



Entry Points towards a Desired Food Systems Future in Jordan

FoSTr Jordan Policy Brief No. 9

Key messages

01

Transforming food systems is essential but complex. It requires a holistic systems approach and understanding of dynamic relations between food systems actors. This necessitates leveraging foresight knowledge for informed decisions while being able to manage trade-offs and coming up with the best options to navigate an uncertain future.

02

Based on the foresight for food systems transformation process, three key entry points towards a desired future scenario were identified: reducing food loss & waste (best for sustainability), shift to Mediterranean diet (best for human health and in line with culture); resilience-focused economic growth & tech adoption (best for ensuring food security). These outcomes can be achieved through circularity, innovation, and cross-sectoral collaboration.

03

Key enablers towards transformation are positioned across society, in government, private sector, knowledge institutes and civil society. Each can work on essential issues: structured and intersectoral policy action, sustainable business models, activating the voice of civil society energy, and knowledge for action.

04

6 key general policy recommendations have been identified, emerging from the engagements since 2023. More specific recommendations on various themes have been made in 8 policy briefs by FoSTr, which can be found [here](#).

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IFAD/Roger Anis



Introduction

This policy brief is part of a series prepared by the [Foresight for Food Systems Transformation \(FoSTr\)](#) programme¹ providing decision-makers, politicians, researchers, and practitioners with policy instruments to transform food systems. Presented recommendations aim at bolstering and steering efforts towards building a resilient and sustainable food system. The brief examines the role of food actors and drivers for unified transformative actions. To enable Jordan in reaching its food system transformation objective [FoSTr's](#) futures thinking approach and scenario design are applied.

This brief draws on the experiences of FoSTr in Jordan since 2023, and most recently, from a number of meetings and deliberations with key Jordanian stakeholders in April 2025. These included Members of the Senate Agriculture and Water Committee, Jordan Chamber of Industry, Jordan Chamber of Commerce, academics and key partners. The paper begins with a summary of the Jordanian context, summarizes two key future scenarios for Jordan's food system, describes key enabling action by food system actors', and proposes a set of recommendations.

Our work so far in Jordan

In order to be ready for the future, FoSTr Jordan, supporting the Food Security Council, has realized the following:

- **6 multi-stakeholder workshops** in Jordan since 2023, involving a range of participatory tools and in-depth working sessions, which involved 100+ food systems stakeholders.
- **Developed a [Jordan Food Systems Map](#)**, with input and validation of Jordan food systems stakeholders.
- **Presented 8 policy briefs**, focused on key issues, including: tackling malnutrition in Jordan; Water to Food conversion; Food loss and waste; State of smallholder farming; food governance; role of private sector; role of civil society; and whole-sale markets.
- **Explored and modelled the implications of two key scenarios for Jordan's food system in 2040:** a business as usual and a desired plausible future, each with very different trade-offs and challenges.
- **Identified strategic leverage points, which if triggered in an integrated and holistic way, may support transforming food systems:**
 - Reducing food loss & waste: best for sustainability
 - Shift to Mediterranean diet: best for human health
 - Economic growth & tech adoption: best for ensuring food security
- **However, these areas cannot be successful without changing mindsets about food; breaking down barriers** between stakeholders, which is crucial for fostering collaboration and achieving mutual benefits; and **harmonization of efforts** across different sectors, which is needed for open dialogue and coordinated actions.

¹The [FoSTr programme](#) covers four countries in Africa, Asia and the Middle East. It provides Jordan with a country support facility for food systems foresight and scenario analysis. The country-led and multi-actor foresight process aims to assist stakeholders in their contributions to national food systems transformation. It supports the dialogue, analysis and understanding necessary for co-creating future food systems that are sustainable, healthy, equitable and resilient.

Context

The brief context of food systems transformation in Jordan

The Jordanian food system faces several challenges in meeting important societal outcomes. Foresight4Food's report "[An Overview of the Jordanian Food System: Outcomes, Drivers, and Activities](#)" highlights the deteriorating health indicators as more segments of the population either suffer from malnutrition or obesity. Further challenges now and likely in the future include high numbers of refugees, declining international support amid a fragmenting geopolitical area. Governance challenges include policy coherence which is important for effective governance.

Self-sufficiency in certain food commodities comprise mostly of fruits, vegetables, and dairy products but is short from fulfilling supplies of other produce. Economic revenues from the food system remain modest while failing in creating incentives for youth employment. Adverse effects of climate change are straining natural resources with decreased rainfall and pervasive soil degradation.

The agriculture sector already consumes about 50% of all water resources as Jordan ranks second poorest water country in the world. In addition, rainfed agriculture in Jordan is highly vulnerable to climate change, already showing decreasing productivity, production and ability to support rural livelihoods. In consequence, Jordan heavily relies on food imports making it vulnerable to volatile markets. Whereas, regional and international conflicts, supply chain disruption, and emerging trade barriers add pressure to Jordan's fragile food system.

Jordan at a cross-roads: taking action now rather than later

Jordan is currently at a critical crossroads. Transitioning to a sustainable food system promises improved quality of life, building healthy societies, and retaining a thriving ecosystem. This transformative action, however, necessitates a paradigm shift grounded by replacing linear approaches with holistic, systems approaches.

Such a transition can only be realized if actors in the food chain collaborate and align. This includes public officials, members of the private sector, civil society organizations, and citizens are actively engaged in understanding and deliberating on their food system future. For example, including farmers into the discussion brings insights to whether future production strategies should focus on enhancing efficiencies in conventional practices or alternatively adopting new technologies. Bringing the discussion to citizens (seeing them as more than consumers) allows for better linkages between consumption needs and empowerment to take action. A better understanding of drivers of food loss and waste means understanding farmer practices, processor business models and consumer behavior, allowing policy makers to design effective tools and incentives. The challenge, however, manifests itself in the potential of formulating an effective policy framework guiding systems transformation, navigating trade-offs and supporting decisive action.

It is essential to no longer wait for change. Waiting for programs to be set up, complete data to be collected or investments to materialize implies delay. With the collective effort of Jordans citizens, transformative action can be taken. This policy brief highlights two very different future scenarios, the key enablers for change, and entry points that may become engines of transformation.

Navigating towards a sustainable future

To understand and explore different futures, a participatory modelling approach took place over a period of three years (2023–2025) and had the following features:

- Stakeholders from government, civil society, and academia co-developed the scenario narratives, identifying key drivers such as dietary patterns, climate-smart and high tech agriculture, and trade barriers.
- These narratives were translated into quantitative assumptions—for example, changes in productivity, food consumption practices, and cuts in food loss and waste — and simulated using an economic model.
- The model tracks key outcome indicators such as agricultural wages, food consumption, nutrient availability, GHG emissions, and land use.



Image credit:
IFAD/Lana Slezic

Two scenarios in 2040 were developed to explore tensions between the status quo and aspirations of transformation. First scenario is a 'Business-as-Usual' scenario, which does not anticipate major changes to the food system of Jordan. This scenario incorporates major trends and projections but assumes limited changes to how the food system works. The second scenario is a desired but a plausible one taking into account major drivers, uncertainties and adaptation requirements.

Describing a desired plausible future scenario for Jordan

The desired future of Jordan food system is one where people of Jordan are eating healthy diets inspired by the Mediterranean diet, sourced mainly from Jordan and the region, improving the trade balance and reducing import dependency. While some staple foods still need to be imported, high emphasis is placed on making food nutritious. Food resilience is enhanced through improved buffers in case of emergency and diversified food storage, but especially through enhanced coordination and cooperation among diverse food system stakeholders.

In this future, the food system of Jordan is defined by resilience and sustainability, while being open to the world through active open trade and with a thriving private sector. A diverse, dynamic and adaptive agri-food private sector is operating, together with socially-minded companies and effective agricultural cooperatives, able to also export high quality goods abroad. This is supported by responsive and inclusive financial sector. Trade is enhanced through regional agreements, simplified trade regulations and decreased customs tariffs. The economy is highly focused on circular economy: minimising food loss and waste, using water recycling, value addition through processing and conserving, and turning waste into value. The focus on circular economy generates new forms of employment, contributing to natural resource management, water catchment management as well as biobased economy.

Substantial production of renewable energy through solar and wind is realised. Large investments in water management and recovery, water treatment, desalinization and rainwater harvesting do not erase the challenge of water scarcity but make it manageable, and make Jordan an example to the region. This future shows a high level of urbanisation and technology adoption, but also has many short value chains linking farmers to consumers directly. Importantly, a high degree of social engagement in food systems is present: active and healthy civil society, particularly consumer and citizen groups, successfully advocate for healthy diets, food safety and social security.

We can imagine that the agricultural sector is leaner, more efficient and focused on key healthy foods production. Other economic sectors are larger in terms of employment, generating the financial means to generate revenues and support trade, particularly retail, manufacturing, services and energy sectors.

Implications of each scenario

Based on the translation from narratives described above to quantitative assumptions, we used the global MAGNET model (a general equilibrium model) to simulate the socio-economic and environmental impacts of the two scenarios towards 2040: The overview below summarizes the key assumptions from each of both scenarios. It should be noted that the shape of a desirable scenario may vary, potentially leading to outcomes different from those estimated here. System change is hinged on identifying key leverage points, while identifying trade-offs and addressing potential adverse effects.

Business as Usual

Society

- Diets go in unhealthier direction
- Population keeps growing at the current pace

Economy:

- Modest economic growth
- Recurrent disruption of food trade due to regional conflicts

Environment:

- Cope with the scarcity of water and land
- Existing shares of food loss and waste remain

Desired sustainable future

Society

- Population adopts healthier diets
- Population grows less due to high investments in education

Economy:

- Accelerated economic growth
- No trade barriers

Environment:

- More circular economy (e.g., efficient water use)
- Shorter & more efficient supply chains
- Reduced food loss and waste

	Society & Economy				Environment			
	Healthy diet index	Self-sufficiency in agri-food (% change 2025-2040)	Food affordability	Food exports	Water use	Land pressure	Fertilizer application (% change 2025-2040)	GHG emissions agri-food
Business-as-usual	-11	-6	46	2	-2	0.5	30	49
Desired	20	2	84	82	0.4	1.0	67	26

A comparison of two future pathways –business-as-usual and desired scenario–reveals clear trade-offs and opportunities for Jordan’s food system. Regarding the socio-economic dimension, the business-as-usual pathway leads to more affordable food (+46%) but worsens diet quality (-11%) and reduces food self-sufficiency (-6%). The desired scenario improves all socio-economic indicators: healthy diets (+20%), self-sufficiency (+2%), food affordability (+84%), and food exports (+82%). A highly productive agricultural sector may boost exports, but risks undermining food security by limiting gains in self-sufficiency.

In the environmental dimension, we observed that in business-as-usual conditions there is a rise in GHG emissions (+49%) and fertilizer use (+30%). At the same time, the desired scenario would have a slow-down in the growth of GHG emissions (+26%) but comes with higher fertilizer use (+67%) and moderate increases in land and water use.

Three key entry points for transformative change emerge:

- **Reducing food loss & waste: best for sustainability**
- **Shift to Mediterranean diet: best for human health**
- **Economic growth & tech adoption: best for ensuring food security**

Enablers of the Sustainable Desired Future scenario

In order to activate entry points and work towards the Desired scenario, key stakeholder groups need to be involved as enablers and work together to resolve trade-offs. Foresight4Food organized working sessions with national food system stakeholders to discuss scenario implications and key insights. Public officials, businesses, scientists, civil society organizations, and consumers can use the desired scenario to explore how to co-design the pathways towards it. Discussions emphasized the following:



Structured government policy action can introduce a diverse mix of responsive policy instruments. Developing short- and long-term, and coordinated as well as decentralized strategies with measurable targets is key. Monetary regulations such as taxation, exemptions, subsidies and trade agreements serve as effective tools. Providing capacity building programs strengthen institutional knowledge and promoting informed decision making. Revising subsidies and lowering legislative barriers may encourage circular business models to boost economic growth, promote innovation, and decrease losses. While forging public private partnerships (PPPs) leverage investment opportunities. Effective tools include: training agriculture extension service providers to advise farmers on best practices to minimize losses within a changing climate, organizing local farmers markets to shorten supply chains, and modernizing public facilities through PPPs. Special attention is needed for policy coherence to ensure harmony and avoid any conflicting policies, which applies to policies across ministries and government institutions, and between different departments within a ministry.



Sustainable business models are crucial. Companies have the potential of pioneering innovation across the value chain. Technologies and digitization maximize resource efficiencies, amplify circular processes, and diminish wastage. Widespread examples are management software, storage facilities, food processing, food to feed, and waste to energy. Employing green technologies throughout production stages minimize input requirements, maximize production, and diminish waste. While adopting digital management tools at retails streamline tasks, resource planning, and demand projections. Meanwhile, collaboration between businesses further augments system competencies by empowering smaller businesses through knowledge sharing, securing markets, and access to finance. Communication platforms between private sector stakeholders are essential, between different sectors and within the same sector.

Image credit:
IFAD/Lana Slezić



Enablers of the Sustainable Desired Future scenario



Activating the role of civil society organizations does not only voice community needs but also ensures inclusivity and equity. Social enterprises at grassroots lead the change by shifting consumer behaviour through knowhow, awareness, and nudging strategies. For example, targeted messages through social influencers can highlight benefits of nutritional choices, understanding how to increase household savings by avoiding over purchasing or preparing large amounts of food, learning preservation techniques (through drying, pickling, freezing, or making jams), and encouraging food donations by accentuating principles of prudent spending through values and culture. Cooperatives can and should play a sizeable role in food system transformation, as they have grass root level memberships, and can bring bigger negotiating power to members for buying, selling, and access to finance.



Harnessing knowledge for action. Jordanian academic and research institutions are valuable knowledge and demonstration hubs. Engaging scientists in policymaking aid officials in making evidence-based decisions and developing measurable strategies. These establishments also provide the future generation with needed skillsets. Universities are ideal for showcasing innovation in the food system. Novel learning modules could include topics such as: climate smart agriculture, water management, experiments on animal protein substitutes, and climate related themes. They are also well-positioned to provide the needed information and recommendations at various levels of complexity in a manner tailored to specific stakeholders. Constant communication is essential in both directions, as feedback from legislators, the private sector, farmers and consumers is essential to guide research institutions towards solving issues needed by these stakeholders.



Policy recommendations

01 Promote dietary shifts and a new food culture: Invest in campaigns and incentives to encourage a return to the Mediterranean diet in Jordan. Particularly introducing healthy school meals is a way to start. Develop new dietary guidelines aligned with such a diet. Uniting Jordanians around building a vibrant food culture is prompted by raising awareness, learning, and understanding consequences of inaction.

02 Prioritize cutting food loss and waste. Civil society organizations can shift consumer behaviour by highlighting benefits of nutritional choices, showcasing accrued savings from avoiding over purchasing or preparing large amounts of food, demonstrating food preservation techniques, and encouraging food donations. Agricultural cooperatives and social enterprises can provide knowhow limiting food loss at farms and waste, by transforming unharvested crops to feed, composting, and preserving food. Importers are encouraged to find alternative destinations for diverse quality of imported foods.

03 Integrate policies across sectors: Develop holistic policy bundles linking institutions across the agricultural, health, trade, and environmental sustainability domains. Transforming the Jordanian food system is dependent on introducing a set of amendments:

- Policy and technical support to key cross-ministerial mechanisms fostered by the Food Security Council but also Ministry of Planning and International Cooperation
- Reforming regulatory frameworks enabling circular processes, enacting cross-sectoral and measurable strategies
- Organizing dialogue platforms to promote public-private-knowledge partnerships
- Endorsing the creation of the Jordan Agriculture Chamber for communication between decision makers and farmers, supporting capacity building and stimulating cross-sectoral partnerships.
- Designing labour incentives attracting youth into the food system

04 Make climate resilience a high priority for investment in agriculture, supporting agricultural practices and technologies that build resilience without increasing environmental footprints. Prevent an “efficiency paradox”, which risks using efficiency gains to further push food production rather than environmental considerations. Rather prioritize domestic food security, quality and resource sustainability.

05 Stimulating multi-sector partnerships between public and private actors for sustainable innovation is central to success. Prompting Jordanian businesses to employ technologies, share knowledge, invest in research and development, and build partnerships can secure collective growth. Co-funding research on emerging sustainable trends such as animal protein substitutes could significantly drop losses and wastage while diversifying nutritional food sources. Building sectoral and cross-sectoral partnerships (farmers and processors) have the potential of converting waste to resource and close gaps in the supply chain. Investing in establishing an organic recycling facility in the port of Aqaba could secure system wide benefits.

06 Enhance participatory foresight and systems approaches: Institutionalize participatory modelling and foresight processes across government, not only in food and agriculture through the Food Security Council, but also through key Ministries such as the Ministry of Planning and International Cooperation. . With challenging trends and uncertainties ahead, and data collection only able to reflect the past, it is important to build in embedded capacities to inform key government decision-makers for anticipatory policy.

The Foresight4Food Initiative

[Foresight4Food](#) is an international initiative that supports food system transformation processes by offering organizations scenario and foresight expertise, synthesizing foresight work across the agri-food sector, and linking food systems foresight professionals around the world. The initiative holds regular events, workshops, and seminars and brings together a wide range of actors, platforms, and networks who have an interest in food systems foresight.

