The Analysis of the Poverty Issue, Genetically Modified Food, and Global Warming Topics

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Abstract: In recent decades, global economic growth has benefited many countries and regions. However, regional poverty has been challenging for many peoples, and one of the biggest problems is related to the death caused by hunger. Fortunately, genetically modified food can vastly improve food production, which could be one of the effective solutions in tackling hunger related issues. This paper points out the issues related to poverty, genetically modified food, and global warming based on a comprehensive literature review and critical analysis. In summary, these research findings indicate that poverty can lead to problems such as health issues, instability, and barriers to economic growth. Although genetically modified food could negatively impact biodiversity, it can also improve food production, which can help in managing hunger related issues. With the limited capacity and resources and based on the current situation, poverty and global warming should be given a priority, and more research and awareness on genetically modified food could also be an effective way to handle these problems.

Keywords: Poverty; Health issue; Crime; Genetically modified food; Food production; Global warming

1. Introduction

It is generally agreed that poverty, which means a lack of a certain amount of material possession and money, can significantly influence politics, economy, and society worldwide, especially in underdeveloped countries. Recently, there has been a broad discussion regarding whether poverty is a significant issue in developing and developed countries. Some people claim that the present issue is not very important; however, the majority believe that poverty is a significant issue that needs to be tackled because it can negatively influence countries and individuals worldwide [1]. Fortunately, genetically modified (GM) food can improve food production, which can help to manage poverty related issues in many situations. The risk of global warming and its systematic effects on poverty, food production, and biodiversity have been argued for many years. This paper mainly analyzes the negative impacts of poverty, advantages of GM food, and the effects caused by global warming, in order to pinpoint the importance of dealing with these issues globally.

2. Negative impacts of poverty

One of the negative impacts of poverty is related to health issues, where it can risk people's health and even become a threat to their lives. Especially in developing countries, such as Africa, where the primary health care system is lacking and there is insufficient equipment to treat patients efficiently [2]. Some uncontrolled epidemics, such as Ebola and smallpox in the 19th century, killed many people in a short period of time [3].

Another issue related to health is inadequate educational resources. For example, Zimbabwe, a developing country in Africa, has been struggling to raise awareness about Human Immunodeficiency Virus (HIV) for decades as the local people in Zimbabwe have little knowledge on how to prevent or manage this deadly disease [4]. The main reason was due to the lack of financial support by the government as they failed to set up sufficient institutions and raise awareness on specific issues related to personal hygiene and HIV. In short, poverty could facilitate the spread of diseases, by risking human health to some extent.

Another issue caused by poverty is safety related issues, which may significantly influence individuals and nations in different situations. In terms of individuals, poverty will raise the crime rate in many countries. Experts have claimed that some poor people who are unable to satisfy their poverty-stricken conditions may commit crimes, such as murder, rape, and theft. For instance, in South America and Africa, which are relatively underdeveloped countries, have a higher rate of murder compared to other parts of the world [5,6]. Crime generally means an action of breaking the law which can be harmful to people, communities, cities, and even countries. Crime can be a risk for human beings, and it can negatively affect people's quality of life to some extent. Based on this, the instability in safety related issues caused by poverty should be effectively managed in a preventable way to reduce the risk of poverty.

In addition to health and safety related issues, poverty is also a significant barrier to economic growth. Despite globalization, which has been facilitating economic growth in many countries, it is evident that some poor developing countries are still lacking in terms of capital and technology. For example, in South Africa, farmers still use a relatively slow and inefficient production method for farming, which generates relatively low income or food for the farmers [7,8].

3. Advantages of GM food

In recent decades, there has been a broad discussion regarding whether humans should use or consume GM food. It is generally agreed that GM food that is produced by modifying genetic material (DNA) can be a solution to the hunger problem globally. Some experts disagree in the daily consumption of GM food as it might cause certain diseases or toxic effects to the body; however, they came to a conclusion that the proper consumption of GM food could bring certain advantages [9].

Some critics of GM food assert that, at present, the amount of food production is sufficient to satisfying the demand of the whole population globally, therefore there is no reason for consuming GM food to solve hunger related issues. It is believed that the primary reason for hunger could be the unequal distribution of food rather than the amount of food produced. On the other hand, GM food is probably the most appropriate method for alleviating the hunger issue globally, because it can effectively improve the yield of food production. Additionally, GM food has been modified to have an accelerated growth rate; therefore, GM food has a higher speed of growth than traditional food. Research shows that GM technology can efficiently improve cereal crop yields [10]. Another advantage of GM food is that they are relatively resistant to adverse living conditions. For instance, GM cereal crops have strong resistance to high salinity, extreme cold, and drought [9], meaning that different kinds or types of crops can be planted in a single land, thus significantly improving food production.

Consuming GM food has also been argued to have some potential health risks to people who have been consuming it for a prolonged period. However, there are insufficient evidence to prove that GM food brings risk to human health. Therefore, more research is needed to address this issue. Considering the positive effects, a growing number of GM food has been reported to contain higher levels of nutrition, which can benefit human health. One example supporting this is the development of golden rice, which contains higher levels of vitamin A. At present, some countries have been considering promoting the consumption of golden rice as an effective treatment for eye diseases caused by the lack of vitamin A. In additional, some leading scientists have also developed plants producing DHA, in which this healthy omega-3 oil is beneficial to

human health. Commonly, DHA is extracted from fish, however the decline in the number of fish may cause a problem, therefore consuming GM plants may be a solution [9-11].

Furthermore, experts also assert that GM food may lead to biodiversity loss, which can eventually destroy the environment. However, the positive influence of GM food on the environment probably outweighs the negative impact. One of the significant advantages of GM food is that there is less use of pesticides, which can pollute the environment. For example, the extensive growth of GM cotton plants on the same land with crops produces a kind of protein that can kill pests, resulting in reduced pesticide usage up to 80 percent [12]. Moreover, GM plants can also be used as an environmentally friendly material, replacing materials such as plastics, paints, and nylons, which bring negative effects on the environment [10-12].

Promoting and marketing GM food could be a potential challenge, however, this issue could be addressed by online commerce and digital marketing. It has been argued that an online platform is unnecessary for the success of service providers. Many claimed that people prefer physical stores over online stores, therefore online stores could not significantly influence service providers. This may not be the truth for some reasons. Firstly, the internet can assist online sellers in effectively tracking and inferring buyers' preferences. Thus, sellers can present suitable commodities to consumers, which can be seen as a convenient way for people to buy their favorite products or necessary products. Secondly, with online stores, suppliers do not have to pay for rent or labor costs, as in physical stores. This can help online stores to save cost and allow them to reduce the price of their products, thus attracting more costumer who are loyal to e-commerce to purchase their commodity. Furthermore, physical stores can only have a relatively small number of customers limited to those who live nearby. The e-commerce platform work as a single platform to publicize and sell their merchandise globally. Therefore, it is evident that the use of internet is an essential element in service providers' success, especially in food promotion.

4. Discussions on global warming issues

Global warming, a contentious issue in recent years, is primarily concerned with the rise in the earth's average temperature and the ensuing cause-effect relationship. It is commonly believed that global warming could result in various global calamities. Presently, people feel that global warming is a natural process that has been worsened by human activity, resulting in inevitable serious repercussions. For example, solar radiation, which can create a substantial quantity of heat energy, and in turn increase the earth's temperature. When the sun directs its rays at the earth's surface, a substantial quantity of radiation may pass through the thin part of the ozone layer, dispersing the energy.

It is claimed that natural occurrences, such as polynya, is the reason for the high temperature. For example, polynya occurs more often in the Arctic, preventing ice from developing and changing it into natural open-water hotspots. Following that, the increase in phytoplankton seems to provide more energy for marine creatures, subsequently increasing their population, and in turn, increasing the level of carbon dioxide (CO_2). Nonetheless, some human activities, such as fossil fuels, can significantly contribute to global warming. According to several studies, using fossil fuels can help in the generation of greenhouse gases, such as carbon dioxide, methane, and nitrous oxide. There is a strong association between greenhouse gas emissions and fossil fuel consumption as shown from the year 1850 to 2000. Additionally, industrial activities have a substantial role in climate change. Due to the massive quantity of coal, oil, and other fossil fuels used and released especially from modern industrialization, the global average temperature has climbed significantly around 1.5 degrees Fahrenheit. In addition, some computer models also predict that CO_2 levels will double by the year 2100, leading to a 3.7 to 4.8 degrees Celsius increase in temperature [13]. Besides that, automotive emissions also can generate significant level of CO_2, contributing to global warming. Consequently, the combustion and consumption of fossil fuels contribute significantly to global

warming.

Global warming issues will have negative implications for the planet. Among the issues that are related to global warming is the rapid ice melt, resulting from an increase in temperature. Specific locations are prone to collapse due to the increase in temperature. For example, the Arctic ice cap has reduced to a record low, interfering with the region's natural circulation. The global sea levels have risen quickly due to glaciers melting. According to statistics, between the year 1993 and 2010, the sea level increased by an average of 3.2 mm each year [13]. Additionally, global warming is also influencing modern food production. Numerous professionals consider that yield decline occurs to varying degrees in different areas. Rain-fed agricultural yields are anticipated to reduce by up to 50% in some African countries. The productivity of numerous critical crops is deteriorating, and animal output is expected to decline [13]. Indeed, increasing temperatures reduce most food production, especially agricultural production. Climate change may essentially reduce agriculture yield, especially wheat and maize crops. Global warming will reduce agricultural yield and quicken glacier melt. It is important to find a way to overcome this problem to help the future generation live a healthy and good lifestyle.

5. Conclusion

In conclusion, in recent years, an increasing number of experts have been starting to pay attention to poverty related issues. In the future, it is believed that industrial professionals can propose effective solutions to deal with poverty issues globally. Meanwhile, GM food could benefit people in many aspects, such as improving the yields of food, increasing nutritional levels in food, and protecting the environment. More research is needed to improve the production of GM food, so that it is safe to consume, and in return, it may be a solution to many global issues related to hunger. Meanwhile, spending sufficient time dealing with global warming issues can mitigate its systematic risks to environmental sustainability. Importantly, with the development of science, it is essential to conduct either firsthand or secondary research to validate the newest findings in regard to these topics. Therefore, more research is required to ensure the veracity of the discussion.

Disclosure statement

The author declares no conflict of interest.

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