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Whitepaper on food shortage

Introduction

Food global security is one of the serious issues faced by members of the United Nations due to population growth and poverty. These are the two prominent factors that have threatened food security at the global level. Without a certain degree of food, security populations are more likely to experience hunger and famine. Due to the consistent rise in population growth, there is a need for identifying ways that would contribute to crop production. Food insecurity causes undernourishment because people are unable to consume adequate food that provides essential calories. Malnutrition occurs when people are unable to eat sufficient food that is required for keeping them healthy.

Food insecurity and the impact of population

Food insecurity refers to a situation when adequate food is not available for meeting the needs of the entire population. This also indicates that people are lacking access to food under normal circumstances. Absence of sufficient food creates food insecurity that is visible in the form of hunger and famine. Martin defines food security, “exists 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” (Martin, 2010). Amartya Sen argued that even the aggregate food is not adequate for ensuring food security. Population growth has a direct relationship with food insecurity. This indicates that an increase in population increases food insecurity. This is due to the fact that the country needs to produce more food for fulfilling the needs of the masses. Another challenge faced by the UN is the high growth rate of population in underdeveloped countries (Pruitt, et al., 2016). The population is significantly high in countries like Africa and Nigeria where people are already facing food insecurity. The facts indicate that 11 per cent of the world population is already suffering from famine.

Factors affecting food security

There are many reasons for food insecurity including inadequate or inefficient methods of food distribution. There is a clear gap in the distribution of food among rich and poor countries. The evidence suggests that rich countries consume most of the world's food. The argument claims that global food supply systems are unequal that leads to uneven consumption. This is also due to the fact that some countries are producing more crops and vegetables compared to the others. There are many factors that allow some places to produce more food than others.

Loss of farmland is one of the dominant cause of the decline in food production. Biofuel market has consumed a significant amount of farmland that undermined the growth of crops. Due to global warming, the farmlands and their capacity to produce crops are also affected. It has also affected the pattern of rainfall as it is increasing in some areas and declining in others. Pesticides increase crop yield but the farmers in low-income countries lack access to such pesticides. This undermines their capacity to improve crop yield. Improper irrigation systems have also negatively affected crop yields (Gundersen, 2013). Deforestation is another prominent cause of food insecurity. Over gazing and over-cultivation have affected the lands and caused negative impacts on the soil.

Technological solutions for reducing hunger

The evidence suggests that over 800 million people are suffering from world hunger. Irrespective of producing huge crops 11 per cent of the population continues to suffer from hunger. Using agricultural devices linked to the Internet of Things (IoT) the UN is trying to control hunger. This technology is used for getting insights about crop health and focus on improving quality. This is also considered as an effective method for reducing the quantity of damaged or lost foodstuffs. The implementation of IoT devices will also improve the capability of monitoring the distribution of the ecosystem. This technology offers data-driven insights that will be effective for eliminating world hunger. Facts reveal that "according to business information provider IHS Markit, the total number of IoT devices is forecast to reach 125 billion in 2030, up from 27 billion in 2017, creating an IoT network with unprecedented coverage levels” (Toseland, 2018). This reflects the increased role of IoT in saving crops and promoting the overall quality of the crop yield. This is also an effective method for efficiently distributing the limited food supply.

Different organizations across the world are already using IoT for minimizing hunger. Sanku-PHC initiative stresses on integrating state of the art technology for providing flour to millions of people in Africa. This strategy is adopted for adding nutrients to flour that rely on sustainable and affordable methods. Real-time insights are brought to 3,000 flour mills that are supported by Vodafone PHP. Cellular capabilities and remote monitoring are also effective solutions that allow a single worker to monitor 100 miles. This allows the capacity of fortifying flour to 500,000 people in a single day. The evidence reveals that this technique has been adopted by many organizations for providing relief to the poor against hunger in the regions of Tanzania, Kenya, Malawi, Rwanda and Africa (Fearn, 2018). The tech companies have also accepted that they have a responsibility of identifying better solutions for eliminating hunger by adopting efficient methods of food distribution. The initiative of the Tech Impact 2030 focuses on a mission of eradicating world hunger by using innovation and attaining sustainability in the agricultural ecosystem.

There are also technologies that offer practical solutions for improving the quality of the crop and overall crop yield. The technology is integrated in a way that it maximizes the benefits for society. Significant opportunities are offered for enhancing crop yield. This will improve the overall production of farms, fields, factories and grocery stores. Technology is also used for creating fertilizers that have direct impacts on enhancing the quality of the fields and improves overall agricultural produce. This is a practical way of empowering farmers. The knowledge sharing network created through technology provides timely and complete information to the farmers such as about the weather conditions. Artificial intelligence and machine learning have allowed the farmers to connect through SMS-based platform. This improves their knowledge of crop disease, pests and fertilizers. The overall yield is dependent on these factors and technology minimize the risks of crop damages (Fearn, 2018).

Conclusion

Food insecurity and shortage remain one of the prominent issues faced by the world. Several factors contribute to food insecurity that causes famine and hunger. These include uneven distribution of supply and consumption, global warming, climate change, lack of access to irrigation systems and deforestation. Another challenge faced by the UN is the high growth rate of population in underdeveloped countries. Significant opportunities are offered for enhancing crop yield. This will improve the overall production of farms, fields, factories and grocery stores. The evidence reveals that this technique has been adopted by many organizations for providing relief to the poor against hunger in the regions of Tanzania, Kenya, Malawi, Rwanda and Africa. Integration of technology can be used for overcoming food shortage and malnutrition.

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