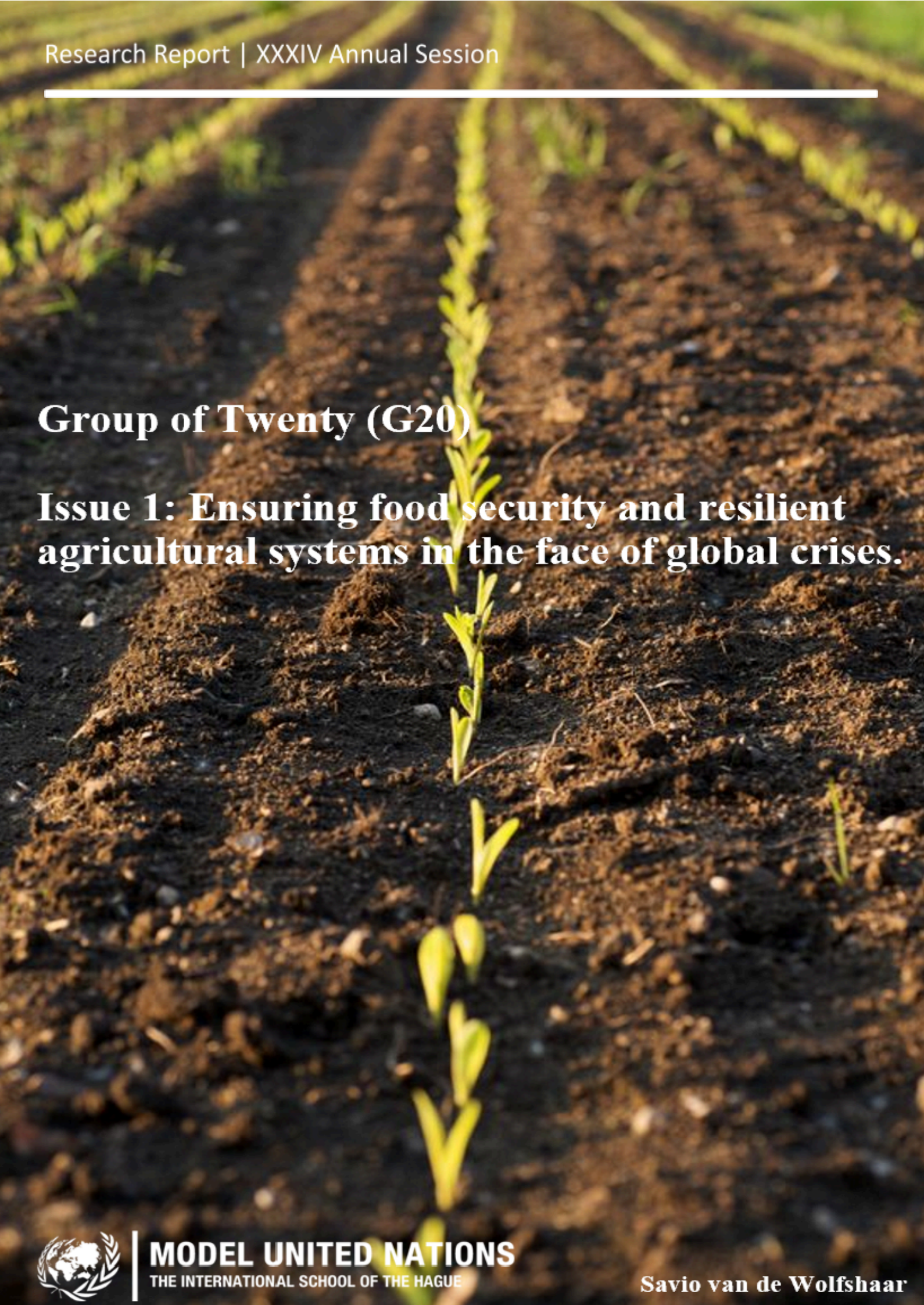

Group of Twenty (G20)

Issue 1: Ensuring food security and resilient agricultural systems in the face of global crises.

MODEL UNITED NATIONS
THE INTERNATIONAL SCHOOL OF THE HAGUE

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Forum	Group of twenty (G20)
Issue:	Ensuring food security and resilient agricultural systems in the face of global crises
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Introduction

As said by António Guterres, current United Nations' secretary general “Ending hunger is within our reach. But unless we solve this problem today, we face the spectra of global food shortages in the coming months ... Our only chance of lifting millions of people out of hunger is to act together, urgently and with solidarity". Food security and resilient agricultural systems are crucial for the stability and prosperity of societies worldwide. In recent decades, global crises such as climate change, economic instabilities, and geopolitical tensions have significantly impacted food security. Understanding how to ensure food security and develop resilient agricultural systems amidst these challenges is vital for future generations.

Food security refers to the availability, access, utilisation, and stability of food for all people at all times. It is a fundamental human right and a cornerstone of sustainable development. However, achieving food security is increasingly challenging due to a variety of global crises. Climate change, economic instability, geopolitical conflicts, and pandemics have all contributed to disruptions in food production, distribution, and consumption. Resilient agricultural systems are designed to withstand and rapidly recover from these disruptions. Often, they integrate sustainable practices, technological innovations, and supportive policies to maintain food production and supply in the face of adversities. The United Nations plays a pivotal role in promoting food security and resilience through initiatives such as the World Food Programme (WFP), the Food and Agriculture Organization (FAO), and the International Fund for Agricultural Development (IFAD).

Definition of key terms

The World Food Programme

The World Food Programme or WFP is an organisation which delivers food assistance in times of global crises across nations to try to help and provide aid in the form of food.

The Food and Agriculture Organization

The Food and Agriculture Organization or FAO is a specialised agency under the United Nations that leads international efforts to defeat hunger. Their goal is to achieve food security for all and make sure that people have regular access to enough food.

The International Fund for Agricultural Development

The International Fund for Agricultural Development or IFAD is an international organisation whose objective is to improve agricultural development and livelihoods in developing countries. They focus on rural poverty reduction, working with poor rural populations in developing countries to eliminate poverty, hunger and malnutrition.

Global crises

Global crises are events such as conflict, economic decline, pandemic, extreme natural events, that affect all countries in economic, social, cultural and political ways.

General overview

Food security is a complex term used to describe the state of having reliable access to sufficient food. This term refers to the availability, access, utilisation, and stability of food resources necessary to sustain a healthy and active life for all individuals. Food availability refers to the sufficient quantity of food being produced and distributed within a region. This involves not only the production by farms but also the logistical elements that bring food to markets and households. Access refers to the economic and physical means individuals have to obtain food. This includes the affordability of food, the income of households, and the physical infrastructure enabling the transportation (and purchase) of food. Further, utilisation links to the proper distribution in a way that is also equal but more importantly equitable. Finally, stability implies that the other three factors are maintained consistently over time, without significant disruptions.

The importance of food security cannot be overstated, as it directly impacts public health, economic stability, and social harmony. From an economic perspective, food insecurity can lead to higher healthcare costs, lower educational output, and reduced economic productivity. Socially, food insecurity can cause social unrest and conflict, as history has shown in numerous instances sudden food shortages can lead to political instability and social upheaval

Global crisis impacting food security

Climate change

Climate change is one of the most significant and pervasive threats to global food security. It affects agricultural productivity through a range of ways including increased frequency and severity of extreme weather events such as droughts, floods, and storms. These events can devastate crops and livestock, leading to immediate food shortages. Additionally, climate change alters temperature and precipitation patterns, which in turn can affect predictability of seasons and water availability. These changes make it more difficult for farmers to predict and plan their planting and harvesting schedules, leading to decreased yields and increased volatility in food production. Furthermore, climate change contributes to the spread of pests and diseases, both of which can severely impact crop yields. Increasing temperatures and altered precipitation patterns can create more favourable conditions for pests and diseases such as wheat rust, which have the potential to wipe out large yields of crops. In response, there is a need for resilient agricultural practices and technologies that can withstand these challenges and ensure a stable food supply.

Economics crisis

Economic crises, such as global recessions and financial instability, have profound implications for food security. During economic downturns, unemployment rises, incomes fall, and purchasing power diminishes, making it difficult for many households to afford sufficient food. The economic crisis of 2007-2008 is a great example, where skyrocketing food prices led to widespread hunger and social unrest across multiple continents. Similarly, trade disruptions are subsequent implications of economic crises, further complicating food security. Many countries rely on imports for a significant portion of their food supply (such as Saudi Arabia, a G20 member). When trade routes are disrupted, whether by economic sanctions, tariffs, or logistical challenges, it can lead to shortages and increased food prices. During the covid 19 pandemic, numerous countries experienced disruptions in their food supply chains due to restrictions on movement, labour shortages, and transportation blocks.

Moreover, economic instability can lead to reductions in public and private investment in agriculture. This affects everything from research and development in agricultural technologies to the availability of credit for farmers. Reduced investment limits the ability of farmers to improve their productivity and adopt resilient agricultural practices, making them more vulnerable to future crises. Thus, economic stability is crucial for maintaining and improving food security.

Conflict

Geopolitical conflicts have devastating effects on food security, often creating immediate and severe disruptions in food production, food distribution, and food access. Conflicts can lead to the destruction of agricultural infrastructure, such as irrigation systems, storage facilities, and transportation networks. This destruction not only reduces current food availability but also hampers future agricultural productivity. Displacement of populations due to conflicts further exacerbates food insecurity. Internally displaced persons and refugees often have limited access to food, either because they are unable to work and earn an income or because they are reliant on humanitarian assistance, which can be inconsistent and insufficient (Something the UN is trying to improve). Furthermore, conflicts can disrupt international food trade. Countries involved in conflicts may impose blockades, sanctions, or tariffs that hinder the import and export of food. The Russia-Ukraine conflict in 2022 is a prime example, where the disruption of grain exports from Ukraine (a major global supplier) led to significant increases in global grain prices and shortages in several importing countries. In addition to

the immediate impacts, geopolitical conflicts often lead to long-term food insecurity by creating conditions of prolonged instability. Farmers may be unable or unwilling to invest in their land and production due to uncertainty and insecurity, consequently causing perpetuating cycles of poverty and food scarcity. Thus, peace and stability are fundamental prerequisites for achieving and maintaining food security, and therefore should be a priority for all G20 members.

Pandemics

Other global crises such as pandemics (like covid 19), highlight the vulnerabilities within global food systems and the cascading effects they can have on food security. The covid 19 pandemic disrupted food supply chains globally, affecting every stage from production to consumption. Lockdowns and movement restrictions led to labour shortages, particularly in agricultural sectors that rely heavily on seasonal and migrant workers for planting and harvesting (impacting countries like the USA and Mexico the greatest). This resulted in delays and reductions in crop production.

The economic impact of the (Covid 19) pandemic further deepened food insecurity. As economies contracted, unemployment rose, and incomes fell, many households found it increasingly difficult to afford food. The increased demand for food assistance during the pandemic strained already limited resources and highlighted the need for more resilient food systems capable of withstanding such shocks. Moreover, the pandemic underscored the importance of local food production and shorter supply chains. Communities that relied heavily on imported food were more vulnerable to disruptions, emphasising the need for developing local and regional food systems that can provide greater stability and resilience in times of global crises.

Resilient agriculture systems

Resilient agricultural systems are those designed to withstand and recover from adverse conditions while maintaining productivity and sustainability. These systems are vital for ensuring continuous food production and supply in the face of various global crises. By incorporating sustainable practices, technological innovations, and supportive policies, resilient agricultural systems can mitigate the impacts of climate change, economic instability, and other disruptions on food security. A resilient agricultural system is characterised by its ability to adapt to changing conditions, diversify risks, and recover from shocks. This involves practices that enhance the health of ecosystems, improve resource efficiency, and support the livelihoods of farming communities. Resilient agricultural systems are essential not only for immediate food security but also for long-term sustainability and environmental

health.

Major parties involved

United States of America

The United States is a major agricultural producer and a leading donor to international food aid programs. It plays a critical role in global food security through its technological innovations, research, and development in agriculture. The U.S. focuses on technological advancements and trade policies to ensure food security. It supports initiatives that promote sustainable agriculture and improve productivity through biotechnology and precision farming. The country also actively uses quotas to protect domestic farmers.

People's Republic of China

China is the largest producer and consumer of many staple crops. It has made significant strides in agricultural innovation and food production to feed its vast population. China emphasises self-sufficiency and technological advancements in agriculture. It invests heavily in research and development to improve crop yields, reduce waste, and enhance food security.

India

India has a significant agricultural sector and a large population dependent on agriculture for livelihood. It faces challenges related to food security due to climate change and economic disparities. The country focuses on sustainable farming practices and rural development to enhance food security. Initiatives include promoting organic farming, improving irrigation infrastructure, and supporting smallholder farmers.

Brazil

Brazil is a major exporter of agricultural products, particularly soybeans and beef. Its agricultural sector plays a crucial role in global food supply. Brazil aims to balance agricultural expansion with environmental conservation. It promotes sustainable practices such as no-till farming and integrated crop-livestock systems to maintain productivity and protect natural resources.

Japan

Japan is a leader in agricultural innovation and technology. Despite its small size, it is one of the world's largest exporters of agricultural products such as fish. Japan promotes sustainable and high-tech farming solutions globally. It emphasises precision agriculture, greenhouse farming, and efficient resource use to improve food security and sustainability.

Timeline of key events

Development into food security and resilient agricultural systems has been rather continuous by most developed nations. Nevertheless, some of the key events that occurred are highlighted in the timeline.

Date	Description of event
2000	Adoption of the Millennium Development Goals (MDGs), including the goal to halve extreme poverty and hunger by 2015.
2007-2008	Global recession causing a global food price crisis which leads to widespread hunger and political unrest.
2015	Adoption of the Sustainable Development Goals (SDGs), including SDG 2 to end hunger by 2030.
2016	Paris Agreement on climate change, highlighting the need for sustainable agricultural practices.
2020	Covid 19 pandemic disrupts global food supply chains and exacerbates food insecurity.
2022	Russia-Ukraine conflict impacts global grain supply, highlighting the vulnerability of food systems to geopolitical crises.

UN involvement, Relevant Resolutions and Treaties

The United Nations plays a crucial role in promoting food security and resilience through various initiatives and programs. Key United Nations agencies involved in this effort include the World Food Programme (WFP), the Food and Agriculture Organization (FAO), and the International Fund for Agricultural Development (IFAD).

WFP

The World Food Programme (WFP) provides food assistance to millions of people in emergencies and works to improve nutrition and build resilience in communities. The WFP's efforts focus on both immediate relief and long-term development, helping communities recover from crises and build sustainable food systems.

FAO

The Food and Agriculture Organization (FAO) leads international efforts to defeat hunger and improve agricultural productivity and sustainability. The FAO supports countries in developing and implementing policies and practices that promote food security, sustainable agriculture, and rural development. This includes initiatives to improve agricultural productivity, enhance resource efficiency, and reduce the environmental impact of farming.

IFAD

The International Fund for Agricultural Development (IFAD) invests in rural development projects to increase agricultural productivity and reduce poverty. IFAD's projects focus on empowering smallholder farmers, improving access to markets, and promoting sustainable agricultural practices. By providing financial and technical support, IFAD helps rural communities build resilience and improve their livelihoods.

SDGs

The United Nations' commitment to ending hunger and ensuring food security for all is encapsulated in the Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger). Achieving this goal requires coordinated efforts to address the root causes of food insecurity and build resilient agricultural systems. The UN's initiatives aim to enhance food production, improve nutrition, and promote sustainable agricultural practices globally.

Previous attempts to solve the issue

There have been several attempts to improve the current inequality of food security in the world. One example of a 'resolution' is seen in the European parliament. The European Parliament resolution of 14 June 2023 addresses the critical issue of ensuring food security and enhancing the long-term resilience of EU agriculture. It emphasises the need for sustainable agricultural practices that can withstand environmental and economic challenges. The resolution advocates for increased investment in agricultural innovation and research, aiming to improve productivity and environmental sustainability. It highlights the importance of supporting small and medium-sized farms, fostering rural development, and ensuring fair income for farmers.

SDGs

The Sustainable Development Goals (SDGs) represent a comprehensive international effort to address various global challenges, including food security. SDG 2 specifically aims to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture. This goal encompasses a range of initiatives designed to enhance food systems, support smallholder farmers, and ensure sustainable food production methods. By integrating efforts to combat hunger with broader development objectives, the SDGs provide a holistic framework for improving agricultural resilience and ensuring food security on a global scale. This is already an official goal. However the UN is struggling to get nations to commit to fulfilling their pledge and take measures to improve food security.

UNICEF

Alternatively, UNICEF (United Nations International Children's Emergency Fund) is another part of the UN who is also actively trying to help bridge the gap of food insecurity. They often take more direct approaches with their mission to improve the lives of people but children specifically. They address food security by focusing on the nutritional needs of children and mothers, particularly in vulnerable and crisis-affected regions. This organisation priorities aid in times of global crises to try to provide short term aid.

Possible solutions

Some ways of developing resilient agricultural systems include:

1. Sustainable Practices: Implementing agricultural practices that preserve natural resources, enhance soil health, and reduce environmental impact is crucial for resilience. Examples of sustainable practices include crop rotation, which helps maintain soil fertility and reduce pest outbreaks; organic farming, which avoids synthetic chemicals and promotes biodiversity; and integrated pest management, which uses a combination of biological, cultural, and chemical methods to control pests in an environmentally friendly manner.

2. Technological Innovations: Utilising advanced technologies can significantly enhance agricultural productivity and efficiency. Precision farming, for instance, uses GPS technology and sensors to optimise planting, watering, and harvesting, reducing waste and increasing yields. Genetically modified crops (GMC) can be engineered to be more resistant to pests, diseases, and extreme weather, ensuring stable production under challenging conditions. Digital tools and data analytics can help farmers make informed decisions, monitor crop health, and manage resources more effectively.

3. Policy Support: Effective policies are essential for promoting sustainable agriculture, supporting farmers, and ensuring fair trade. Policies should encourage the adoption of resilient practices, provide financial and technical support to farmers, and create a favourable environment for agricultural innovation. Additionally, policies should focus on disaster preparedness and response to mitigate the impacts of crises on food systems. This includes establishing emergency food reserves, improving infrastructure, and supporting community-based resilience initiatives.

Ways to attempt to solve the issue of food security are plentiful with possibilities of changing genetically modified crops regulations or other approaches can be used like subsidising technological development or even more directly investing into national (or international) agriculture systems can be used to protect against and mitigate effects of global crisis on food security.

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