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Food security and its impact on Saudi Arabia's national security and gulf security

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Abstract

This study investigates the relationship between food security and national security in Saudi Arabia and the Gulf region. It examines the impact of food insecurity on Saudi national security and the broader Arabian Gulf security, identifies the major challenges and limitations facing current food security policies and programs, and proposes strategic recommendations for enhancing food security. The study reveals direct impacts such as social unrest, economic instability, health implications, and migration while also highlighting indirect impacts, including political instability, economic consequences, social fragmentation, demographic pressures, and regional instability. The identified challenges encompass climate change, water scarcity, reliance on food imports, inefficient agricultural practices, socioeconomic disparities, and limited technology adoption. To address these challenges, the study recommends prioritising comprehensive food security policies, increasing investments in agriculture, research, and infrastructure, and fostering collaboration among governments, international organizations, academia, and the private sector. The findings underscore the significance of addressing food security to ensure national and regional stability and resilience in the face of evolving food security concerns.

Keywords:
Food security; national security; Saudi Arabia; Gulf region.

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Food security is a significant concern for Saudi Arabia and the Gulf region due to their substantial reliance on food imports and susceptibility to environmental and economic disruptions (Alrobaish et al. 2021). The Kingdom has several difficulties jeopardising food security, such as rapid population increase, acute water scarcity, the effects of climate change, and evolving dietary trends (Lambert and Hashim 2017). Food insecurity in the region can profoundly affect national and regional security, leading to economic instability, social discontent, and political turmoil (Haque and Khan 2022). Saudi Arabia, the largest economy in the Gulf area and a vital strategic hub, confronts considerable dangers, as any disruption to food supplies or escalation in food prices might generate enormous ripple effects throughout the region and beyond (Mohieldin et al. 2024). In recent years, Saudi Arabia and other countries in the Gulf have initiated various programs and initiatives to bolster food security, encompassing investments in advanced agricultural technology, aquaculture development, food processing, and policies designed to minimise food waste and enhance food safety (Al-Khateeb et al. 2021). Nonetheless, much effort is required to tackle the fundamental causes of food insecurity and to guarantee the stability and security of the region's food supply amidst increasing demand and climate change.

The security of the countries in the Gulf Cooperation Council (GCC) is increasingly endangered by intellectual movements that advocate extremist ideologies, incite violence, and destabilise the area. Saudi Arabia, as a member of the GCC, has been actively involved in addressing these concerns (Hameed, Quamar and Kumaraswamy 2022). However, the ongoing threat posed by extremism continues to persist. To address this problem, the study could comprehend the complex characteristics of extremist beliefs, the different routes to radicalisation, and how extremist organizations manipulate technology and social media platforms. The existence of unrest in nearby regions adds complexity to the task of combining security measures with concerns about civil liberties. Additionally, the significance of international cooperation further complicates attempts to tackle these dangers. Evaluating the efficacy of extremism programs is intricate because of their subtle and enduring effects. It is crucial to tactfully negotiate cultural and religious sensitivities to avoid estranging communities. Adapting policies comprehensively to respond to emerging threats is vital for enhancing the security of GCC members and ensuring durable regional peace, notwithstanding investments in counterterrorism efforts and measures for de-radicalization.

This research aims to examine the relationship between food security and Saudi national security, as well as its impact on Gulf security. Therefore, the objectives have been established in the following manner: to assess the impact of food insecurity on Saudi national security and the Arabian Gulf security; to identify the major challenges and limitations facing current policies and programs for enhancing food security in Saudi Arabia and the Gulf and evaluate their effectiveness in addressing food insecurity.

The framework shown in Figure 1 suggests that food security is the independent variable that can have an impact on the dependent variables of Saudi national security and Gulf security. The control variables of population and climate change are likely to influence the relationship between food security and the dependent variables, and the intermediate variables of political stability and military capability may mediate the relationship.

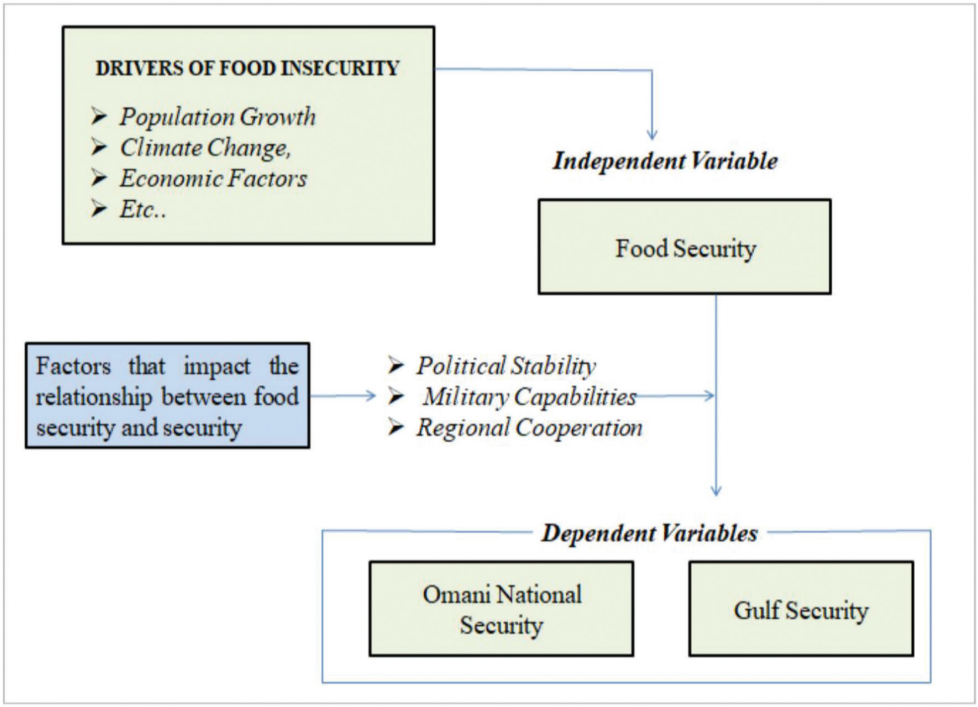

Figure 1 Conceptual Framework (Souce: Author's own work)

The proposed relationship suggests that food security, as an independent variable, may directly or indirectly influence the dependent variables of Saudi national security and Gulf security. The relationship is shaped by control variables such as population and climate change, which impact food availability and access. Additionally, intermediate variables like political stability and military capability affect the Kingdom's capacity to address food-related challenges and ensure security. Food security represents a significant challenge in Saudi Arabia and the broader Gulf region, attributed to dependence on food imports, susceptibility to external influences like climate change, and a rising demand for food. The literature indicates a strong correlation between food security and national and regional security, with food shortages potentially resulting in social unrest, political instability, and conflict.

This study investigates the complex relationship between food security and national security in Saudi Arabia, with implications for the broader Gulf region. The primary goal is to assess the potential threats to Saudi Arabia's security stemming from food insecurity and to explore strategies to mitigate these risks. Key challenges encountered in this research include the scarcity and inconsistency of relevant data,

the interdisciplinary nature of the topic, the rapidly evolving geopolitical landscape, and ethical considerations. To overcome these challenges, a comprehensive literature review, data triangulation, expert interviews, case study analysis, and statistical analysis were employed. The overarching purpose of this study is to enhance understanding of the food security- national security nexus, identify vulnerabilities, evaluate policy responses, propose recommendations, and inform decision-making for a more secure and sustainable future in Saudi Arabia and the Gulf region.

Research Design: The research will utilize a descriptive research design that aims to describe the current state of food security and its impact on Saudi national security and Gulf security. Secondary data sources will be used to collect data on food security and national security indicators.

Data Sources: Secondary data for this study will be obtained from a variety of credible sources, including government reports, academic journals, and research publications. Government reports will provide official statistics and insights into national policies, food security strategies, and relevant socio-economic factors affecting food security in the region. Academic journals and research papers will contribute to a deeper understanding of existing literature on food security, including findings from studies conducted in similar contexts. These sources will offer valuable data on food security patterns, challenges, and responses in the Gulf region and neighbouring countries. Additionally, international organizations and agencies, such as the World Food Programme (WFP) and the Food and Agriculture Organization (FAO), will serve as reliable secondary data sources to assess global trends and best practices in addressing food insecurity.

Data Collection: Data will be collected by conducting a comprehensive review of the existing literature on food security, national security, and their relationship in Saudi Arabia and the Gulf region. The review will include a qualitative synthesis of the findings, and the main themes and patterns will be identified.

Data Analysis: The data collected through the literature review will be analysed using a thematic analysis approach. The themes and patterns identified in the literature will be categorized into different groups and subgroups. The findings will then be presented in a descriptive format, highlighting the relationships and interactions between food security and national security in Saudi Arabia and the Gulf region.

Evaluating Success and Target Audience

The target audience for this study encompasses a diverse group, including policymakers, government officials, researchers, academics, international organizations, private sector entities, and civil society organizations. To evaluate the success of the activities, several key metrics can be employed. These include the

rigor of methodology and data analysis, the originality of insights, peer review and publication in reputable journals, the adoption of research findings by policymakers, the implementation of evidence-based policies, improvements in food security indicators, the dissemination of research findings through various channels, public awareness and engagement, and international collaboration. By assessing these factors, the overall impact of the study and its contribution to addressing food security and national security challenges can be effectively evaluated.

Results and Discussion

Food Security Categories

Chronic and Transient Food Insecurity in Gulf Countries:
Food security in the Gulf region, including Saudi Arabia, is a multifaceted issue that encompasses chronic and transient food insecurity. Chronic food insecurity refers to long-term, persistent food shortages, often caused by structural issues such as poverty, lack of local agricultural capacity, and economic inequality. In Gulf countries like Saudi Arabia, chronic food insecurity is not widespread but can still affect marginalized populations, particularly lower-income groups. These communities are vulnerable to global market fluctuations and economic shocks, which can affect their ability to access sufficient and nutritious food. Although the governments in the Gulf region have implemented social safety nets and subsidies to mitigate the effects of chronic food insecurity, this problem persists for certain segments of the population who face barriers such as high food costs and limited access to nutritious options. Furthermore, the reliance on food imports makes these nations susceptible to fluctuations in global food prices, which can exacerbate food insecurity for the vulnerable.

On the other hand, transient food insecurity is often temporary and caused by short-term disruptions. This may be due to factors like natural disasters, geopolitical instability, or sudden spikes in global food prices. In Saudi Arabia, transient food insecurity can occur when international trade disruptions affect the country's food supply or when extreme weather events (such as flooding) affect local production. These short-term food security challenges are often managed through emergency relief programs, including food aid and subsidies. However, they highlight the vulnerability of Gulf nations to global food supply chains and the importance of diversifying food sources and developing resilient domestic production systems.

Food Security in Neighbouring Countries:
When examining food security in neighbouring countries in the Middle East and South Asia, the situation varies widely due to differences in local agricultural practices, economic structures, and political stability.
United Arab Emirates (UAE): The UAE faces similar food security challenges to Saudi

Arabia. It is highly reliant on food imports to meet the needs of its population, as it has limited arable land and water resources. The UAE's food security is generally categorized as relative, as the country ensures access to food through strategic imports, but it remains vulnerable to fluctuations in global supply chains. Chronic food insecurity is not widespread, but transient food insecurity could arise in times of crisis, such as the COVID-19 pandemic, when global food supply chains were disrupted. The UAE has responded by investing in innovative agricultural technologies, such as vertical farming and hydroponics, to improve food production domestically.

Oman: Oman faces both chronic and transient food insecurity challenges. While the country does not experience widespread chronic food insecurity, lower-income groups in rural areas may struggle to access sufficient food due to limited infrastructure and high food prices. Transient food insecurity in Oman can occur due to temporary disruptions, such as seasonal price hikes or natural disasters like cyclones, which affect local food production. However, Oman has made strides in improving its food security by implementing policies aimed at diversifying food sources and investing in agricultural research.

Yemen: Yemen faces extreme levels of chronic food insecurity. A combination of conflict, economic instability, and poor agricultural infrastructure has led to widespread food shortages and severe malnutrition. The country relies heavily on food imports, but ongoing conflict has disrupted supply chains, exacerbating the problem. Yemen has one of the highest rates of food insecurity in the Middle East, with millions of people unable to meet their daily food requirements. Humanitarian aid plays a critical role in addressing food insecurity in Yemen, though the situation remains dire and long-term solutions are needed to stabilize the country's food systems.

Kuwait: Similar to its Gulf neighbours, Kuwait is heavily dependent on food imports due to its arid climate and lack of agricultural resources. Chronic food insecurity is not a significant issue, but there are concerns about transient food insecurity during periods of economic downturn or global price hikes. Kuwait has implemented measures to enhance food security, such as establishing food reserves and promoting research into sustainable agricultural practices, but it remains vulnerable to fluctuations in the international food market.

Iran: Iran experiences a mix of chronic and transient food insecurity. Chronic food insecurity is prevalent in rural areas, where poverty, limited access to land, and agricultural inefficiency affect food access. The country's reliance on domestic production and its challenges in importing food due to international sanctions have led to instability in food availability and access. Transient food insecurity in Iran is also a concern, particularly during times of economic sanctions or geopolitical tensions, which disrupt supply chains and inflate food prices. Iran has made efforts

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to increase domestic food production, but these challenges continue to affect food security in the country.

Overall, the food security situation in the Gulf and its neighbouring countries highlights the complexities of managing food availability, access, and stability in a region that faces both chronic and transient food insecurity. While Gulf countries like Saudi Arabia and the UAE are generally able to maintain relative food security through imports and strategic policies, they remain vulnerable to global food market fluctuations and short-term disruptions. In contrast, countries like Yemen face more severe challenges, with widespread chronic food insecurity driven by conflict and economic instability. Efforts to improve food security in the region will require a combination of short-term solutions, such as food aid and subsidies, as well as long-term strategies focused on sustainable agricultural practices, diversification of food sources, and enhanced resilience to global disruptions.

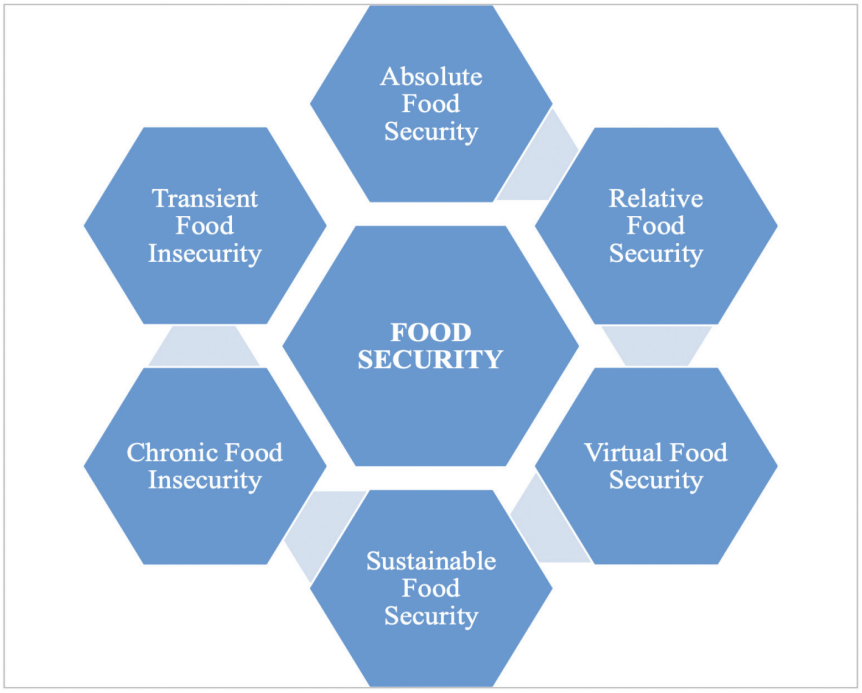

Figure 2 Food Security Categories Diagram (Souce: Author's own work)

Absolute Food Security in the Gulf and Saudi Arabia: Absolute food security in the context of the Gulf countries, including Saudi Arabia, would mean that these nations could meet their food demand entirely through domestic production, without relying on imports. However, this is a challenging goal given the harsh desert climate, limited arable land, and water scarcity in the region. Despite this, there have been efforts to increase agricultural production, particularly through the use of advanced technology such as hydroponics, desalinated water for irrigation, and investment in agricultural innovation. Saudi Arabia, in particular, has been exploring sustainable farming practices to boost local food production, but achieving absolute self-sufficiency remains an aspiration rather than a reality.

Relative Food Security in the Gulf and Saudi Arabia: Saudi Arabia, and the Gulf region more broadly, falls under the category of relative food security. These countries do not rely solely on domestic food production but have systems in place to ensure regular food access, often through strategic imports. Saudi Arabia imports a significant portion of its food, especially staples like grains, meat, and vegetables. The government has developed policies and established partnerships with countries around the world to secure reliable and diverse sources of food. Through strategic investments in agricultural projects abroad and partnerships with global food suppliers, Saudi Arabia maintains a steady food supply and ensures that its population has access to adequate food.

Apparent or Virtual Food Security in the Gulf and Saudi Arabia: While Saudi Arabia may appear to have robust food security, producing a significant amount of some food items, such as wheat or dates, much of the agricultural input comes from imports. For example, Saudi Arabia imports the majority of its fertilizers, seeds, and technology for crop production. In the case of wheat, although Saudi Arabia once produced a substantial portion of its wheat, it has reduced domestic production in favour of importing it due to water scarcity and other environmental constraints. As a result, while domestic production figures may look positive, the country is still heavily reliant on external resources, which means its food security could be vulnerable in the event of global supply chain disruptions.

Sustainable Food Security in the Gulf and Saudi Arabia: Saudi Arabia has recognized the importance of sustainable food security and has started focusing on long-term strategies to enhance agricultural productivity while preserving natural resources. For instance, the country is investing in water-efficient technologies like drip irrigation and desalination, as well as improving soil management practices. Moreover, there is an emphasis on increasing the sustainability of food production systems by supporting the development of aquaculture, greenhouse farming, and vertical farming. Saudi Arabia's Vision 2030 plan highlights sustainable agriculture as a key component in reducing dependence on food imports and improving food security for future generations.

Chronic Food Insecurity in the Gulf and Saudi Arabia: Although Saudi Arabia is generally considered to have adequate food security, chronic food insecurity can still affect certain vulnerable populations, particularly those who are economically disadvantaged or live in rural areas. Due to the country's reliance on imports and the fluctuating prices in global markets, some segments of the population may struggle with consistent access to food. Chronic food insecurity in Saudi Arabia is not widespread, but it is a concern for lower-income groups who are affected by global economic factors, such as rising food prices or regional conflicts that may disrupt supply chains.

Transient Food Insecurity in the Gulf and Saudi Arabia: Transient food insecurity is more likely to occur in Saudi Arabia and other Gulf countries due to short-term

events like fluctuations in global food prices, natural disasters (such as flooding), or temporary disruptions in the food supply chain. For instance, disruptions in food imports due to global crises, such as the COVID-19 pandemic or geopolitical tensions, may temporarily cause shortages or price hikes, affecting the availability and accessibility of food. In such cases, emergency measures like food aid or government subsidies can help mitigate the short-term effects and restore stability.

Dimensions of Food Security in Gulf and Saudi Arabia: In the Gulf region, food security is heavily influenced by the dimensions of availability (access to sufficient food through imports and local production), access (economic and physical access to food despite reliance on imports), utilization (the nutritional value and safety of food), and stability (ensuring consistent food access despite external factors like price volatility or geopolitical instability). Saudi Arabia, for example, has invested in international food security partnerships and technologies to improve food availability and ensure that food meets the nutritional needs of its population. Furthermore, the government focuses on stabilizing food prices and creating mechanisms to address potential disruptions in the food supply, ensuring that citizens have access to food consistently.

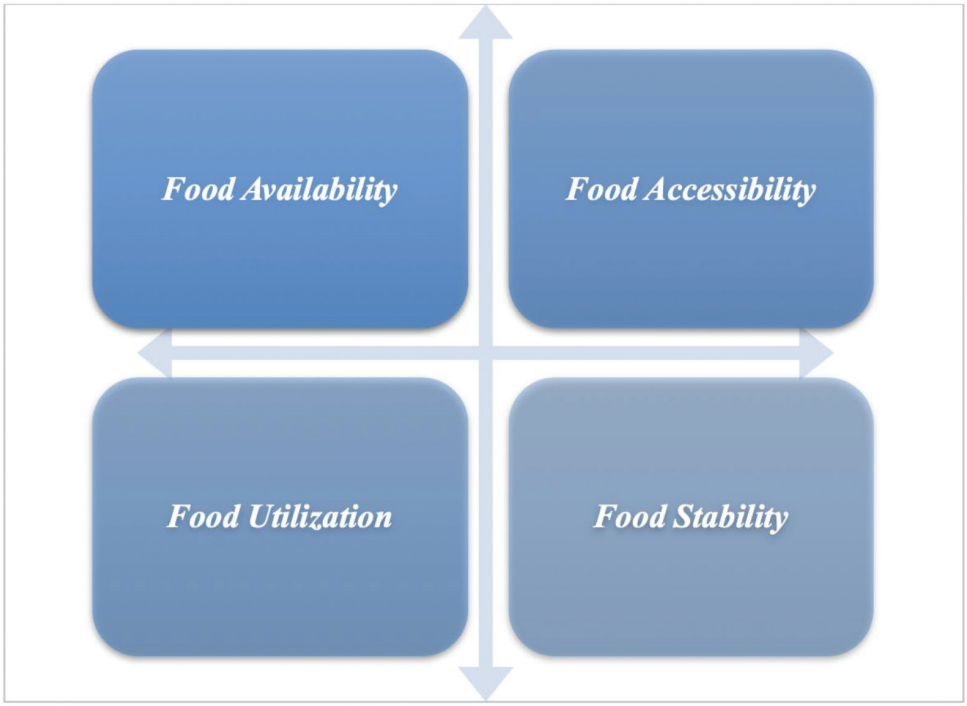

Figure 3 Dimensions of Food Security diagram (Souce: Author's own work)

The first dimension of food security is availability, which refers to the physical presence of food in sufficient quantities at national, regional, and local levels (Figure 3). Availability involves the production, storage, and distribution of food. A country with a high level of agricultural production and adequate storage facilities can ensure the availability of food. For example, Saudi Arabia has invested significantly in agricultural technology and storage infrastructure to enhance food availability (El-Dukheri 2024).

The second dimension of food security is accessibility, which refers to the ability of individuals and households to obtain food through markets, trade, and social safety nets. Accessibility involves economic, social, and physical access to food. For example, Saudi Arabia has implemented various social welfare programs to ensure food accessibility for vulnerable populations (Alrobaish et al. 2021).

The third dimension of food security is utilization, which refers to the ability of individuals and households to consume food that meets their dietary needs and preferences. Utilization involves the quality and safety of food, as well as knowledge and behaviours related to food preparation and consumption. For example, Saudi Arabia has implemented comprehensive food safety regulations and nutritional education programs (Ayad et al. 2022).

The fourth dimension of food security is stability, which refers to the ability of individuals and households to maintain food security over time, even in the face of shocks and stresses such as natural disasters, economic downturns, or conflicts. For example, Saudi Arabia has established strategic food reserves and diversified its food import sources to ensure stability (Elrasheed 2024).

Food insecurity poses significant challenges to national security in both Saudi Arabia and the Gulf region. Direct impacts include social unrest, economic instability, dependency on imports, health implications, and migration and displacement. Social unrest arises from inadequate access to food, leading to public dissatisfaction, protests, and potential violence, particularly in densely populated urban areas of the Kingdom. Economic instability occurs due to decreased productivity, increased healthcare costs, disruptions in agriculture, and supply chain disruptions, with Saudi Arabia spending approximately SAR 87 billion annually on food imports (Alderiny et al. 2020). Dependency on imports exposes the Kingdom to fluctuations in global food prices and supply disruptions, with over 80% of food requirements being imported. Health implications include malnutrition, weakened immune systems, and increased vulnerability to diseases, affecting approximately 12% of the Saudi population (Bin Sunaid et al. 2021). Migration and displacement occur as people, particularly from rural agricultural areas, are compelled to search for better access to food and economic opportunities in urban centres, straining resources and potentially causing conflicts.

The indirect impacts of food insecurity encompass political instability, economic consequences, social fragmentation, demographic pressures, and regional instability. Political instability arises from discontent, protests, and challenges to government authority, affecting national security, particularly in regions with high unemployment rates (Albejaidi and Nair 2021). Economic consequences include hindered economic growth, decreased productivity, and limited resources for addressing security challenges, with an estimated annual economic impact of SAR 23 billion

(Alharbi et al. 2021). Social fragmentation arises from divisions due to competition for resources, deepening inequalities, and social unrest, which is particularly evident in the Kingdom's rapidly urbanizing areas. Demographic pressures arise from increased poverty, unemployment, and migrations driven by food insecurity, straining resources and contributing to social tensions, especially given Saudi Arabia's 1.7% annual population growth rate. Regional instability emerges when neighbouring countries face food insecurity, leading to resource conflicts and regional tensions impacting national security, which is particularly relevant given the Kingdom's strategic position in the Gulf region.

Current policies and programs for enhancing food security in Saudi Arabia and the Gulf face significant challenges and limitations. Climate change, water scarcity, and limited arable land pose major obstacles to agricultural production and food self-sufficiency, with only 1.6% of the Kingdom's land being arable (Al Naimi 2022). The reliance on food imports makes the region vulnerable to global price fluctuations and supply disruptions. Inefficient water management practices and unsustainable agricultural methods further exacerbate the problem, with agriculture consuming approximately 84% of Saudi Arabia's water resources (Alrwis et al. 2021). Additionally, socio-economic disparities, lack of access to resources for small-scale farmers, and limited technology adoption hinder progress. While efforts have been made to enhance food security through investment in agricultural infrastructure, technology adoption, and diversification of food sources, the effectiveness of these policies and programs in fully addressing food insecurity remains a continuous challenge.

This study indicates that food insecurity substantially affects security at both national and regional levels via various pathways. The study illustrates that food insecurity can significantly weaken political systems, provoke social unrest, and jeopardise economic stability. Limited food access and rising prices can lead to public dissatisfaction, which may manifest as protests that have the potential to escalate into more severe conflicts. The data indicates that food insecurity exacerbates social inequalities and economic vulnerabilities, creating further security challenges. Food-related hardships often lead to population displacement and migration as communities pursue improved opportunities, thereby straining resources in destination areas and increasing social tensions. The health consequences of food insecurity, notably prevalent malnutrition and heightened vulnerability to diseases, exacerbate security issues by undermining community resilience.

This study concludes, based on comprehensive data analysis and contextual examination, that a significant correlation exists between food insecurity and security threats in KSA and the Arabian Gulf region. The empirical evidence robustly corroborates our initial hypothesis, illustrating the complex relationship between food security and regional stability.

Conclusion

This study has identified multiple effective strategies to tackle the intricate challenges confronting Oman and the Arabian Gulf region in achieving food security. Our findings highlight the essential need for a comprehensive and cohesive strategic framework. A comprehensive framework should include various interconnected aspects of food security, such as improved agricultural productivity, effective water resource management, reinforced climate resilience strategies, and streamlined trade networks. The research underscores the importance of ongoing investment in research and development, systematic capacity-building initiatives, strategic land use planning, comprehensive waste reduction programs, and robust social safety net mechanisms. The study concludes that adopting sustainable agricultural practices, fostering technological innovation, and cultivating solid collaborative relationships among key stakeholders in both the public and private sectors are fundamentally important. Moreover, these initiatives require robust policy frameworks and governance structures to guarantee their sustainability and effectiveness in meeting regional food security goals. This comprehensive strategy, underpinned by evidence-based policymaking and intersectoral collaboration, signifies the region's most effective route to achieving sustainable food security.

Recommendations

The Saudi government must give top priority to the development and implementation of comprehensive food security policies to address these pressing issues. These policies must incorporate the following identified strategies and methods:
The government should prioritize the creation and implementation of comprehensive food security policies that align with Vision 2030's goals, incorporating modern agricultural technologies and sustainable practices. This includes expanding the current SAR 5 billion agricultural technology investment program to cover 75% of the Kingdom's farming operations by 2026 (Bin Sunaid et al. 2021). It is essential to increase investments in agriculture, research and development, and infrastructure to facilitate the transition to more sustainable and resilient food systems. Collaboration between Saudi government entities, international organizations, the academic community, and the private sector is essential for knowledge sharing, technology transfer, and coordinated efforts to address food security issues. Food security strategies should prioritize the incorporation of climate change adaptation and mitigation measures, particularly given Saudi Arabia's vulnerability to rising temperatures and water scarcity. To promote sustainable consumption patterns, reduce food waste (currently at 33%), and increase nutritional awareness, public awareness campaigns and educational programs should be initiated through a coordinated national strategy. Strengthening social safety nets, targeting vulnerable populations and ensuring their access to adequate and nutritious food should be a priority. To assess the efficacy of implemented strategies and make necessary

adjustments, continuous monitoring, evaluation, and adaptive management techniques should be utilized through the newly established National Food Security Monitoring Centre.

Future Work

To increase our comprehension of regional dynamics and develop context-specific solutions for Saudi Arabia, additional research is required in the following areas: economic viability studies of implementing proposed strategies and policies, particularly focusing on the cost-effectiveness of water conservation technologies and desert agriculture; evaluation of social and environmental impacts of agricultural interventions in the Kingdom's different ecological zones; investigation of potential implementation barriers, especially regarding technology adoption among small-scale farmers; research on the role of technology, digitalization, and precision agriculture in enhancing food security in Saudi Arabia, with particular emphasis on artificial intelligence and IoT applications; studies on the integration of traditional knowledge with modern agricultural practices in the Saudi context; analysis of climate change impacts on future food security scenarios specific to Saudi Arabia's geographical conditions; assessment of the effectiveness of regional cooperation mechanisms in enhancing food security; investigation of innovative financing mechanisms for food security projects in the Kingdom. This research agenda should be pursued through collaborative efforts between Saudi research institutions, international partners, and the private sector, with adequate funding and support from relevant government agencies.

Research Limitations

During the conducting of this thesis and the analysis of the necessary files and books, the researcher revealed some of the determinants, which are as follows: Limited Data Availability: Due to the sensitive nature of national security issues, challenge in accessing reliable and comprehensive data, which can limit the scope of study. Lack of Empirical Studies: While there are many theoretical and conceptual studies on the link between food security and national security, there is a lack of empirical research that examines the causal relationships between these variables. Lack of Longitudinal Studies: Few studies have examined the long-term trends in food security and its impact on national security in the region, which can limit our understanding of how these issues are evolving over time. Methodological Limitations: Different studies use different methods and definitions of food security, making it difficult to compare results across studies and draw firm conclusions.

Assessing Goal Achievement

The success of the study's goals can be evaluated by assessing the quality and sufficiency of data collection and analysis, the impact of research findings on policy decisions, the effectiveness in raising public awareness, the contribution to academic discourse through publications and citations, and the strength of international collaborations.

Future Plans

Building upon the initial research, future plans may involve in-depth exploration of specific subtopics, active engagement with policymakers to advocate for evidence-based policies, capacity-building initiatives for stakeholders, strengthening international collaborations, and establishing a robust monitoring and evaluation system to track the impact of implemented policies and strategies.

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