



Tackling malnutrition in Jordan

FoSTr Jordan Policy Brief No. 2

Key Messages

01

Jordan is experiencing a dual burden of malnutrition, with a shift from undernutrition to rising obesity rates, alongside persistent micronutrient deficiencies. Key issues include overweight, obesity, iron deficiency, and vitamin A and D deficiencies. Children under five and women, particularly Syrian refugees living in camps, are the most vulnerable to undernutrition.

02

The main causes of malnutrition in Jordan include poor maternal nutrition, lack of breast-feeding of children under six months, low-nutrient dietary intake, and over-consumption of calorie-rich foods.

03

These consumer behaviors are driven by increased fast-food consumption, widespread gender inequality, limited nutrition education, and insufficient breastfeeding awareness. Anaemia, iron deficiency, and vitamin deficiencies are prevalent, especially among children and women in Syrian refugee camps, indicating disparities in health outcomes.

04

Preventive and intervention measures are needed to reduce the prevalence of malnutrition in Jordan. Such measures include, amongst others: awareness campaigns for the consumption of healthy foods, more food fortification programmes, strengthening of healthcare services, various support for the sustainable production of healthy foods, and school nutrition programmes. Such measures can only be achieved through multi-stakeholder consultation and collaboration. Setting clear indicators and monitoring these regularly is essential to ensure and track progress.

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Introduction

This policy brief is part of a series prepared by the Foresight for Food Systems Transformation (FoSTr) programme to provide decision-makers, politicians, researchers, and practitioners with relevant data, information, policy tools and recommendations that promote a collective understanding of critical issues concerning food system transformation. The need for these notes arose from the workshops conducted by FoSTr in May and November 2023 and other relevant occasions. Stakeholders highlighted the lack of awareness, appreciation and the need to adopt a holistic and comprehensive approach to food system transformation. This policy brief is intended as a diagnostic and issues paper rather than a detailed or analytical document in order to fit the purpose.

Why the need to tackle malnutrition?

Jordan is currently undergoing a rapid nutritional transition, which is contributing to an upsurge in malnutrition and non-communicable diseases (NCDs), such as high blood pressure and diabetes. The prevalent forms of malnutrition encompass undernutrition (including stunting, wasting, underweight, and micronutrient deficiencies) and overweight (manifested as obesity). Addressing these issues necessitates a comprehensive approach, including a meticulous examination of Jordan's nutritional landscape to formulate evidence-based and tailored policies and strategies.

Over the past decade, and particularly since the United Nations Summit on Food Systems in 2021, the Jordanian Government has placed significant importance on improving food and nutrition security and food system transformation. The efforts of this prioritization are evidenced by the implementation (in conjunction with food system stakeholders) of multiple major initiatives to address diverse aspects of food and nutrition security and malnutrition (see Box 1).

However, existing nutrition-related policies, strategies, frameworks and regulations in Jordan do not specifically target key malnutrition indicators. It is therefore difficult to monitor and assess the impacts of these interventions and, consequently, reliable data on progress made to reduce malnutrition prevalence is unavailable.

The purpose of this policy brief is to outline the status and causes of malnutrition in Jordan, raise awareness on the extent of the issue, and recommend policies and interventions to address it.

Box 1. Jordanian initiatives to address food and nutrition security and malnutrition

- 01 The National Nutrition Strategy (2023–2030)
- 02 The Framework of Action for Obesity Prevention (2018–23)
- 03 The Food System Transformation Pathways and Roadmap
- 04 The Food Security Council
- 05 The No Food Waste Initiative
- 06 The Food Security Management Information System
- 07 A plan to improve Jordan's position in the Global Food Security Index
- 08 The National Food Security Strategy (2021–2030), focusing on nutrition and food safety for various demographic groups
- 09 The National Strategy for School Health (2018–2022), which focuses on nutritional considerations in schools, catering to diverse populations, including refugees
- 09 Food regulations to reduce calorie intake and decrease salt, sugar, and trans fats in diets
- 10 Fortification programmes to combat micronutrient deficiencies, such as flour fortification, salt iodization, and vitamin A supplementation
- 11 The Food Based Dietary Guidelines in 2020 to promote awareness of healthy diets and enhance physical well-being, diminish salt and sugar consumption, and guide individuals in managing their diets to address NCDs.

Research approach and methods

Supported by the Foresight for Food Systems Transformation (FoSTr) team, this policy brief on tackling malnutrition in Jordan was researched and compiled by researchers at the Jordan University of Science and Technology. To obtain relevant insights, they began by conducting an exhaustive literature review involving a comprehensive analysis of scientific articles published in peer-reviewed journals. Information was also extracted from reports released by the Ministry of Health, the National Nutrition Strategy (2023–2030), and the National Micronutrients and Nutrition Survey, as well as from policy documents from the World Health Organization (WHO) and other authoritative sources.

The research team presented their early findings during the second FoSTr workshop, held on 12–13 December, 2023. These insights were used to facilitate conversations among workshop participants, which included various food sector stakeholders and representatives from ministries, governmental institutions, the private sector, the Consumer Protection Organization, the United Nations, and other relevant bodies. In addition to discussions about malnutrition and its indicators, the workshop provided valuable opportunities for fostering collaboration and awareness. Following these activities, the team analyzed their in-depth findings and developed recommendations that can be used to shape a sustainable, healthy, equitable, and resilient Jordanian food system. Prior to its finalization, the policy brief was reviewed by members of the Policy and Planning Committee of the Food Security Council and their comments were integrated accordingly.

Key findings and discussion

The research, analysis, and workshop discussions served to confirm and reveal critical findings in several key areas relating to food and nutrition security in Jordan.

Critical health concerns necessitating urgent attention

The primary challenges that urgently require targeted interventions and comprehensive strategies include:

- **Child stunting:** Jordan has made significant progress in reducing stunting rates among children under five, dropping from 20% in 1990 to 7.4% in 2019. However, stunting remains particularly prevalent in girls, children aged 0–23 months, young children living in refugee camps, and children from low-income families.
- **Low birth weight:** This is a significant issue in Jordan. Rates increased from 8.8% in 2010 to an estimated 15% in 2019; slightly higher than the global average of 14.6% and showing no signs of decreasing by 2030.
- **Anaemia:**
 - In 2019, among children aged 6–59 months, anaemia rates were 11.9%, iron deficiency rates were 26%, and iron deficiency anaemia was 5.1% (higher among children in Syrian refugee camps).
 - For children aged 6–12 years, the prevalence of anaemia, iron deficiency, and iron deficiency anaemia was 6%, 30.6%, and 1.8%, respectively.
 - Among non-pregnant women aged 15–49 years, anaemia affected 23.9% of Jordanian women and 35.5% of those in Syrian camps. This was primarily due to iron deficiency, which increased despite a decrease in overall anaemia between 2010 and 2019.
 - Rates of anaemia were lower among pregnant women (aged 15–49 years), but still problematic: affecting 19.1% of Jordanians and 37.3% of those in Syrian camps.
- **Micronutrient deficiencies:**
 - In 2019, vitamin A deficiency ranged from 2.7% to 4.3% among children under five, school-aged children, and women, indicating a mild health problem.
 - Vitamin D deficiency was more widespread, affecting 27.75% of preschool children and 63.5% of non-pregnant women.
 - While iodine deficiency remains a mild concern, rates have significantly improved among school-aged children: reducing from 37.7% in 1993 to 4.9% in 2010.

- Exclusive breastfeeding:** In 2019, the number of infants under six months being exclusively breastfed was less than 20%. While an improvement from the 11% reported in 1997, this figure remains below the national target of 50% set for 2025.
- Overweight and obesity:** The prevalence of overweight and obesity among children under five years old in 2019 was 9.2% and 2.2%, respectively. Among school-aged children, these rates were 27.8% for overweight and 11.8% for obesity. More than half of the adult population was also affected. Predictions indicate that overweight and obesity rates will further increase by 2030. Related to the rise in overweight and obesity rates, the prevalence of diet-related NCDs, such as high blood pressure, was 22.1% in 2019.
- Poor food consumption and dietary patterns:** Recent data indicates that many Jordanians consume an unhealthy diet and have a high salt intake (11g per day vs 5g, as recommended by WHO). In addition, less than one-fifth of adults (16%) consume the WHO-recommended serving of 400g fruit and vegetables per day.

The drivers behind malnutrition

The causes of malnutrition in Jordan are complex and multifaceted, influenced by a combination of socio-economic, cultural, and environmental factors. The responsibility for healthy food consumption should not rest solely on the consumer. The food system, along with the water and agricultural industries, as well as economic inequality, play crucial roles in ensuring that healthy and affordable food is accessible to all consumers at all times. To investigate these causalities, our research analysis began with consumers: working to distinguish between urban and rural consumers; differentiate between upper-, middle-, and low-class consumers; and acknowledge differences in gender and cultural backgrounds.



Food consumption patterns: Generally speaking, and mainly with regards to urban environments, we see that food consumption patterns among Jordanian consumers have changed over the last two decades. The prevalence of unhealthy diets is underscored by recent data on poor fruit and vegetable consumption and high salt intake. While low and undernutrition is a critical factor in poor health outcomes, so too is overnutrition. This occurs when consumers follow diets that are high in energy, animal products, and processed foods, but low in fruits, vegetables, and whole grains. Coupled with a more sedentary lifestyle, these consumption choices contribute to overweight, obesity, and NCDs.



Inadequate access to healthcare services: In rural areas and environments dominated by refugees, our analysis found a particular concern in inadequate access to healthcare services, which can result in a lack of proper nutritional counselling, monitoring, and timely interventions for individuals at risk of malnutrition.



Social and cultural factors: Dietary habits and preferences led by socio-cultural factors may contribute to poor diets, resulting in concerns such as nutrient deficiencies and anaemia. For instance, women often face gender inequality, which constrains their ability to access assets and use their agency. Poor maternal nutrition and child feeding practices have also been found to highly influence child nutrition and health from an early age.



Poverty and economic inequality: Financial inequality among Jordanian consumers leads to many experiencing limited access to nutritious foods and struggling to afford a balanced diet, resulting in an inadequate intake of essential nutrients. High and fluctuating food prices also have an impact on the affordability and accessibility of nutritious foods, particularly for low-income households.



Water and agriculture: Healthy food supplies are impacted by water scarcity and agricultural productivity challenges arising from climate change-led drought. Poor water quality and sanitation conditions can also lead to food safety concerns related to waterborne diseases and infections, which compromise the health and nutritional status of individuals, especially children.



Food distribution and supply chains: Issues related to the distribution and supply of food can impact the availability and affordability of nutritious food items for consumers.



Trade and markets: The access and availability of nutritious foods is largely governed by food companies – many of whom operate for their own economic benefit and are only partially regulated by laws. In Jordan, changes in middle-class consumer preferences and the progressive evolution of import companies, processors, and retailers of calorie-rich convenience foods have gone hand-in-hand. The role of markets in the supply of healthy food and other food system outcomes, as well as their part in the governance of the food system, are explored in two further policy papers.

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Policy recommendations

Since various factors across different parts of the food system contribute to malnutrition in Jordan, collaboration among governmental and non-governmental stakeholders is essential to address the root causes of food and nutrition insecurity in Jordan. This policy brief recommends the following preventive measures, intervention strategies, and policies:



Policy implementation and a mix of policy tools

The National Food Security Strategy is important to promoting sustainable and diverse farming practices, effective post-harvest practices, ensuring a stable supply of imported food items and fostering regional and international collaboration. This strategy includes standards, regulations, and taxations to reduce trans-fat, sugar and salt in food chains. *The National Nutrition Policy* enhances collaborative feedback through public reporting, engagement initiatives, and regular reviews to evaluate the efficacy of implemented nutrition policies and initiatives. effectively influences the food environment and the private sector (importers, manufacturers, restaurants). Additionally, a mix of policy tools should be further explored. For example, healthy food production and consumption may be incentivized through tax cuts and trade facilitation, while unhealthy foods are disincentivized through the implementation of higher taxes (such as sugar taxes on carbonated drinks, high-sugar beverages, and sweets). Legislation should be developed to eliminate trans-unsaturated fatty acids – which are very unhealthy – from the food chain. Key stakeholders are the Ministries of Agriculture, Health, Environment, and Industry and Trade, as well as the World Food Programme (WFP), the Food and Agriculture Organization of the United Nations (FAO), private companies in the food production, processing, and retail sectors, and health professionals and educators.



Scale-up food assistance and fortification programmes

To *enhance food fortification* efforts and improve public health in Jordan, it is crucial to intensify, assess, monitor, and evaluate existing programmes – such as wheat fortification and salt iodization. Additionally, it is recommended to expand the range of fortified foods to include items such as pasteurized milk, fruit juice, margarine, and yogurt. Incorporating essential nutrients such as folic acid, vitamins (A, B6, B12, D, and E), calcium, iron and iodine in these fortified foods can significantly reduce disease prevalence and enhance overall population health. *Enhancing social protection programmes* within existing social policy is important. By strengthening social welfare initiatives, a safety net can be created for vulnerable groups – including pregnant women, young children, and the elderly – and ensure humanitarian aid is extended to refugees. The Ministry of Health, Ministry of Finance, WHO, FAO, and non-governmental organizations are key stakeholders in this effort to effectively influence the food environment and the private sector (importers, manufacturers, restaurants).



Improve school nutrition programmes:

To foster a culture of healthy dietary habits among students and the wider school community, it is recommended to integrate comprehensive nutrition education into school curricula. This involves educating and raising awareness among students about the significance of healthy eating, increasing physical activity levels, and adopting a wholesome lifestyle. The Ministry of Health, Ministry of Education, WHO, WFP, and the United Nations Children's Fund (UNICEF) should collaborate to make this possible.



Strengthen healthcare services and implement health nutrition actions:

Policymakers must implement strategies to prevent malnutrition; reduce stunting and wasting; and address micronutrient deficiencies, overweight, obesity, and diet-related NCDs. Prioritizing safe pregnancy and delivery, promoting birth spacing (intentionally waiting a period of time between pregnancies to promote better health outcomes), and establishing nutrition clinics in both urban and rural healthcare facilities is essential. It is also crucial to build the capacity of nutrition professionals within the health sector, integrate nutrition plans for situations of pandemics, and implement targeted micronutrient supplementation programmes. The ministries of health, finance, social development, and planning and international cooperation, along with WHO and UNICEF, play key roles in strengthening overall health and nutrition outcomes.



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Nutrition education:

Nutrition education to promote behavioural change in food consumption can be achieved by integrating nutritional components into existing social protection programmes, and enforcing nutritional labelling to support informed dietary choices. Additionally, disseminating national dietary guidelines is crucial for guiding individuals towards healthier eating habits, thereby improving overall nutrition and well-being. An intersectoral group, comprising the ministries of finance, health, social development, planning and international cooperation, and Awqaf and Islamic Affairs and Holy Sites, as well as private food companies, is essential for this effort.



Foster collaboration among the Jordanian Government, international agencies, and the private sector:

This is essential for resource mobilization, knowledge exchange, and implementing food and nutrition programs. Such partnerships can effectively address malnutrition challenges, enhance food and nutrition program efficiency, and contribute to sustainable solutions in nutrition, health, and overall well-being. Establishing a central data platform to monitor and evaluate malnutrition indicators will enable the consistent assessment of malnutrition rates and specific indicators, allowing for the adaptation of flexible programs, strategies, and policies to improve intervention efficacy. Key agencies involved include the Ministry of Health, Jordan Food and Drug Administration, Jordan Standards and Metrology Organization, WHO, WFP, and UNICEF. Another key intervention resulting from this collaboration is the design of a multi-level national public awareness programme to educate various social groups and key stakeholders on the importance of healthy diets.

Conclusion

Our analysis underscores the need for a dynamic policy framework that adapts to evolving nutritional challenges. Any successful policy initiative must prioritize preventive measures, education, and community engagement. It is also crucial to implement robust monitoring and evaluation mechanisms to track the effectiveness of interventions. Engaging in regular assessments enables policymakers to make informed decisions, allocate resources judiciously, and adapt strategies based on real-time data.

Moving forward, immediate focus should be on sustainable agriculture and the domestic supply of healthy foods, fortified food distribution, and targeted support for breastfeeding mothers. Transitioning to sustainable and healthy consumption patterns can be achieved through prioritizing food system interventions such as lowering the cost of nutritious foods and making healthy diets more affordable, while ensuring fair prices for producers. Doing so will help prevent the double burden of malnutrition, reduce diet-related NCDs, lower healthcare costs associated with unhealthy diets, and decrease food waste, ultimately saving expenses.

A broad food systems approach is crucial for developing and implementing national and regional policies to improve the diets of Jordanian children and adolescents. These interventions will enhance the diet and nutritional status of young people and contribute to achieving critical Sustainable Development Goals – including ensuring healthy lives, promoting lifelong learning, fostering economic growth, and building inclusive societies.

Note about authors of this policy brief

This policy brief was written by Dr. Hadil Subih, Prof. Nezar Samarah, Prof. Anas Al-Nabulsi, from the Faculty of Agriculture, Jordan University of Science and Technology, under the FoSTr program. FoSTr provides Jordan with a support facility for food systems foresight and scenario analysis. This country-led, multi-actor process is designed to support the dialogue, analysis, and understanding necessary to co-create sustainable, healthy, equitable, and resilient food systems.

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