Harvesting Stability: How Regional Integration Can Build a Food-Secure MENA

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Food insecurity is one of the most pressing and escalating challenges facing countries in the Middle East and North Africa (MENA). Regional integration can play a key role in strengthening food systems and addressing shared regional vulnerabilities.

Food Insecurity in the MENA Region

Although the MENA region is home to just 6 percent of the world's population, it accounts for over 12 percent of the world's food insecure people (Ben Mimoune & El Shehaby, 2023, p.1). In 2023, 39.4 percent of the population faced moderate or severe food insecurity, while an additional 15.4 percent experienced severe food insecurity (FAO et al., 2024, p.12-13). This situation is even more acute in the least developed MENA countries, where an alarmingly high 28.8 percent of the population experienced severe food insecurity (p.4).

Food insecurity can be either chronic, defined as a long-term inability to meet basic food needs or transitory, referring to short-term food shortages caused by conflict, natural disasters or economic downturn (Omidvar et al., 2019). It is shaped by a range of factors at both the national and household levels. National level causes include conflict, structural poverty, weak governance, climate change and pandemics; household level causes include limited physical or economic access to food, poverty and disability, among others (Yeo et al., 2025).

Beyond the immediate inability to meet basic dietary and nutritional needs, food insecurity can fuel social and political instability. It may deepen grievances, lower the threshold for violence and increase support for armed groups. Furthermore, rising food prices have been linked to protests and unrest. Additionally, food insecurity can trigger migratory movements, which at times sparks tensions in host communities (Soffiantini, 2020).

Food insecurity in the MENA region has mainly been studied as a consequence of conflict and limited access to food. Indeed, conflict and political instability are key drivers of food insecurity in the region. Conflicts in Gaza, Lebanon, Yemen, Sudan, Syria and Somalia have severely disrupted food systems, through the destruction of infrastructure, mass displacement and restricted access to agricultural inputs and markets (FAO et al., 2024; Kozielec et al., 2024).

The Arab Spring contributed to growing food insecurity in the region, following the staple food price shocks of 2007-2008 and 2010-2012 (FAO et al., 2024, p.4). For example, in Egypt, the political turmoil during the Arab Spring led to a sharp decline in wheat imports, likely driven by widespread uncertainty and reduced market activity, which temporarily increased food insecurity (Veninga & Ihle, 2018).

Indeed, the region's heavy dependence on food imports, particularly grains, and, increasingly, animal products and animal feed, heightens its vulnerability to food insecurity due to fluctuations in commodity prices and logistical disruptions (Hamaideh, 2015; Jaber et al., 2016; FAO et al., 2023). Before the 2008 food crisis, declining global food prices supported import-based strategies. However, the crisis triggered inflation and placed significant strain on public budgets (Christoforidou et al., 2023). In 2022, 50 percent of the calories and 63 percent of the wheat consumed in the MENA region were im-

ported, and projections estimate these figures will grow (ESCWA, 2022, p.41).

The Covid-19 pandemic intensified existing vulnerabilities across the MENA region, further weakening food security, especially in low- and middle-income countries. While overall food availability remained relatively stable, many low-income countries experienced significant disruptions across their food and nutrition systems. Rising food prices led to stockpiling and diminished purchasing power, limiting both access to and affordability of food for vulnerable populations (ESCWA, 2022; Doustmohammadian et al., 2023; Kozielec et al., 2024).

The Russia-Ukraine war has further intensified vulnerabilities across MENA countries, compounding the negative effects of the Covid-19 pandemic. The conflict has disrupted global food production and logistics, affecting not only the supply of staple foods but also critical agricultural inputs, such as fertilizers, and energy resources essential for modern farming. These disruptions have led to sharp increases in fuel and food prices, raised production and transportation costs, and accelerated food price inflation. As a result, food insecurity and poverty have deepened in countries, including Yemen, Lebanon, Egypt and Tunisia (Kozielec et al., 2024; Al-Saidi, 2023; Hellegers, 2022; Hatab & Lagerkvist, 2024).

However, beyond these more commonly explored causes of food insecurity in the MENA region, other urgent factors also contribute significantly, such as climate change, rapid population growth and the rising prevalence of pests and plant diseases.

Climate change and extreme weather patterns are disrupting crop production, herding practices and food distribution. In the MENA region, rising temperatures, prolonged droughts, floods, sandstorms and wildfires are contributing to declining agricultural output, degrading pastoral systems and threatening livestock health (ESCWA, 2023; IPCC, 2022; FAO, 2023; FAO et al., 2023).

Furthermore, increasing water scarcity poses a critical threat to food security in the region (Hamaideh, 2015), which has the lowest per capita water availability globally (Kozielec et al., 2024). Approximately 56 percent of the region's farmland relies on erratic rainfall, forcing many farmers to overexploit groundwater resources (ESCWA, 2022, p.39). Countries such as Tunisia, Algeria and Libya are already experiencing severe water scarcity, while Morocco is approaching critical stress levels (IPCC, 2022).

Projections suggest that climate change could reduce agricultural productivity in the region by up to 21 percent by 2080 (ESCWA, 2022, p.14) and lead to a potential GDP decline of up to 13 percent in some MENA countries (IPCC, 2022, p.2242).

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Population growth and urbanization pose another threat to food security in the MENA region. Despite the slowdown in population growth, the region's population is expected to double by 2050 (Al-Aloosy, 2023, p.6), significantly increasing the demand for food and water, and intensifying pressure on food security. Additionally, in the same period, urban population is expected to increase from 60 to 80 percent of the total, adding pressure to arable land and water (Kozielec et al., 2024, p.6). This challenge is further compounded by mass displacements caused by regional conflicts. For instance, since the onset of the Syrian civil war, over 5.5 million Syrians have fled to neighbouring countries. such as Lebanon or Jordan (Diab, 2024, p.1). In host countries, competition over limited resources, employment opportunities and basic services has at times resulted in heightened social tensions and conflict (Zuntz et al., 2022).

Lastly, the spread of communicable pests and diseases poses a growing threat to food security, particularly in climate-vulnerable countries such as those in the MENA region. Globally, farmers are experiencing an increase in both endemic pests and pathogens, and the emergence of new ones, leading to reduced crop yields and heightened vulnerability to food insecurity (Goodyear, 2023; Ma et al., 2025). At present, plant diseases alone cause over 30 percent of annual crop yield losses. This challenge is becoming more acute as the global population grows and agricultural productivity declines (Gai & Wang, 2024, p.1).

The Case for Regional Integration

To effectively address food insecurity in the region, all stakeholders must collaborate, ranging from those involved in food production and distribution, to those ensuring economic and physical access, particularly amid economic, logistical and environmental shocks, and those safeguarding food quality, safety and nutrition.

Regional integration is essential to strengthening food security, as it enables coordinated and impactful action in critical areas

Farmers ensure food availability, the private sector drives innovation and efficiency, consumers influence demand and sustainability and civil society advocates for and supports vulnerable populations. International organizations contribute funding, expertise and coordination. Governments play a central role, from providing short-term responses, such as food aid and cash transfers, to implementing long-term strategies that promote sustainable food systems, stronger governance, social protection and inclusive economic policies.

Regional integration is essential to strengthening food security, as it enables coordinated and impactful action in critical areas, such as water management, climate adaptation, agricultural research, trade and market access and the protection of ecosystems.

According to the United Nations, 21 out of the 23 countries that make up the MENA region share transboundary rivers, lakes and aquifers. Regarding transboundary rivers and lake basins, only Egypt has full coverage through operational arrangements, followed by Lebanon (76 percent) and Jordan (62 percent), while all other countries cover 28 percent or less of their basin areas. In terms of aquifers, only three countries (Algeria, Tunisia and Libya) have operational arrangements covering 50 percent or more of their area (UN & UNESCO, 2021, p.20-22). This highlights the need for greater regional integration, not only to support food production amid growing climate-induced water scarcity, but also to help prevent potential interstate conflict.

Extreme climate events underscore the urgent need for effective climate adaptation planning and early warning systems in the MENA region. Although many countries have established foundational mechanisms, they continue to face common challenges, including limited climate data, fragmented planning, weak interagency coordination, insufficient technical capacity and inadequate funding, which leave national systems outdated, poorly integrated and uneven in coverage (Osman, 2024; UNDRR, 2025). UN agencies and other regional actors are increasingly promoting cross-border cooperation and knowledge exchange, but efforts remain fragmented and underdeveloped.

Agricultural research and development (R&D), innovation and technology transfer are essential for developing new agricultural inputs, such as improved seed varieties or sustainable soil nutrients, modern machinery and better farming methods, which enhance productivity, combat pests and diseases and support climate adaptation. However, R&D in the MENA region receives less than one percent of the global agricultural research budget (IFPRI, 2021, as cited in Shafique, 2024, slide 4). Greater regional integration can enhance the efficiency of research by generating economies of scale and reducing duplication. According to ESCWA, agricultural R&D and collaboration in the region could increase agricultural productivity by 10 to 15 per cent (as cited in Shafique, 2024, slide 4).

Several institutions and programmes actively promote agricultural R&D collaboration in the MENA and broader Mediterranean region. These include PRIMA, CIHEAM, and various EU-funded initiatives such as Horizon Europe, Interreg Next Med and Green Deal diplomacy, which support Mediterranean partnerships and capacity-building, particularly with Southern Neighborhood countries. Additional key actors include several CGIAR international research centres, ESCWA and FAO. While their initiatives have strengthened regional cooperation, their overall impact remains limited, measured against the scale and urgency of the region's challenges.

Trade facilitation and market access are essential in a region where heavy dependence on food imports intensifies vulnerability to food insecurity due to global commodity prices fluctuations and logistical dis-

ruptions. Trade agreements such as the Greater Arab Free Trade Area (GAFTA), EU Association Agreements with several southern Mediterranean countries, the Agadir Agreement and various bilateral agreements promote free trade or preferential access for many agricultural and food products. However, non-tariff barriers, sanitary and phytosanitary (SPS) measures and customs inefficiencies continue to undermine their effectiveness. In addition, weak infrastructure, including transport, logistics and storage systems, as well as the lack of harmonized standards and policy incoherence, further constrain regional agri-food trade, highlighting the need for deeper regional integration.

According to the FAO, biodiversity plays a vital role in supporting agro-ecosystems, not only by contributing to production, but also by meeting a wide range of needs for farmers and society. (FAO, n.d.). Many agro-ecosystems, such as coastal wetlands and mountain areas, are transboundary in nature, requiring countries to share data platforms, monitoring tools and coordinated action to protect shared biodiversity. Several initiatives implemented in the MENA region by FAO, CGIAR centres, UNEP under the Barcelona Convention, the EU-funded Mediterranean Biodiversity Protection Community (MBPC), UNDP, CIHEAM and the International Union for Conservation of Nature (IUCN) aim to promote biodiversity protection, with many of them emphasizing the importance of regional cooperation to address shared environmental challenges and coordinate action across borders. However, their overall impact remains limited due to insufficient funding and fragmented coordination among stakeholders.

TABLE 15 **Proposed Actions Aimed at Supporting Regional Integration**

Reform Area	Recommendations for MENA Governments	Timeframe
Information and data systems	Systematically collect, centralize and make publicly accessible comprehensive data at national and local levels, including on food systems, vulnerability mapping, climate trends, early warning systems, pest and disease distribution and patterns, agro-ecosystems, biodiversity and shared water resources.	Short term
	Harmonize information and data systems, along with their standards, guidelines and methodologies, at the regional level.	Mid-term
	Establish regionally coordinated information and data systems with shared oversight. Align and coordinate regional monitoring and evaluation frameworks.	Long term
Research and development	Strengthen existing agricultural R&D and innovation programmes and networks, in collaboration with international research institutions and centres.	Short term
	Establish regional research clusters on food security, seed systems, soil nutrition, pests and diseases, irrigation practices, digital farming, climate adaptation and early warning mechanisms.	Mid-term
	Establish regionally led financing mechanisms for R&D and innovation, leveraging public-private partnerships, regional development funds and other innovative instruments.	Long term
Capacity building	Implement regional technical capacity-building programmes and cooperation initiatives, focused on areas such as pest and disease control, early warning systems and water-use efficiency. Expand initiatives for sharing best practices, experiences, R&D outcomes and emerging technologies across stakeholders and territories, while promoting collective learning and collaboration among regional actors.	Short term
	Develop regionally led programmes for strengthening human and institutional capacities aligned with regional policy priorities and implementation needs.	Mid-term
Trade	Harmonize regional trade processes, including sanitary and phytosanitary (SPS) standards, certifications, customs procedures and border controls.	Mid-term
	Strengthen regional trade agreements to enhance preferential market access and eliminate tariff and non-tariff barriers among all countries in the region.	Long term
Logistics and infrastructure	Strengthen existing regional logistics and transport networks to facilitate cross-border movement of food products, enhance supply chain efficiency and improve food security.	Mid-term
	Invest in regional-scale infrastructure that goes beyond national priorities, including coordinated port operations, integrated transport corridors, shared storage and cold chain systems and strategic regional food reserves.	Long term
Policy coordination	Conduct a comprehensive mapping of all food security-related policies across the region to identify synergies, gaps, duplications, opportunities for coordination and existing collaborative frameworks.	Short term
	Promote regional policy dialogues and high-level ministerial forums to align food security policies, priorities and collaborative actions. Integrate regional cooperation and alignment components into national food security strategies.	Mid-term
	Coordinate regional food security policies through a unified monitoring framework and robust accountability mechanisms to ensure policy alignment, track progress and promote compliance across countries.	Long term

Policy Options for Advancing Regional Integration

The unresolved Israeli–Palestinian conflict, persistent tensions between Morocco and Algeria, political instability in Syria and other deep-rooted divisions and political struggles pose significant barriers to building a cohesive and coordinated regional framework.

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The evidence suggests that the region faces persistent regional integration challenges that limit countries' ability to align efforts, exchange solutions and implement coordinated actions to build food systems resilient to climate, economic and social pressures. However, even if full regional integration remains unachievable in the short and medium term, a set of more attainable and pragmatic initiatives could generate tangible gains and lay the groundwork for deeper regional cooperation over time.

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