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SOMA MATER Radical Transparency

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The Current State of Saudi Arabia's Food Policies

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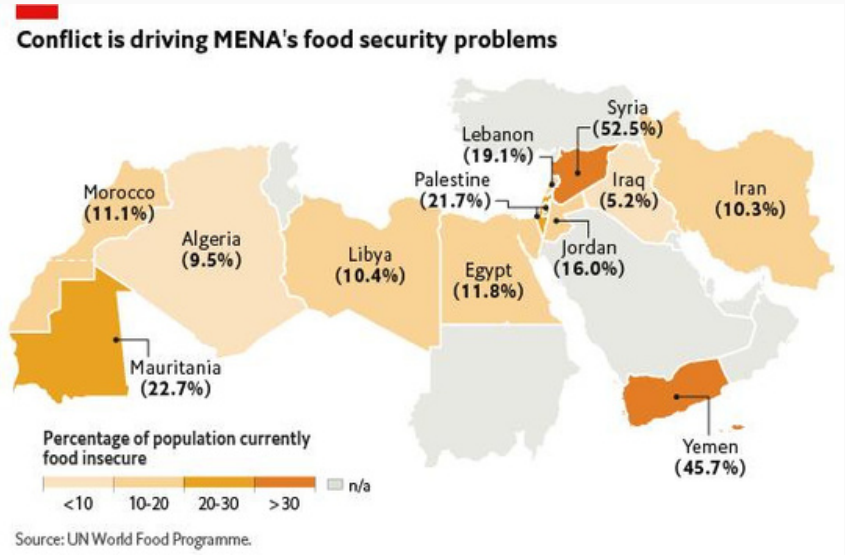
Introduction

The Kingdom of Saudi Arabia (KSA) is the largest country in the Gulf Cooperation Council (GCC) with a population of 36.4 million in 2022 (World Bank) and a land area covering 80% of the Arab Peninsula. Similar to the United Arab Emirates and other Gulf countries, the climate is arid, and hot, making it difficult to produce food naturally which means KSA relies mostly on imports to feed its population. With that being said, the global economic crisis of 2008 and the Covid pandemic have led the government to increase its effort into food solutions and improved water management systems to prevent future crises from hindering its ability to feed its people (AGSIW, 2024). The Saudi government has increased its focus on food security in an effort to reach self-sufficiency in food production (AGSIW, 2024).

Ensuring food security and eliminating all forms of malnutrition (i.e., over and under- nutrition) are some of the cornerstones of sustainable development. Food security refers to the condition in which everyone has consistent access to enough safe and nutritious food that fulfills their dietary requirements and preferences, ensuring they can lead healthy and active lives. However, the COVID-19 pandemic has exacerbated existing challenges, with rising food, agricultural, and energy costs, compounded by the fallout from the conflict in Ukraine, hindering income recovery for the most vulnerable individuals. Consequently, there has been a notable increase in global food insecurity and malnutrition. According to FAO et al., the percentage of the population affected by global hunger rose from 7.9 percent in 2019 to 9.2 percent in 2022 (FAO et al., 2023). That same year, it was estimated that 29.6 percent of the global population were moderately or severely food insecure. By 2030, it is projected that approximately 600 million people worldwide will be chronically undernourished (FAO et al., 2023).

SOMA MATER sees a rising challenge for the Arab region with the impacts of the pandemic, ongoing conflicts, and extreme weather events. In 2022, both global and local prices for food and fertilizers reached unprecedented levels. Severe weather events and droughts further exacerbated the situation, leading to reduced yields in numerous wheat-producing nations within the region. Political instability and conflicts in various countries compounded these challenges, exacerbating food insecurity and undernourishment. Consequently, approximately 59.8 million people in the Arab region were undernourished in 2022, marking a 75.9 percent increase since 2000. Although the majority of countries in the region were subject to increasing food insecurity and malnutrition, conflict affected and low income countries bore the brunt of these crises. Recent evidence shows that more than two-thirds of undernourished people in Arab nations resided in countries affected by conflict, with nearly half of those experiencing hunger located in least developed countries (FAO et al., 2023).

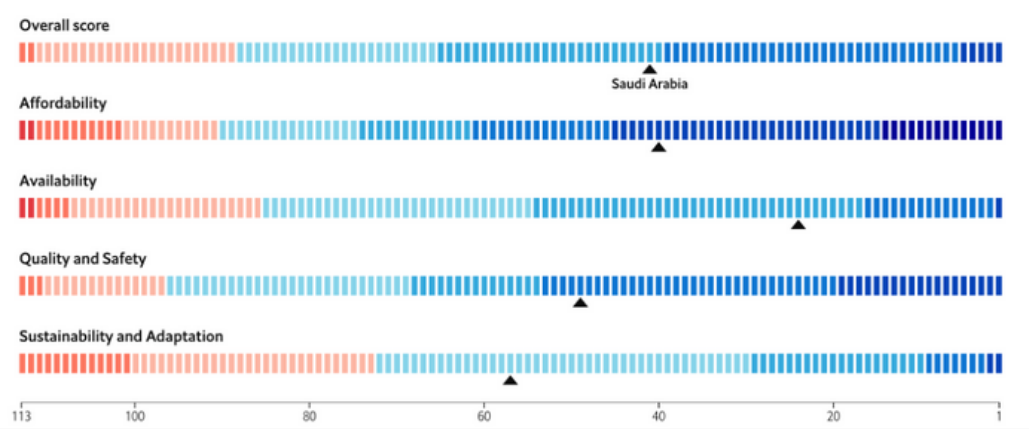


SOURCE: ECONOMIST INTELLIGENCE, 2021

With the rise in inflation rates, climate variability, and conflicts, food insecurity and malnutrition will continue to rise. SOMA MATER believes that addressing these threats to sustainability and global health requires a concerted effort and government commitment. Well formulated and implemented policies are essential for countries to achieve sustainable development. SOMA MATER has analyzed the current state of food policies in the KSA, which aim to bolster food security and ensure optimal nutrition. We examined the key components of each strategy, their accomplishments, and have recommendations for areas requiring improvement.

Nourishing Sustainability: Food Security and Nutrition in Saudi Arabia's Changing Landscape

KSA's diverse geography is characterized by forests, grasslands, mountain ranges, and deserts, with climate varying from region to region (Saudi Embassy, n.d.). Given its largely arid climate, a mere 1.6% of its area is suitable for farming, rendering it not viable for large scale food production (Baig et al., 2022). Therefore, the country was historically limited to date farming and small-scale vegetable production (Agri, n.d.). However, the country's agricultural sector has witnessed considerable growth over the past few decades and in 2019 the sector accounted for 2.2% of the GDP (CMCC, 2021). To sustain local demand, improve food security, and increase food exports, the government bolstered its agriculture sector by investing in sustainable agricultural technologies and initiatives. During the first half of 2023, the Agriculture Development Fund had allocated approximately 1 billion USD in loans to strengthen the agricultural industry in the KSA. As a result, that year, the country had reached self-sufficiency for the production of fresh dairy products and eggs, with sufficient excess to export them. The production of poultry, red meat, fish, fruits and vegetables such as tomatoes, potatoes, carrots, and onions, also increased significantly (MFAT, 2024). Similar to the agriculture sector, the country's food and beverage sector (F&B) has also witnessed considerable growth. According to the Kingdom's Small and Medium Enterprises Authority, USD 59 billion were invested in the country's food manufacturing industry in 2021. This surge in investments contributed to a 6.3% growth in the sector during the initial half of 2022 (El Shaeri, 2022). More recently, the F&B market in the country has been valued at USD 28 billion, positioning it as one of the two largest markets in the region (Union of Arab Chambers, 2024).



Source: Economist Impact, 2022

Efforts to strengthen the agricultural sector and the provision of government subsidies, that aim to increase the affordability of food, have resulted in the improvement of the nation's overall food security. With an overall score of 69.9 and a ranking of 41st out of 113 countries, Saudi Arabia (KSA) stands out with one of the highest rankings in the region on the global food security index (Economist Impact, 2022). The index highlights the country's strengths in affordability and availability, where it ranks 40th and 23rd, respectively. However, Saudi Arabia lags behind in quality and safety, ranking 49th, and in sustainability and adaptation, ranking 57th. Despite this progress, the country continues to face numerous threats to its sustainable development and population's overall food security and nutrition. Currently, an estimated 80% of the country's food is imported, leaving it susceptible to the influence of global food markets (MFAT, 2024). Despite the provision of government subsidies, studies have shown that people continue to allocate approximately 26% of their income on food (Baig et al., 2022). Food loss and waste also pose a significant barrier to maintaining food security and sustainable development. According to the UNDP, food waste accounts for approximately 40-50% of waste in the country; resulting in economic losses of over 10 billion USD (UNDP, 2022; Al-Badwi, 2023). Population dietary habits further hinder the country's progress toward achieving sustainable development. With approximately 35% of the population suffering from obesity, KSA has some of the highest rates of overweight and obesity in the Middle-East and North Africa (MENA) region (Salem et al., 2022).

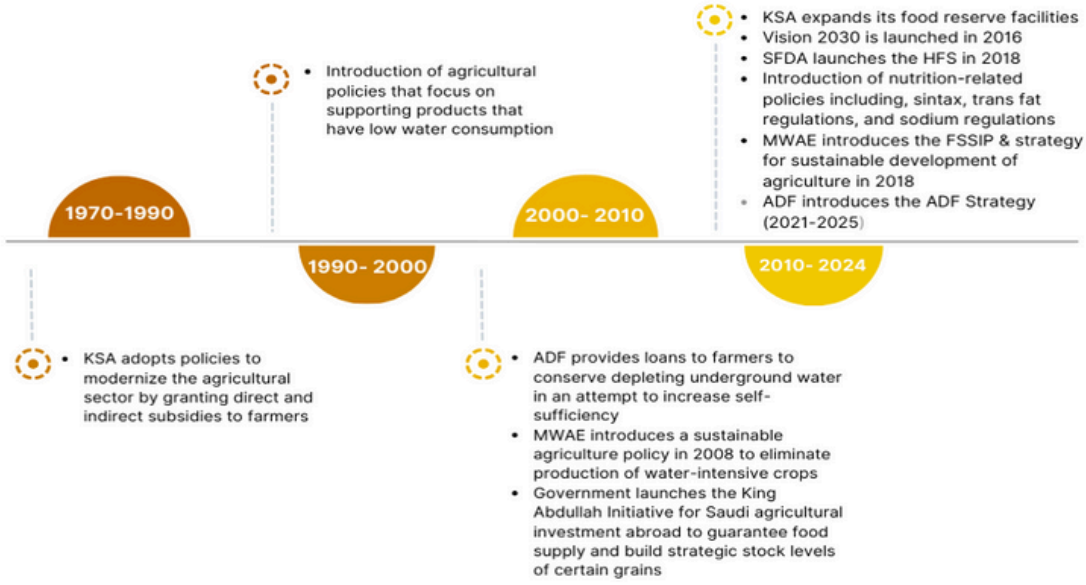
This is largely attributed to the shift in dietary habits toward the increased consumption of highly processed foods, animal products, and the low intake of fruits and vegetables. Consequently, non-communicable diseases (NCDs) account for 73% of all deaths in KSA and add a considerable burden to the healthcare sector (Hazazi & Wilson, 2022). The impact of unhealthy diets expands beyond the scope of individual health outcomes and could have dire consequences on the country's food system. Dependency on highly processed foods and animal products has been shown to contribute to an increase in the emission of greenhouse gasses and a decrease in agrobiodiversity; decreasing the sustainability as well as resilience of food systems and increasing the risk of food insecurity.

Climate change poses a significant threat to global sustainability and food security, a challenge felt in the KSA. As with many countries in the region, the KSA is particularly vulnerable to the environmental consequences of climate change (Dargin, 2023). Extreme weather events such as flash floods and heatwaves, are a common occurrence in the KSA and have threatened the nation's infrastructure and population. Over the period from 1990 to 2018, heat-related fatalities in the country surged by 89% (CMCC, 2021). Economically, the KSA faces substantial losses, with a projected 12.2% reduction in GDP by 2050 due to the compounding impacts of heatwaves, rising sea levels, and coastal erosion. Despite sporadic heavy rainfall, droughts are prevalent due to the country's arid nature. Scientific projections indicate that the KSA will experience a decrease in overall rainfall and endure more extensive periods of drought in the upcoming years, resulting in the depletion of groundwater reservoirs and exacerbating water scarcity (Dargin, 2023). By 2050, it is estimated that the country will see an 88 percent increase in the frequency of agricultural droughts (CMCC, 2021). With the country's continued economic growth, it is projected that the population would grow to approximately 50 million by 2060. A study by Rahman et al., correlates an increase in GDP with an increase in the demand for food and total greenhouse gas emissions in the long-run. This would exacerbate the effects of climate change in the country and impact agricultural productivity; therefore, increasing food insecurity and malnutrition (Rahman et al., 2022).

Food Security and Nutrition Initiatives

Over the past few decades, Saudi Arabia (KSA) has undergone significant economic growth, emerging as a regional economic powerhouse. In line with this transformation, the government has implemented policies aimed at enhancing both population and environmental health. Following an economic surge in the 1970s, the government initiated measures to modernize and strengthen the agricultural sector, with the aim of achieving self-sufficiency (Kamal, 2014).. Some measures implemented by the government include subsidies, both direct and indirect, to incentivize and support farmers, leading to a notable increase in cereal crop production. However, given the country's water scarcity and recognizing the need for sustainability, policies in the 1990s were geared towards supporting the cultivation of low-water consumption crops. Subsequent policies in the following decade emphasized water conservation within the agricultural domain (Kamal, 2014).

In 2016, the government unveiled "Vision 2030," a comprehensive strategy aimed at reforming the public sector, economy, and society (Kingdom of Saudi Arabia, 2024). Central to this vision are initiatives targeting agricultural sustainability, population health, and climate action. Since the launch of "Vision 2030," Saudi Arabia has ratified the Paris Agreement and progressively increased investments in agricultural technology (United Nations, 2018). Acknowledging persistent challenges to food security and nutrition, the government developed the Food Security Strategy and Implementation Plan, the Healthy Food Strategy, and the strategy for sustainable development of agriculture. The following section provides an overview of these strategies, highlighting milestones achieved and implementation gaps.



Timeline of food security and nutrition initiatives in KSA

Healthy Food Strategy

In alignment with Vision 2030 and to reduce the burden of NCDs, Saudi's Food & Drug Authority (SFDA) launched the Healthy Food Strategy (HFS) in 2018. The strategy aimed to improve the nutritional value of food products, raise awareness on the importance of healthy eating, and promote healthy eating patterns (SFDA, 2018). The HFS included initiatives such as removing industrial trans fatty acids (TFA) and decreasing saturated fat content in food products, educating and empowering consumers, and boosting public awareness through partnerships with food establishments and the industry. To ensure effective implementation, the SFDA partnered with key government agencies (such as the ministries of health, municipality, and environment, water, and agriculture), as well as universities, and secured the support of private entities such as food manufacturers and establishments (Bin Sunaid et al., 2021).

Activities included as part of the HFS:
1. Display of nutrition information on food and beverage products
2. Regulation of nutrient composition in fresh juices and fruit drinks
3. Display of front and back of pack nutrition labeling
4. Introduction of trans fatty acid regulations
5. Restricting sodium content in food items
6. Enforcement of sin taxation on all sugar sweetened beverages (SSBs)
7. Implementation of educational campaigns

Source: Bin Sunaid et al., 2021

To realize the objectives set out by the HFS, the SFDA successfully implemented some of the activities outlined in the strategy. In 2019, nutrition labeling legislation mandated food establishments to disclose caloric content and potential food allergens in their meals. A year later, regulations targeted juice shops and outlets, requiring the display of nutrient contents and controlling added sugars in fresh juices and fruit drinks. Government regulations in 2019 also limited sodium in breads and yogurt drinks, followed by a ban on partially hydrogenated oils in food manufacturing in 2020. Mandates for back-of-pack labels were enforced in 2021. To discourage sugar consumption, a 50% tax was imposed on all SSBs and flavored sweetened milk products, while carbonated beverages faced a 100% tax.

To promote healthier eating behaviors among consumers, the SFDA launched various educational campaigns under the HFS. These campaigns targeted food establishments in the workplace and aimed to increase fiber intake while reducing saturated fat and trans fatty acid consumption. Additionally, initiatives were implemented to celebrate the fruit and vegetable year, promoting awareness of their health benefits and minimizing waste. Another campaign focused on food establishments offering delivery services, enforcing limits on calories, sodium, added sugar, and total fat content, and promoting balanced meals through labeling. The SFDA also conducted public education initiatives through live events and social media platforms.

Food Security Strategy and Implementation Plan

The Ministry of Environment, Water, and Agriculture (MEWA) introduced the Food Security Strategy and Implementation Plan (FSSIP) in 2018 under Saudi Arabia's "Vision 2030" framework. This strategy aims to establish a sustainable and varied food system to guarantee access to safe and nutritious food for the nation's population (Ministry of Environment, Water, and Agriculture, 2018). To realize this objective, the strategy outlines ten key elements and initiatives to be executed within its scope.

1. Diagnose and analyze the current situation of food security in the Kingdom	2. Establish strategic food reserve and storage program.
3. Create an integrated governance system for coordination between sectors and stakeholders	4. Establish an early warning system for food security, including an information system for Agricultural markets
5. Launch a national program to reduce food loss and waste	6. Introduce national food trade and import policy, agreements and frameworks to partner with target countries
7. Conduct an organizational analysis of the General Grains Corporation and institutions relevant to food security to identify strengths, weaknesses and possible improvements	8. Implement a training and awareness program that addresses various aspects of food security and nutrition
9. Develop a strategy to encourage Saudi agricultural investment abroad	10. Strengthen the Kingdom of Saudi Arabia's participation in committees and agreements and treaties on food security

Source: Ministry of Environment, Water, and Agriculture, 2018

Recognizing the comprehensive nature of food security, the strategy underscores the importance of establishing public-private partnerships to effectively achieve its objectives. Alongside MEWA, the strategy delineates a roster of stakeholders from both sectors tasked with implementing food security initiatives in the country. Public sector stakeholders include entities such as the Saudi Grains Organization (SAGO), Ministry of Health, Agriculture Development Fund (ADF), SFDA, Ministry of Commerce and Industry, FAO, Ministry of Economy and Planning, and the Saudi Agricultural and Livestock Investment Company (SALIC). Additionally, food production and distribution companies including Al Marai, Nadec, Mayar, and Arasco are recognized as vital partners in realizing the strategy's goals.

In addition to the strategy, the Rural Sustainable Agricultural Development Program (REEF) was introduced in 2020 with the aim of supporting small agricultural producers and rural farms and improving food security. The program enables farmers and rural establishments to acquire production resources and agricultural services. It also facilitates the distribution process of agricultural products for small-scale farmers, allowing them to reach markets (Mubasher, 2020).

As a result of this program, the self-sufficiency rate in the value-added agriculture sector has surged to over 63% (Saudi Gazette, 2023). Moreover, import tariffs on several food products were raised in 2020 to safeguard local producers (El-Shaeri, 2023). Nudging away from trade not only allows farmers to increase their prices but also boosts domestic production which goes hand in hand with working towards self-sufficiency. Although SOMA MATER doesn't believe in absolute self-sufficiency, we believes in the effort to reduce the need for imports, and that the ideal state of "self-sufficiency" for a country is unique to every nation.

To meet population demand, the government has also embarked on endeavors to increase agricultural investments abroad. Notably, in 2020, Saudi Arabia's state grain buyer SAGO, made its first agricultural investments overseas by procuring 60,000 tonnes of Ukrainian Wheat (El Dahan, 2020). The integration of innovative agricultural technologies such as precision agriculture, data analytics, and drones has revolutionized farming practices, facilitating enhanced monitoring of crop health, improved irrigation techniques, and efficient pest control measures. These advancements have led to increased crop yields and a reduction in food waste (El-Shaeri, 2023).

In 2022, the government announced an initial investment of US$10 billion to support the implementation of a new food security action plan (Arab News, 2022). Details of the new food security action plan, however, are not available online. In 2023, the cabinet issued a decision to transform SAGO into the General Food Security Authority (GFSA) (Saba & Merriman, 2023). The GFSA is responsible for strengthening coordination between government agencies and the private sector in order to improve the country's food security system. Additionally, the government also launched a national program for food loss and waste in 2023, aimed at increasing awareness regarding the significance of limiting food waste. This initiative serves as another testament to the nation's dedication to realizing the objectives outlined in the Food Security Strategy (Al-Badwi, 2023).

Strategy for Sustainable Development of Agriculture in KSA up to 2030

Given the interconnectedness of food security and agriculture, MEWA introduced a comprehensive strategy in 2018 aimed at fostering the sustainable development of the agricultural sector. This strategy, building upon the foundations laid by the previously implemented FSSIP, outlines a roadmap for achieving five key objectives by 2030. These objectives include the improvement and sustainable management of natural resources, enhancing food security, generating employment opportunities, improving the living conditions of small-scale farmers, enhancing agricultural production efficiency, and promoting the health and safety of both plants and animals (MEWA, 2018).

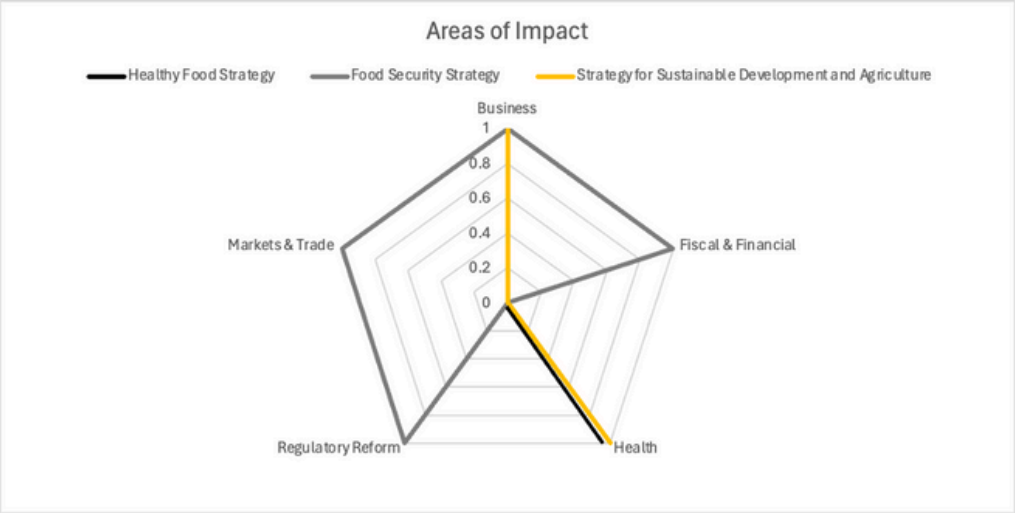
In alignment with the FSSIP, the strategy underscores the importance of implementing robust food storage and reserve programs, establishing effective coordination mechanisms, enhancing governance structures for food security, expanding Saudi Arabia's agricultural investments abroad, and implementing initiatives to minimize food waste and loss. Moreover, recognizing the importance of agricultural sustainability, the strategy underscores the need for water management, conservation of natural resources, and the provision of support to local small-scale farmers (MEWA, 2018).

Echoing the principles of the FSSIP and the Healthy Food Strategy, this agricultural strategy emphasizes the need for strong public-private partnerships to realize its objectives. Key stakeholders from the public sector include entities such as the SAGO, ADF, SFDA, FAO, the Ministry of Economy and Planning, and SALIC. Additionally, pivotal contributions from private sector entities such as the National Center for Palms and Dates, Nadec, and Booz Allen are recognized as essential for the successful implementation of the strategy's goals.

The strategy has been instrumental in strengthening the agricultural sector in the country. In 2020, the ADF launched a strategy to guide the organization's efforts in expanding and strengthening the agricultural and food security sectors in the country. In alignment with the strategy for sustainable development of agriculture and FSSIP, the ADF's strategy provides a roadmap on how the fund will support food security and agricultural development in the country (ADF, 2020). Since the implementation of the strategy for sustainable development of agriculture and the ADF strategy, investments in the agricultural sector have increased exponentially in the country. From 2018 until 2021, agricultural investments in KSA grew by an estimated 400 percent (Asharq Al Awsat, 2021). Recently, the ADF announced that it would provide investment loans worth more than $ 610 million to promote the development of the agriculture sector (Saudi Food Manufacturing, 2023). The increase in investments have contributed to the improvement of the country's agricultural practices and food security.

SOMA MATER has developed a framework to assess the areas impacted by policy. This framework can be used to compare between the strategies and the different areas they can influence. These areas have been identified as contributing to a holistic food security strategy and serve to meet complex needs of society, economy, agriculture and the environment.

Source: Soma Mater Analysis, 2024



Source: Soma Mater Analysis, 2024

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Policy Implementation Barriers and Gaps:

Through the introduction of various initiatives, reforms, and policies, the KSA has been inching toward meeting the sustainable development goals related to food security and nutrition. The strategies examined in this whitepaper acknowledge the interconnected nature of food security, sustainability, and nutrition. As such, they are comprehensive and are complementary to one another. They also demonstrate the country's commitment to creating an environment conducive to establishing sustainable food systems within the country. Moreover, since the implementation of these strategies, Saudi Arabia has been able to achieve significant milestones to promote food security and enhance nutrition outcomes of the population. For example there was a poultry production surge in 2024. Saudi Arabia's poultry production reached 1 million metric tons in 2022, up from 42% self-sufficiency in 2016 to 70% currently. This was driven by collaborations with Dutch agritech companies that brought innovative solutions (Ministry of Agriculture, Nature and Food Quality, 2024). Despite these achievements, global and local level factors continue to threaten the effective implementation of these policies.

The HFS laid the foundation for significant reforms in food manufacturing to ensure optimal nutritional intake within the population. However, there are a few implementation and policy gaps which could hinder the strategy's effectiveness. While the strategy addresses food nutrient content, it does not take into account the promotion of sustainable diets as a way to improve nutrition and food security outcomes. Additionally, a recent assessment of the policy revealed gaps in its implementation. According to Bin Sunaid et al., compliance with some of the regulations introduced by the strategy is subpar (Bin Sunaid et al., 2021). For example, a mere 2% of the assessed food manufacturers adopted front of pack nutrition labeling. Additionally, more than 20% of the evaluated products did not comply with the SFDA's sodium, sugar, and total fats limits.

Consumer behavior and eating patterns were also considered barriers hindering the effectiveness of the HFS. Previous studies had shown that despite having awareness on the impact of unhealthy diets on health outcomes, Saudi adults continued to have an elevated intake of fast foods and a low consumption of fruits and vegetables (Bin Sunaid et al., 2021). Given the lack of available data, it is difficult to ascertain whether the educational campaigns introduced as part of the HFS impacted dietary habits.

In contrast to the HFS, studies examining compliance and barriers to implementation for the FSSIP and the sustainable development strategy for agriculture are yet to be conducted. Nonetheless, Saudi Arabia continues to grapple with challenges threatening food security and its agricultural sector. An evaluation of the Economist Impact's Global Food Security Index exposes deficiencies in the country's sustainability and adaptation efforts. With a score of 28.3 in political commitment to adaptation, Saudi Arabia falls below the global average of 55.8 (Economist Impact, 2022), highlighting inadequacies in existing systems to mitigate the risks posed by climate change to the agricultural sector. Despite increased investments in agritech and policies aimed at water conservation in agriculture, the global food security index underscores the vulnerability of Saudi Arabia's agricultural sector to water scarcity. If left unaddressed, these factors will persist in impeding the efficacy of the FSSIP and the sustainable development strategy for agriculture.

Conclusion and recommendations:

When examining the KSA's three main food policies, it is clear that all the current strategies recognize the importance of adopting a comprehensive multi-sectoral approach to tackling the imminent threats to food security and nutrition. With the exception of the HFS, the strategies focus on increasing investments toward agri-tech innovations and decreasing food waste and loss. Through the implementation of these strategies, the KSA has made significant progress toward improving overall food security and dietary standards in the country. However, weak compliance, inadequate monitoring and evaluation, and insufficient research data make it challenging to ascertain the full impact of the strategies. Based on our assessment of the three main food policies KSA, we have identified a few recommendations that we categorized into short-term and long-term actions.

The short-term actions include conducting comprehensive research to identify obstacles hindering the execution of the Food Security and Sustainable Investment Program (FSSIP). Additionally, we believe undertaking a nationwide nutritional survey is crucial for gaining deeper insights into the nutritional status of the population and establishing a baseline. This can then lead to more accurate policy development. Launching nationwide awareness campaigns to underscore the significance of embracing sustainable diets is also essential. Finally, bolstering efforts to minimize food waste and losses throughout the Kingdom is a key priority as it is a significant issue that needs to be tackled to achieve a sustainable transition within the food system. Food waste and loss pose drastic environmental challenges, contributing to biodiversity loss, unsustainable use of land, water and resources, greenhouse gas emissions, which can all be mitigated by reducing food waste and loss (Dr. David Evans and Dr. Daniel Welch, 2015).

In terms of long-term actions the first is to increase investments in innovative agri-tech that reduce water consumption and improve the nutrient quality of food. Those could include seeding drought resistant crops, building mini-dams, and integrated nutrient management which have all been proven to increase local food production. Secondly, reforming food systems to advance towards sustainable and nutritious diets should be considered a priority. These strategies should integrate agricultural, healthcare, and environmental approaches to address interconnected benefits and challenges across various sectors such as agricultural production, trade, health, environmental conservation. Aimming to mitigate adverse impacts such as global warming, species extinction, and food insecurity. Finally establishing clear processes and mechanisms in legislation to monitor and enforce the implementation of laws.

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