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# Interplay of food security, agriculture and tourism within GCC countries



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## ABSTRACT

For the Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates), food security is critical. Currently, these countries import most of what they consume and will continue to do so, since locally producing the majority of food needed is not a viable option. This paper looks into multiple pathways which can be used to secure food imports, particularly foreign agricultural land acquisition. It also looks at the rapidly expanding GCC tourism sector and its relevance to food security. The sector has contributed significantly to the amounts of food consumed and wasted in the region. It is concluded that the way forward for the GCC countries must involve diversified food supplies along with decreasing food demand in the first place.

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## 1. Introduction

Food security is defined as being achieved “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life” (World Health Organization (WHO), 2015); It is a “complex sustainable-development issue”, linked to water and energy through the Water-Energy-Food Security Nexus; and also to issues such as economic development, the environment, and health (World Health Organization (WHO), 2015). The issue of food security is gaining momentum around the world, especially for the countries of the Gulf Cooperation Council (GCC) (i. e. Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates (UAE)). The GCC is an economic and political alliance which was formed with the objective of strengthening cooperation and reinforcing the links between its member countries (The Cooperation Council for the Arab States of the Gulf - Secretariat General, 2012). Its countries represent nations with fast-growing populations. In fact, when the average annual population growth rates from 1990 to 2014 for all countries around the world was calculated (The World Bank, 2015), the UAE was found to have the highest average globally, 6.84%. Likewise, four of the GCC countries (UAE, Qatar, Bahrain, and Kuwait) were found to be among the top ten countries. At the same time, the GCC nations import the majority of the food which they consume (Alpen Capital, 2015). Even

food products made locally rely heavily on foreign imports. As an example, chicken nuggets made in the UAE have ingredients from eleven different countries (Yaqoob, 2011).

Food consumption in the GCC region is also at substantial levels. As of 2011, of all the GCC countries, Kuwait had one of the highest per capita food supply rates of 3471 kcal per capita per day, a value very close to the corresponding value for the United States (i. e. 3639 kcal/capita/day) (Food and Agriculture Organization of the United Nations (FAO), 2015). Food is also the largest segment of consumer expenditure in the GCC region (Staff Reporter, 2013). Unfortunately, much of the food available in the GCC region ends up as waste and this is also of relevance in any discussion about food security. In addition, considering the UAE as an example of the GCC, it is estimated that the food wasted every year is worth more than USD 3.54 billion. This accounts for food that is produced within the country as well as food that is imported (Divecha, 2015).

What is more, the tourism sector of the GCC countries is also growing significantly. According to the World Travel & Tourism Council (WTTC), 32.8 million international tourists arrived in the GCC countries in 2013 (Al Masah Capital, 2014), and more than 25 million visitors are expected to attend World Expo 2020 in Dubai, which includes the largest number of international visitors in the history of this event. Dubai's hosting of Expo 2020 is also expected to “accelerate the growth of the tourism industry in Dubai, the UAE and the wider GCC region” (Kipp Report, 2013).

Therefore, this increase in tourists visiting the GCC region would obviously lead to parallel growth in its hospitality sector,

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which is forecasted to grow to \$35.9 billion by 2018 (Algethami, 2014). This implies the growth of the GCC's food and beverage sector as well. In fact, multiple sources have mentioned how the rising numbers of tourists in the GCC are leading to greater amounts of food consumption in the region (Algethami, 2015; Edgcumbe, 2013; Nagraj, 2013; Napier, 2014). Though increasing food consumption in the GCC region is also due to factors such as population growth, rising disposable income levels, and changing consumption patterns (Malek, 2014; Napier, 2014), tourists account for a substantial and increasing portion of food demand, particularly in the UAE and Saudi Arabia (Al Masah Capital, 2014).

The food crisis of 2008 proved the vulnerability of the GCC nations to global food prices. During this crisis, increasing fuel costs and decreasing grain production in exporting countries caused prices to rise sharply (Yaqoob, 2011). The effect was compounded by the fact that more than 25% of the exporting countries imposed some form of export restriction during the crisis (Al Masah Capital, 2014). Such volatility in food prices in the Middle East and North Africa (MENA) region at large poses a threat to the safety and security of its citizens. For instance, according to various sources, "the price of food was widely seen as a significant, if not principal, factor in prompting the unrest" (Rosenberg, 2011) of the Arab Spring.

In terms of what has already been written on this topic, one finds that most publications have been published by international organizations such as the Food and Agriculture Organization (FAO) of the United Nations and the World Bank. Moreover, many of these publications shed light on the Arab/MENA/ Western Asia situation, in general (Breisinger et al., 2011, 2010; ESCWA, 2010; Harrigan, 2014; Lampietti et al., 2009), while including some commentary on the situation in the Gulf States, in particular. These publications tend to describe the situation from the economic perspective, reflecting on issues such as global trade, poverty levels, and job creation. They also tend to classify the GCC countries as being food secure (Breisinger et al., 2010) or absent of hunger (ESCWA, 2010), though these countries depend more on food imports than other Arab countries (Harrigan, 2014) which are not necessarily food secure. It is therefore clear that food security "does not equal self-sufficiency" (Breisinger et al., 2010).

Food security has different elements. In this work, our goal is to provide a comprehensive review and analysis of the current status of food security in the GCC region by focusing on the aspects of food availability and government policy insofar as food availability is concerned. This paper discusses food availability from the perspective of agriculture within the GCC countries (and the water resources required to make this agriculture possible) as well as from the perspective of the acquisition of foreign agricultural land by the GCC nations. What makes this paper unique is its discussion of the above aspects while reflecting on the tourism sector of these countries as an example of an increasingly important part of the economies of this region, a means of economic diversification which has significant ramifications on its overall food security. By studying the tourism sector, especially with respect to the amounts of food it consumes and food waste it generates, we are also able to reflect to some extent on the food stability element of food security.

## 2. Feeding the GCC

It is impossible to reflect on food security without discussing the sources of food, which can be domestic production, imports, or land acquisition overseas (Harrigan, 2014). In 2012, approximately 30 million metric tons of food was imported into the GCC region as compared to the approximately 10 million metric tons of food that was locally produced (Alpen Capital, 2015). The food self-

sufficiency ratios for the GCC countries as of 2012 were 14.6%, 15.6%, 32.5%, 9.6%, 30.1%, and 21.2% for Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE respectively; with an average value of 26.5% for the whole region (Alpen Capital, 2015).

Table 1 shows the average yearly quantities of different essential food imports to the GCC countries from 2009 to 2013. It is clear from the table that there is quite a bit of variation in terms of the import quantities of various items for the different GCC countries. In general, the UAE and Saudi Arabia have the greatest import quantities due to their greater populations. However, it is interesting to note that for some items such as refined sugar and potatoes, the UAE has been importing greater quantities than Saudi Arabia despite having a population which is less than one-third of the Saudi population (Gulf Labour Markets and Migration, 2015). This is an indication of the productivity of the Saudi agricultural sector when it comes to certain food items. Along the same lines, Table 1 can provide an indication of the foodstuff which can be focused on if the GCC countries were to strive to rely on one another for imports. So, for instance, Oman and Saudi Arabia could potentially fulfill the cucumber requirements of some of the other GCC countries such as Bahrain and Kuwait. Nevertheless, the large values presented in Table 1 show how significant food imports are for the GCC countries and how they will continue to be very important for them.

Food is being imported into the GCC region from many countries. As an example, Fig. 1 shows the food miles for the top 20 countries from which the emirate of Dubai imported food in 2010. We were unable to find similar data for the other GCC countries, or even for other emirates of the UAE. The food miles presented were calculated by multiplying the mass of food imported from a particular country by the average distance between that country and the UAE. The values thus obtained can give an idea of how large amounts of food are being imported from faraway countries as well as the environmental impact of all these imports. Indeed, reducing food miles not only makes sense from the environmental perspective, but also from the perspective of food security. According to Dr. C. Fernandes, professor of economics at Middlesex University, "the UAE should set a target to produce 30% of its food consumption locally and another 50% imported nearer afield from the GCC, Africa and the Indian sub-continent" (Chhauhdary, 2014).

### 2.1. Water resources in the GCC countries

Yet another source of food is local produce. This would be the ideal solution; a nation that is able to grow its own sustenance would not be so vulnerable to global food prices and trade restrictions. However, it would be impossible for the GCC to grow all the food it needs and this is primarily due to its weather conditions and the limited water resources available in the region, despite which, water consumption continues to increase. In fact, there has been a 140% rise in demand for water in the GCC over the past decade (Al-Farra, 2015).

Fig. 2a shows the percentage of water consumption in the GCC countries which is fulfilled by renewable resources (i. e. rainfall and groundwater) (Sayed and Ayoub, 2014). It is clear that for all the GCC countries, with the exception of Oman, the majority of the water consumed comes from nonrenewable resources (i. e. desalinated water and treated wastewater (Saif et al., 2014)). With regards to rainfall, considering 2014 values, all of the GCC countries were listed among the 15 countries receiving the least amount of rainfall globally (Food and Agriculture Organization of the United Nations (FAO), 2015). Indeed, according to the World Bank, the MENA region is the most water-scarce region in the world (Al Masah Capital, 2011). Exacerbating this issue is the fact that the countries of the GCC also have increased rates of meat consumption. For example, in 2009, people in the UAE ate 18 times

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