

The Impact of COVID-19 Pandemic on Food Security in KSA (1968-2019): Evidence From A Simultaneous Equations System

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ABSTRACT

The study took up the Impact of COVID-19 Pandemic on Food Security in KSA (1968-2019), covering data from the period of 1968- 2019, using simultaneous equation model (SEM) through the Weighted L.S. (Equation Weights) method with Johansson co-integration test, to find out what variables can be affecting the food insecurity status in KSA. The study found that, the increasing in food insecurity status to a low degree due to taxes affect the local price level positively, and the increase in local price levels will lead to a decrease in consumer prices, and decrease a household consumption expenditure, as well as a decrease in the per capita national income. However, an increase in food insecurity status to a moderate degree due to decline in consumer prices which lead to a decrease in the level of domestic food production, and in turn leads to a decrease in the gross domestic product, fluctuation of inflation rates and increase in the demand for imported food due to the high level of government expenditure and a higher percent of direct and indirect subsidies for populations. The study recommends that reducing burdens and taxes on imported food in order to reduce the status of food insecurity in the short-run with supporting food producers following policies encouraging and motivating farmers, policy makers should focus on adopting contractive fiscal and monetary policies to reduce aggregate demand in the short-run, and effective economic policies that increase production and productivity and reduce production costs in the long run to reduce food insecurity status, in long run also the policies propaganda in encouraging the population to invest in agriculture and food production by addressing the problem of water and soil in addition to the use of contemporary agricultural technology that leads to an increase in food production and reduced costs. And avoiding the negative effects of the food import problem, especially in light of the COVID-19 pandemic that troupe a shadow over food security all over the world.

Keywords: COVID-19 pandemic; Food security; Consumer price index; Taxes on income; Simultaneous equation

INTRODUCTION

The global COVID-19 pandemic, and social distancing efforts implemented to slow its spread, have disrupted economies and food systems globally and locally, with extensive food security ramifications. Food insecurity; the lack of consistent physical, social, and economic access to adequate and nutritious food that meets dietary needs and food. COVID-19 has disrupted food access and impacted food security. Food insecurity is not just a consequence of an inability to afford food, however. The COVID-19 pandemic affects all dimensions of food security, defined by the United Nations to include food availability,

accessibility, utilization, and stability. Food availability has shifted in the short term by consumer panic shopping, but longer-term availability challenges may also unfold. The COVID-19 pandemic threatens accessibility to food through effects on food costs and food prices, and widespread changes in food purchasing behaviors [1].

Given the fact that, the Kingdom of Saudi Arabia (KSA) imports 80% of its food supply and food dependence may rise with declining water resources, decreasing domestic crop production, rapidly expanding population and worsening climate change. However, the relationship between food security and

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Received: February 18, 2021; **Accepted:** March 04, 2021; **Published:** March 11, 2021

Citation: Fadol HA, Elneel FA (2021) The Impact of COVID-19 Pandemic on Food Security in KSA (1968-2019): Evidence from A Simultaneous Equations system. J Food Microbiol Saf Hyg. 6: 146.

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international trade is highly complex and policy directions are not always straightforward or unified across countries. There are many factors to consider. For example, trade barriers can restrict food availability in regions experiencing food deficits, leading to higher prices and reduced access to food. High levels of subsidy support to agriculture in some countries can put downward pressure on world prices and reduce incomes for other agricultural exporters.

There are few, if any, peer-reviewed studies using empirical evidence to document actual changes in food insecurity due to COVID-19. This study seeks to investigate the effects of COVID-19 on food security in KSA from the period of 1968-2019; using simultaneous equation model (SEM) with Johansson co-integration test, to find out what variables can be affecting the food insecurity status in KSA.

LITERATURE REVIEW

Food security refers to the physical availability of food, and to whether people have the resources and opportunity to gain reliable access to it. The 1996 World Food Summit defined food security as the situation “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”. More technically, the four pillars of food security are availability, access, utilization and stability of supply have shown that, although the agriculture sector in KSA faced mounting challenges from climate change and water scarcity, as well as the rising prices of agricultural products Saudi Arabia was working closely with Arab regional organizations and international groups to guarantee food and water security, and promote sustainable agricultural development and environmental balance. Baig also observed that Saudi Arabia’s efforts in providing free health services and top-class quarantine facilities are laudable at a time when many advanced European countries are finding it difficult to serve their own citizens. Henceforth, food security means all peoples, at all times, have access to enough food for an active, healthy life, KSA government try to mitigate the effects of the COVID-19 pandemic was succeeded in implementing the mandated measures of the Vision 2030 to preserve the health of citizens and residents and to ensure a safe environment in the most difficult circumstances. Global food supplies and access have improved dramatically in 1970s, as increasing agricultural supply has outpaced increases in demand driven by population growth and rising average incomes. So, global microeconomic reforms and lower trade barriers since the 1980s have added to these improvements in agricultural productivity and food accessibility. However, despite this substantial global progress, many low and medium-income countries continue to struggle with food insecurity, poverty, and malnutrition highlighted that trade restrictions, such as import quotas or tariffs can increase domestic food production in good years, but also increase domestic food prices and food price volatility, reducing economic access for urban and poor rural households (who are more likely to be net food buyers). So, trade restrictions also make countries more vulnerable to extreme events and poor local seasonal conditions. They thus generally reduce national food security. The current pandemic, concerns over

food security have caused some major exporters of staple products to once again consider restricting exports. Such measures applied during the 2007 and 2008 food price crisis significantly increasing world prices and amplifying the impact on poverty and food insecurity have found that the fluctuations in world market prices can cause fluctuations in domestic prices and/or government budgets unless the country is insulated from world markets or holds sufficiently large stocks. So, if variability in the domestic production of a country is smaller than variability in the world market prices, greater self – sufficiency may lead to greater stability in its domestic prices for a given allocation of resources through buffer stock operations of trade. Also, highlighted that the fluctuations in food prices can have undesirable consequences; not only the poorest suffer more when food prices rise, but, to the extent that wages are influenced by food prices, a cost-push inflation may be triggered by food price increases, if prices and wages are so rigid that they do not fall when food availability increases later [2,3].

So, it is thus conceivable that the social benefits of stabilization food prices through food self-sufficiency, when feasible, exceed the costs of forgoing the benefits of dependence on imports that are cheaper on the average. has shown that food security may be influenced by anything that government do to improve income and reduce poverty; to increase agricultural production, especially by poor rural households; to ensure prices that fair to producers and consumers; and to make services available to people, where including; increasing agricultural food production, preferably using sustainable methods in such a way that poor subsistence farmers who are most vulnerable to food insecurity derive benefit; taking steps, if necessary, to import more food and to limit the export of food where this will improve food security; promoting improved marketing of food and better food destitution in a manner that addresses problems of food insecurity; in time of modest food crisis when shortages of food are predicted, releasing or moving foods into crisis area to prevent price rises and profiteering and to stabilize supplies so that market mechanisms protect the poorer people from a food shock; if the proceeding strategy is not working or is deemed impossible, effecting food price controls, subsidization or rationing, but only if doing so is unlikely to be disincentive to food production; improving equity by ensuring that all people pay fair share of taxes and perhaps by increasing minimum wages and offering subsidized or free services to poorer people; streamlining the purchase of cash crops produced by small farmers so that most of what is paid goes into their buckets of intermediates or being spend on bureau-cretic marketing practices.

Given the impact of food production and weather on price of food, it has become increasingly clear that food security crises are far more related to market conditions than to weather shocks directly, Many studies have been carried out this issue, we reviewing the most recent one, such studies conducted by researchers and institutions such that studies as; in any scenario, WHO, 2020 has shown that the most affected will be the poorest and most vulnerable segments of the population. So, the poorest and most vulnerable populations have fewer resources to cope with the loss of jobs and incomes, the increase of food prices and the instability of food availability, and therefore have

less ability to adapt to the crisis. WHO argued that the COVID-19 pandemic is already affecting food systems directly through impacts on food supply and demand, and indirectly through decreases in purchasing power and in the capacity to produce and distribute food, which will have differentiated impact and will more strongly affect the poor and vulnerable [3].

WHO, 2020 identified that potential risk for global food availability and food prices will depend on the duration of the outbreak and the severity of containment measures needed. Isolated country-level policies are likely to amplify the effects of the crisis on food security and nutrition at the global level, especially for developing and food-insecure countries [4]. Further, the potential impact of the pandemic on food production in major food producing countries (e.g. China, EU, USA) could have serious implications for global food availability and food prices. The experience gained so far with the COVID-19 outbreak comes from developed and industrialized countries (China, South Korea, Italy, among those more affected), and it is difficult to predict the impact of the outbreak on the economy as a whole and on FSN in developing countries based on current experience.

The broader economic crisis that is emerging because of the COVID-19 crisis also poses enormous challenges for food security and nutrition. In particular, people working in casual labour, services, restaurants, and retail, for example, face massive job losses (in part due to social distancing policies, and in part due to the broader economic slowdown) and hence will surely see a major drop in their incomes. While food producers may still see demand for their production, disruptions to agri-food supply chains and markets may make their livelihoods less secure as well, especially from countries with strict policies that are leading to a reduction in overall demand a reduction in the ability of farmworkers to travel to their employment, both domestically and internationally. These declines in income have direct implications for people's access to food. Also, WHO 2020 argued that COVID-19's impacts on food supply and demand will directly and indirectly affect all four pillars of food security and nutrition (FSN). It is also expected that there will be immediate effects resulting from the containment measures adopted in several countries, and these measures will also have longer-term effects affecting the full global economy. So, starting with the containment and social distancing policies, the pandemic creates first a spike in demand, due to panic buying and hoarding of food by consumers, which will increase food demand in the short term. However, this spike in purchases can be followed by a declining trend in demand, both in terms of physical ability to purchase food, and in terms of loss of income and purchasing power linked to the loss of jobs and the freezing of economic sectors. Changes in short-term preferences due to perception in food safety or convenience can become long-term changes, with repercussions on food systems, livelihoods of food producers and dietary diversity [5].

Since the declaration by FAO of COVID-19 as a global pandemic on 11 March, governments of the region have imposed social distancing measures, strict restrictions on the movement of people, curfews and in some instances total lockdowns. Businesses, banks, markets, public services and

schools have closed partially or totally, bringing economic life to a halt. This has meant great losses of revenue and jobs, and threats of bankruptcy of companies, especially among Small and Medium Enterprises (SMEs). So, this policy brief aims to assess the potential impact of COVID-19 and associated lockdown and social distancing on agriculture and food security in the Near East and North Africa region. It proposes measures to mitigate the impact on food security and nutrition, with special attention paid to the most vulnerable segments of society [6].

According to FAO, 2020 argument, so despite largely positive global food market fundamentals, prolonged lockdowns and lasting disruptions in global transport logistics worldwide, restrictions on exports and hoarding by importing countries can affect global food availability and prices. It is important, in this regard, that necessary measures are undertaken to ensure that food supply chains continue to flow smoothly and food trade markets are kept open. The NENA countries all have different exposure to the impact of COVID-19. While most countries may withstand the initial supply and demand shocks associated with COVID-19, a deepening of the global recession and prolonged disruption in the global and local supply chains could have considerable impacts on availability and access to food. Countries experiencing conflict or instability and least developed countries are the most at risk, but so are countries dependent on food exports or oil exports to a lesser extent [7-10].

Actions must be taken immediately according to FAO 2020 to maintain food access and security in the midst of this public health crisis, governments must urgently establish or strengthen social protection mechanisms and emergency food assistance programs that protect the most vulnerable, including infants and children, older persons, those living with disabilities, and those living in poverty; many of whom already rely on food aid. So, immediate measures already endorsed by the UN and FAO include providing cash transfers or individual debt relief to the most vulnerable families, ensuring food banks and community-based meal providers have the means for mobile delivery, or setting up complementary entitlements to offset loss of income and maintain household food security.

All measures as shown by IPES (2020) must also be compatible with the wide variety of cultural, socio-economic, or geographic contexts that may affect public health responses. Local strategies have been identified by researchers as critical in outbreak responses, including the creation of formal or voluntary community systems to identify which households are isolating and need further support to procure food and water, or the establishment or re-purposing of temporary low-cost structures to safely house and provide for vulnerable groups (e.g. the homeless, the sick). Special attention must also be paid to the conditions of the myriad of informal urban settlements with high population densities and limited infrastructure that house most of those living in poverty, as well as the many rural communities that rely on shared food provisioning across households [11].

IIFRC (2020) has shown that, independently of the evaluation of the crisis, the current measures already impact the most economically and food insecure people. So, with less resources,

no access to social protection or safety nets, they incapacity to cope with the loss of incomes put them at high of in depth poverty. Moreover, quarantines, bans, restrictions on the movement of goods and people can have significant socio-economic repercussions on people's livelihoods. While these restrictions are necessary to limit the spread of a disease, they often lead to disruption of market chains and trade of agricultural and non-agricultural products, with significant potential impacts on the populations that depend on them for their livelihoods and their food and nutrition security. So, the context of 2020 already started with an increase in food insecurity due to conflicts, drought, locust invasion and other climate change effects, with over 800 million people facing chronic undernourishment and over 100 million people in need of lifesaving food assistance, previous to COVID-19 crisis. With ongoing responses in ESA and WCA increasing numbers [12].

We also note that increasing taxes leads to a decrease in the level of domestic food production, which in turn leads to a decrease in the level of GDP. It also notes that the increase in household consumption expenditure levels leads to an increase in market price levels, higher costs of living and higher rates of inflation, and thus this leads to a high level of food insecurity. It should be noted here that policy makers should focus on adopting contractionary fiscal and monetary policies in the short run to reduce aggregate demand and effective economic policies that increase production and productivity and reduce production costs in the long run to reduce food insecurity status in the Kingdom.

More important, we note that the increase in population growth rates is not reflected in a very high degree of local food production. This result indicates that the food insecurity status in the Kingdom is subject to continued dependence on food imports, which has been greatly affected by the COVID-19, according to a large number of studies and research, and thus this is reflected in the increase in food insecurity in the Kingdom in light of the repercussions of this pandemic [13]. The policies here propaganda in encouraging the population to invest in agriculture and food production by addressing the problem of water and soil in addition to the use of contemporary agricultural technology that leads to an increase in food production and reduced costs, thus lowering food prices and reducing the cost of living, and providing the government with large financial reserves that used to go to supporting imported food can be used in agricultural economic development and providing infrastructure for it, as well as increasing GDP, diversifying production, localizing the food industry, increasing job opportunities, reducing inflation rates, addressing the unemployment problem, increasing government revenue sources, and avoiding the negative effects of the food import problem, especially in light of the COVID-19 pandemic that troupe a shadow over food security all over the world. From the analysis we find that the decline in consumer prices leads to a decrease in the level of domestic food production, which in turn leads to a decrease in the gross domestic product, fluctuation of inflation rates and an increase in the demand for imported food due to the high level of government expenditure and the high percent of direct and indirect subsidies for populations, which leads in the occurrence of COVID-19

pandemic, which has troupe a negative shadow over the rise in food prices in the world, has led to an increase in food insecurity to a moderate degree in the Kingdom of Saudi Arabia, especially since approximately 80% of the food is imported from abroad. The study recommends that policy makers need to work to reduce burdens and taxes on imported food, in order to reduce the status of food insecurity in the Kingdom, in addition to moving forward in drawing up effective policies for local food production and reducing the percent of food imports by supporting producers and following policies encouraging and motivating farmers, in addition to using contemporary agricultural technologies, especially in the water and soil reclamation side [14].

Also an increase taxes leads to a decrease in the level of domestic food production, which in turn leads to a decrease in the level of GDP, an increase in household consumption expenditure levels leads to an increase in market price levels, higher costs of living and higher rates of inflation, and thus this leads to a high level of food insecurity. Policy makers should focus on adopting contractionary fiscal and monetary policies in the short run to reduce aggregate demand and effective economic policies that increase production and productivity and reduce production costs in the long run to reduce food insecurity status in the Kingdom [15].

However, an increase in population growth rates is not reflected in a very high degree of local food production. This result indicates that the food insecurity status in the Kingdom is subject to continued dependence on food imports, which has been greatly affected by the COVID-19, and thus this reflected in the increase in food insecurity in the Kingdom in light of the repercussions of this pandemic. The policies here propaganda in encouraging the population to invest in agriculture and food production by addressing the problem of water and soil in addition to the use of contemporary agricultural technology that leads to an increase in food production and reduced costs, thus lowering food prices and reducing the cost of living, and providing the government with large financial reserves that used to go to supporting imported food can be used in agricultural economic development and providing infrastructure for it, as well as increasing GDP, diversifying production, localizing the food industry, increasing job opportunities, reducing inflation rates, addressing the unemployment problem, increasing government revenue sources, and avoiding the negative effects of the food import problem, especially in light of the COVID-19 pandemic that troupe a shadow over food security all over the world.

CONCLUSION

Thus this study reflected in the increase in food insecurity in the Kingdom in light of the repercussions of this pandemic. The policies here propaganda in encouraging the population to invest in agriculture and food production by addressing the problem of water and soil in addition to the use of contemporary agricultural technology that leads to an increase in food production and reduced costs, thus lowering food prices and reducing the cost of living, and providing the government with large financial reserves that used to go to supporting

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