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THE IMPACT OF FOOD QUALITY MANAGEMENT ON THE WELL-BEING OF THE POPULATION AND THE DEVELOPMENT OF THE COUNTRY¹

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ABSTRACT

According to a 2017 report by the FAO, demand for food will increase by 50% from 2012 to 2050. Countries will be forced to increase food production. It is important not to increase production at the expense of deteriorating food quality. The quality of food has an impact on the overall well-being of the population; therefore, it is necessary to have proper food quality management. The aim of the paper is to show the impact of food quality control on the development of the country and the population. The correlation between quality control and food productivity shows what impact regulations have on food production. In the second case, the correlation between quality control and GDP change will allow us to conclude what impact food quality control has on the development of the country.

¹ review scientific paper

KEY WORDS: Agriculture, Food, Quality, Regulation.

INTRODUCTION

According to data published by the UN Department of Economy and Social Affairs in 2019, by 2050 the world population will be more than 9.7 billion, if growth is at the lowest rate. According to the same data, this number will increase to 11 billion by 2100. Clearly, such rapid population growth will directly affect the increase in demand for resources. The most important of these resources is food, because it is essential for human life. According to a 2017 report by the Food and Agriculture Organization of the United Nations (FAO), *The Future of Food and Agriculture*, demand for food will increase by 50% from 2012 to 2050. Countries will be forced to increase food production, which will be achieved by increasing productivity in agriculture. In addition to various diseases, the growth of the population to date has been hampered by the fact that there was not enough food (Diamond, 1997).

Sustainable improvements in agricultural productivity are essential to meet growing demand. There is a risk that during increased production, the quality of food will decrease. With increased production, producers may no longer pay attention to the quality of food and their main goal will only be to increase the amount of food produced. It is therefore essential that the country have a system in place to prevent food quality from deteriorating.

One way to maintain quality is for entrepreneurs to develop the right form of quality management in their enterprises. As mentioned above, population growth and demand for food are inevitable, therefore we cannot rely solely on the good faith of entrepreneurs that they prioritize the quality of food over quantity. This is why some countries have regulations, which oblige entrepreneurs to follow certain rules. Notable among them is the European Union, where there are numerous regulations on food control. Food quality controls have been tightened in the EU since the 1990s. The main purpose of this is that EU citizens should receive the highest quality food. Accordingly, a unified General Food Law was created.

There are fewer regulations in place in the United States than in Europe. Fifteen federal agencies, however, work on US food safety. However, the lion's share of responsibility goes to the United States Department of

Agriculture (USDA) and the Food and Drug Administration (FDA) (Drexler, 2011).

Food quality control is not widespread in developing countries. As the country develops and unites in international organizations, it is forced to start controlling the quality of food. For example, we can consider the countries of the European Union. The European Union bans the importation of food into its borders that does not have the appropriate quality certificate. According to the Food Safety Authority of Ireland (FSAI) when importing foods into the EU, you must comply with the general principles of food law set out in Regulation 178/2002 / EC (FSAI, 2019).

In underdeveloped countries there are almost no regulations that control the quality of food. At such times, more importance is attached to quantity than to quality. Implementing food quality management is associated with additional costs. This makes food prices even more expensive and poor people can no longer afford to buy expensive food. That is why it is difficult for the government of an underdeveloped country to impose additional regulations on its population to control the quality of food. In Africa alone, 59 million children suffer from malnutrition (Cullinan, 2018).

According to the information provided, the countries are divided into three categories.

- 1) Countries where food quality control and management are high. For example, EU countries and the USA. In such countries, the population is fed with quality food.
- 2) Countries where food quality and management are moderately controlled. This category mainly includes developing countries. For example Georgia, where new regulations on food quality control are enacted every year in the framework of the association with the European Union (DCFTA, 2016).
- 3) Countries where food quality control and management is practically non-existent. This list includes underdeveloped countries where quantity of food is more important than quality.

Research and Methodology

The aim of the paper is to determine what impact food quality management has on the well-being and economic development of the population. First the correlation between the existing regulations in the country and food production is calculated. The correlation shows whether

the regulations affect production and whether they have a positive or negative impact. It is also important to determine what impact food quality management has on GDP. To determine this, a correlation between regulations and GDP growth was established. The survey data is taken from the World Bank data and Statista.

The correlation method was used to obtain the results. Correlations are calculated for all three types of countries mentioned above. The data are taken from the data of the World Bank and cover the years 1990-2018.

Results and Discussion

In the first case, the correlation was calculated on the example of countries where food quality management is high. The correlation between regulations and food output in the United States is 0.5547 and the correlation between regulations and GDP per capita is 0.6631 (The World Bank, 2020).

The data of Georgia are discussed on the example of a developing country. As mentioned above, Georgia has to impose regulations in order to be able to join the European Union. In this case the correlation is quite high and stands at 0.8849, while the correlation between regulations and GDP per capita is 0.2487 (National Statistics Office of Georgia, 2020).

On the example of the third type of country where regulations are hardly discussed in Uganda. In this case the correlation is -0.770 which is also quite high. As for the correlation between regulations and GDP per capita it is 0.618 (O'Neill, 2021).

Because one of the most important indicators of a country's well-being is life expectancy, the correlation between food quality management and life expectancy has been examined. The data are counted according to the data given in Table 1 and amount to 0.985 (The World Bank, 2020).

It is noteworthy that in countries with high food quality, people live longer (Table 1). Table 1 gives an example of three types of countries. In countries where food quality management is high, people live 10% longer than in countries where food quality management is relatively low and 20% longer than in countries where food quality management is almost non-existent (The World Bank, 2019).

We should also mention the fact that in countries where food quality regulations are in place, GDP per capita is high. Gross domestic product per capita in the UK is USD 42,330.12, which is on average 70%-85% more than in developing countries and 95%-98% higher than in developing countries (The World Bank, 2019).

Table 1

Average life expectancy by country (years)					
N	Countries	1990	2000	2010	2018
Countries with high control over food quality					
1	United Kingdom	77	79	80	81
2	Australia	77	79	82	82
3	Sweden	77	80	82	83
Countries where there is moderate control over food quality					
4	Georgia	70	70	71	74
5	Armenia	68	71	73	75
6	Azerbaijan	65	67	71	73
Countries with low control over food quality					
7	Rwanda	33	48	63	68
8	Ethiopia	47	51	61	66
9	Uganda	45	46	57	62

Source: The World Bank, 2019

Table 2

N	Countries	Type	Correlation between regulations and feed release	Correlation between regulations and GDP per capita
1	USA	Countries with high control over food quality	0.5547	0.6631
2	Georgia	Countries where there is moderate control over food quality	0.8849	0.2487
3	Uganda	Countries with low control over food quality	-0.770	0.618

Source: The World Bank, 2019

Conclusion

As the results of the research show, there is a large correlation between food quality management and food production (Table 2). Where food quality management exists, the correlation is positive, but where food quality control is almost non-existent, the correlation is negative. It follows that during the development period, food quality regulations negatively affect productivity growth, and if these regulations are enacted while the country is developed, it can no longer negatively affect productivity.

There is also a high correlation between food quality management and population welfare indicators. This indicates that quality food is important for the development of the population and the country.

In conclusion, we can say that food quality management is important both for the well-being of the population and for the development of the country.

References

1. Cullinan, Kerry. "Quality of food, not just quantity important for Africa." 12 December 2018. *Health-e News*. 28 July 2021.
2. DCFTA. "2016 ANNUAL REPORT." 17 December 2016. *Free Trade with the EU*. Document. 01 August 2021.
3. Drexler, Madeline. "Foodborne Illness: Who monitors our food?" 16 September 2011. *Brandies University*. July 29 2021.
4. FAO. *The future of food and agriculture – Alternative pathways to 2050*. Rome: FAO, 2017.
5. FSAI. "Food Imports and Exports." 7 February 2019. *The Food Safety Authority of Ireland*. 30 July 2021.
6. National Statistic Office of Georgia. "Gross Domestic Product (GDP)." 20 January 2020. *Geostat*. Document. 30 July 2021.
7. O'Neill, Aaron. "Uganda: Distribution of gross domestic product (GDP) across economic sectors from 2010 to 2020." 22 July 2021. *Statista*. Document. 25 July 2021.
8. The World Bank. "WORLD DEVELOPMENT INDICATORS." 15 December 2019. *The World Bank Web site*. Document. 30 July 2021.
9. UN. "Department of Economic and Social Affairs." 17 June 2019. *United Nations*. 30 July 2021.
10. Vintage, Diamond J. "Guns, Germs and Steel." *Google Scholar* (1997): 480.