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Geopolitical Analysis on Strategic Products of Food in Iran, (Case Study: Wheat)

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Extended Abstract

Introduction

Agriculture and food security have always been one of the main human concerns. Food policy must be made for humanity to eradicate extreme poverty and hunger. However, these goals have recently been challenged by emerging forces including climate change, water scarcity, the energy crisis as well as the credit crisis. Indeed, as land and water become scarce, the earth temperature rises, and as world food security is deteriorated, geopolitics of food is emerging.

Current global food production comes from 1.5 billion hectares of cultivated land, representing 12% of the total land area. About 1.1 billion hectares are rained with no irrigation systems. Thus, rainfed agriculture is practiced on about 80% of the world physical agricultural areas and generates about 60% of the world staple food. Irrigated agriculture covers only 279 million ha or 19% of cropland. It becomes 400 million ha when multiple crops/cropping intensity is considered, but contributes 40% of agricultural output. It also accounts for about 70% of water withdrawals from global river systems. In the last 50 years, cropland has been reduced by 13% and pasture by 4%. According to the Food and Agriculture Organization (FAO), world agricultural production growth is expected to fall by 1.5% per year to 2030 and then a further reduction by 0.9% to 2050, compared with 2.3% growth per year since 1961. In fact, the growth by 2009 has fallen relative to the growth in 2000. A deceleration in agricultural growth will affect world food security. Future food supply will be determined by prudent management of the global agricultural resources and smart investments in technologies along with reforms in institutions and policies to achieve sizeable increase in food production. Food demand management measures are unlikely to be a major pathway, as human diets and food traditions might be extremely difficult to influence, especially as income grows. However, the development of a strong ethical sense among many people cannot be ruled out, and could lead to radical impact on food demand. Interventions aimed at reducing food wastage from farm to fork can

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also help recover safe and nutritious food that would otherwise be wasted. Agriculture and food security have always been one of the main human concerns, even though food policy should serve humanity by advancing the human goals of eradicating extreme poverty and hunger. It is a fact that wheat is one of the most important strategic products in Iran. Therefore, this study investigates the most influential countries with wheat production around the world as an exporter or importer. Furthermore, the production and consumption of this item in Iran until 2021 and the rank of Iran in the trade of wheat will be studied. In addition, we examine what kind of geopolitical strategies could be more productive for Iranian government to step forward its food security in wheat.

Methodology

The method of research in this scientific paper is definitely descriptive and analytical. Our data have been collected from reliable resources such as Food and Agriculture Organization. It should be mentioned that the data collection have been analyzed deductively and qualitatively. The software of Excel and GIS are used for surveying data and ARIMA model is used to forecast the amount of production and consumption of wheat in Iran from 2012 to 2021. The Analytic Hierarchy Process (AHP) method is used to identify the most suitable countries for importing wheat to Iran. Indeed, all of these data will be tabulated and diagramed to be generalized in scientific literature.

Results and Discussion

Based on the average data from 1992 to 2011 from Food and Agriculture Organization, Iran has had the ranks of fifteenth, thirteenth, fifteenth and forty-fifth, respectively, in production, consumption, import and export of wheat. The rank of Iran in wheat production with 1.8 (tons/hectares) is thirty-second among all countries. The results of the ARIMA model shows that Iran would be a small importer of wheat till 2021, at least. Based on the results, the most important exporters of wheat from 1992 to 2011 have been USA, Canada, France, Australia, Argentina, Russia, Germany, Kazakhstan, Ukraine, and England, respectively. Hence, according to the results of Analytic Hierarchy Process and five factors including political stability, transportation advantages, stability in production and export, economic and political relations with Iran, the best countries to import wheat to Iran are, respectively, Russia, Kazakhstan, Germany, France, Ukraine, England, Argentina, USA, Australia, and Canada.

Conclusion

Global food production has, to date, maintained its pace with population growth. However, the scale of this challenge will be exacerbated in the future as a result of increasingly unpredictable weather events and the changing pattern of disease in crops and livestock caused by anticipated climatic changes.

According to the findings and vast changes in the global food situation, instability between demand and supply in food patterns, we will be witnessing a new era of relations between food exporting and importing countries. Undoubtedly, food as one of the tools of power in the modern age is rapidly becoming one of the main geopolitical issues, and certainly geopolitics is able to provide a scientific framework for food studies and bring beneficial results. This study results show that Iran would be a small importer in wheat currently due to natural and human potential of the self-sufficiency of the country in wheat. Consequently, the Iranian government seeks to have a security accesses in sufficient quantity of wheat in the future, they ought to concentrate on geopolitical strategies to find some reliable countries in order to provide the wheat shortage required.

Keywords: food security, geopolitics of food, self-sufficiency, strategic goods, wheat.

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