integrated food system approach is critical to deal with multiple issues related to poverty and inclusion.

The regional consultation confirms the importance of tackling poverty and helping the most vulnerable – women and children in particular – to face interconnected food system challenges instead of addressing single issues. Respondents point to the lack of integrated policies as a major obstacle, and the need to better understand linkages between nutrition, health and resilience in food systems to act effectively.

Regional or national differences must be considered when prioritising innovations, incentives and investments, but there is no single way to identify these differences.

This consultation points to some key differences between regions – such as whether to invest in R&D or market restructuring. At the same time, no simple way of finding consistent differences between geographical or transformation levels came through. More issue- or investment-specific contextualisation will probably have more uptake and impact.

Environmental sustainability is critical, and the tension with economic priorities is the biggest trade-off that must be reconciled.

Across all regions, environmental sustainability comes through in all answers. Climate change came through strongly as a major driver of important undesirable issues, while sustainable production is considered a strong priority for better and more integrated policies. Those looking to the RDR2021 for propositions will therefore likely seek ways to reconcile this particular trade-off.

Complex problems need complex solutions: a menu of options must be considered and combined to match regional differences in issues and drivers.

Respondents generally did not have strong preferences for particular issues, drivers or promising intervention areas. Multiple answers often received comparable weighting, and multiple issues needed to be dealt with at the same time. This confirms the importance of having a 'menu' of plausible, high-potential options that can be combined in many ways depending on the context. While this does not make life easier, the regional consultation points to the need to develop integrated approaches if poverty(-related) food system issues are to be dealt with effectively.

Everybody is needed to make more integrated policies that are delivered on as promised.

No one or two actor groups were considered critical for food systems transformation: all categories were deemed essential for their potential impact. This reinforces the final messages of the RDR2021: that governance structures are needed that allow all actors to work together in some way, otherwise priorities do not change or are not implemented.

Annex 1: Guiding questions semi-structured interviews with regional food system experts

Introduction

- Thank you for making time available to participate in this interview. With this interview, you contribute to the upcoming Rural Development Report of IFAD, which will focus on the theme Food System Transformation.
- In preparation of this report, Wageningen University & Research is organising a regional consultation in which we consult agri-food experts from around the world about the key challenges they witness in their regional food systems and the viable strategies they see for transforming their food systems.
- The information collected during this interview will be anonymised and treated confidentially. To be able to make a transcript of this interview, I would like to make a recording. Are you ok with me recording this interview?
- In this interview, we focus on the food system in your region. With this interview, we hope to get more insights into what type of food system transformation is needed to address issues around poverty and nutrition

For respondents not familiar with the food systems / food system transformation terminology:

- Food systems (FS) include all elements and activities related to the production, processing, distribution, preparation and consumption of food, the market and institutional networks for their governance, and the nutritional, socio-economic and environmental outcomes of these activities (HLPE, 2017).
- With the term food system transformation, we refer to fundamental changes in the food system which improve access to healthy and safe diets and contribute to more sustainable production, distribution and consumption of food (WUR/IFAD, 2020).

A. Issues

- 1) What do you think are the most urgent food system issues in relation to poverty and nutrition that need to be addressed in your context?
- 2) Which groups of people are most affected by food system issues related to poverty and nutrition in your context?

B. Drivers

- 1) In your context, what are the major drivers of current food system issues related to poverty and nutrition?

C. Areas of intervention

- 1) What are the most needed changes in how the food system works or doesn't work in your context?
- 2) What are the main difficulties/barriers/challenges in your context in bringing about necessary changes in the food system?

D. Policies and interventions

- 1) What policies, investments and innovations have been effective in addressing food system issues related to poverty and nutrition while ensuring inclusivity in your context?
- 2) Which groups of people are most impacted by these (the above listed) interventions?
- 3) What key trade-offs do you see between different policy, investment and innovation options for addressing these food system challenges?

E. Strategies and recommendations

- 1) In the long term (10 years), what strategies need to be prioritised to ensure food systems structurally deliver on living incomes and nutritious diets for all?
 - 2) Which key message around food system transformation do you feel policymakers in your region should hear?
-

Annex 2: Questionnaire online survey among agri-food professionals

Introduction page		
<p>Thank you for taking part in our survey.</p> <p>With this survey, you contribute to IFAD’s Rural Development Report 2021, which will focus on food system transformation.</p> <p>The findings from this survey will highlight regional priorities and strategies for food system transformation to address issues around poverty and nutrition.</p> <p>With the term food system, we refer to all the elements and activities related to the production, processing, distribution, preparation and consumption of food and the outputs of these activities, including socio-economic and environmental outcomes (HLPE, 2017).</p> <p>With the term food system transformation, we refer to fundamental changes in the food system which improve access to healthy and safe diets and contribute to more sustainable production, distribution and consumption of food (WUR/IFAD, 2020). This survey will take 20 to 30 minutes to complete. Please select your language preference in the top right corner.</p> <p>The information you share in this survey will be treated confidentially. The data we collect will only be used for the purposes of this research and is pseudonymised. Please find our detailed privacy regulations via this link: https://www.wur.nl/uk/disclaimer.htm.</p>		
	Type of question	Answer options
Please provide your consent to participate in this survey:		I agree / I do not agree
<p>We are sorry to hear that you do not want to participate in our survey.</p> <p>Please contact us in case of any questions or use the link again to return to the start of the survey.</p>		

A. PERSONAL CHARACTERISTICS

In this section, we would like to ask you some questions about your professional background, gender, age and education.

A1 Which country do you work in?		
A2 What type of organisation do you work for?		<ul style="list-style-type: none">• Government organisation (local, national, regional, multilateral)• Knowledge organisation (research, education, consultancy)• Private sector (producer, processor, trader, retail, inputs, services, finance)• Civil society (NGO, farmer organisation, consumer organisation)
A3 In what domain of the food system are you most engaged?		<ul style="list-style-type: none">• Agricultural production• Processing & Food Industry• Transportation & Trade• Retail & Consumption• Nutrition and health• Services (e.g. inputs, finance)• Policy and governance
A4 What is the geographical focus of most of your work?		<ul style="list-style-type: none">• Local/municipal level• District/provincial level• National level• Regional level (multiple neighbouring countries)• Global level (multiple countries around the globe)
A5 What gender do you identify with?		<ul style="list-style-type: none">• Female• Male• Other / prefer not to say
A6 To what age group do you belong?		<ul style="list-style-type: none">• <21 years• 21-30 years• 31-40 years• 41-50 years• 51-60 years• 61-70 years• > 70 years

A7 What is the highest level of education you completed?		<ul style="list-style-type: none"> • Primary school • Secondary School • Vocational Education • University Degree (Bachelor) • University Degree (Master) • Doctorate degree
B. Food system issues		
<i>In this section, we want to identify which food system issues are, from your experience and in your specific context, key drivers of poverty and nutrition.</i>		
B1 Rank the three most important food system issues related to poverty and nutrition in the areas that you work in/with:		<ul style="list-style-type: none"> • Availability of food (supply) • Affordability of food • Nutritional quality of food • Diversity of food • Food safety • Stability of food supply • Income below living standards • Employment creation and stability • Sustainability and the environment • Political stability
B2 Which population groups are most affected by these food system issues related to poverty and nutrition?		<ul style="list-style-type: none"> • Children (<18 yrs) • Youth (18-35 yrs) • Adults (35-60 yrs) • Elderly (60+ yrs) • Male population • Female population • Ethnic minorities (if yes, please specify) • Other groups (if yes, please specify)
B3 In your country/context, which are the key drivers of the food system issues related to poverty and nutrition:		<ul style="list-style-type: none"> • Environmental constraints (climate, natural resources, biodiversity) • Demographic changes (population growth, ageing and migration) • Market dynamics (income, trade and prices) • Social and cultural factors (demand) • Science and technology • Policies and regulations

		<ul style="list-style-type: none"> • Power misuse/imbalances • Conflict and insecurity • Access to finance • Access to markets • Other (please specify)
B4 What are the three biggest constraints to address the food system issues related to poverty and nutrition?		
C. Priority strategies for food system transformation		
<i>This section focuses on the interventions/changes needed in the form of policies, innovations, investments and strategies, to address food system issues related to poverty and nutrition in the mid to long term (5-10 years).</i>		
C1 In which areas are interventions most important to address food system issues related to poverty and nutrition? Rank from most to least important		<ul style="list-style-type: none"> • Environment • Employment • Market access & infrastructure • Social and cultural change • Research and technological innovation
		<ul style="list-style-type: none"> • Government policies and regulations • Peace and stability • Investment climate
C2 What do you think are the three most effective strategies for food systems transformation in the mid to long term?		<ul style="list-style-type: none"> • n/a
C3 Which of the following strategies are most likely to be effective to realise food system transformation in your context? Rank the three strategies you consider most likely to be effective		<ul style="list-style-type: none"> • Rural poverty reduction • Raising agricultural productivity • Improving access to healthy diets • Boosting private sector development • Reducing food loss & waste • Increasing circularity • Creating non-farm employment • Addressing unequal power balances • Improving the position of female producers

<p>C4 For each of these strategies towards food system transformation, which groups are most likely to benefit from each of these strategies?</p> <p>Select one group benefitting the most per strategy</p>		<ul style="list-style-type: none"> • Children (<18 yrs) • Youth (18-35 yrs) • Adults (35-60 yrs) • Elderly (60+ yrs) • Male population • Female population • People in low-income groups • People in middle-income groups • People in high-income groups • Ethnic minorities (if yes, please specify) • Other groups (if yes, please specify)
<p>C5 Which group of actors have the biggest impact in mitigating food system challenges that contribute to poverty and nutrition?</p> <p><i>Indicate the impact on a scale of 0=no impact to 10=most impact</i></p>		<ul style="list-style-type: none"> • Knowledge organisation (research, education, consultancy) • Civil society (NGO, consumer organisation) • Local governments • National governments • Multilateral organisations • Producers (farmer organisation) • Processors • Traders • Retail • Consumers • Service providers • Input providers • Financial organisations
<p>C6 Which key policy recommendation around food system transformation do you feel policymakers in your region should hear?</p>		
<p>C7 Please indicate for the following issues which strategies you think are most effective to address these issues. Please drag one strategy to each of the issues.</p> <p>List of issues</p> <ul style="list-style-type: none"> • Availability of food (supply) 		

<ul style="list-style-type: none"> • Affordability of food • Nutritional quality of food • Diversity of food • Food safety • Stability of food supply • Income below living standards • Employment creation and stability • Sustainability and the environment • Political stability <p>List of strategies</p> <ul style="list-style-type: none"> • Rural poverty reduction • Raising agricultural productivity • Improving access to healthy diets • Boosting private sector development • Reducing food loss & waste • Increasing circularity • Creating non-farm employment • Addressing unequal power balances • Improving the position of female producers 		
<p>C8 What policy instrument do you think is most effective in bringing about food system transformation?</p>		
<p>D. Reflection on key messages from our background papers</p>		
<p><i>In this section, we would like you to reflect on some of the emerging key messages of IFAD's Rural Development Report 2021.</i></p>		

<p>D1 For each of the following statements, to what extent do you feel they are relevant to your country/context?</p> <ol style="list-style-type: none"> 1. The Covid-19 pandemic provides insight into the weak spots of food systems 2. More attention is needed for the ways health, nutrition and resilience interact in food system change 3. Rural poverty reduction is necessary but not sufficient as a strategy for addressing hunger or improving diets. 4. Raising agricultural productivity levels alone will not be enough to get rid of poverty and hunger. 5. Poor people are most vulnerable to poverty and malnutrition in their role as consumers of food 6. Empowerment of women as producers, traders and consumers is vital for food system transformation 7. Improving rural-urban linkages is a key condition for supporting food system transformation 8. Small-scale and medium-sized enterprises (SMEs) in the hidden middle (processing/logistics) play a vital role in inclusive food system transformation 9. Better nutrition is a major driver of economic growth (through trade, employment and labour productivity effects). 10. Improving diets has large returns in terms of reducing health costs 11. Diets are key drivers for land use and climate change resilience 12. Food policies should focus on instruments that simultaneously address health, stability as well as mobility. 13. Unequal power balances in food systems cause undesired food system outcomes 14. Public investment and policy incentives are needed to engage the private sector in food system transformation processes 15. Governments should be able to force food companies to contribute to healthy and sustainable diets and desired food system outcomes 16. Increasing self-sufficiency of food will be helpful to improve food system performance 17. Creating more off-farm employment in food processing and trade can substitute for decreasing work in farming 18. Reducing food losses asks for technical innovation and behavioural change 	<p>Not relevant at all A bit relevant Somewhat relevant Very relevant Extremely relevant</p>
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<p>19. With reduced poverty, the consumption of animal-based products in diets will increase</p> <p>20. Circular food systems meet objectives of food supply and climate change mitigation.</p>	
<p>D2 How important are each of the following themes for realising food system transformation in your context/country?</p> <ol style="list-style-type: none"> 1. Diets and nutrition 2. Sustainable production 3. Food markets & trade 4. Food value chains & the hidden middle 5. Food processing 6. Food loss & waste 7. Animal products 8. Food governance & system change 	<p>Answer categories:</p> <ul style="list-style-type: none"> ▪ Not at all important ▪ Slightly important ▪ Important ▪ Fairly Important ▪ Very Important
<p>CLOSURE</p>	
<p>Thank you for completing the survey.</p> <p>Once finalised, we will share with you the regional consultation report and inform you about the publication of the Rural Development Report.</p>	
<p>Submit answers</p>	

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