**TABLE OF CONTENT**

**Letter from the Secretary-General**

**Letter from the President Chair**

1. **Introduction to the Committee and the Agenda**
2. **Background Information**
3. **Current International Efforts**
4. **Committee’s Mandate**
5. **Scientific Background**
6. **Legal Framework**

**6.1. Promotion of Sustainable Agricultural Practices**

**6.2. Alternatives to Genetically Modified Foods (GMOs)**

**6.3. Food Sovereignty**

**6.4. Support for Agroecosystem Resilience**

1. **Challenges and Barriers**
2. **Current Technology Trends**

**8.1. Sensors**

**8.2. Drones and satellite technologies**

**8.3. Robots**

**8.4. Smart Farming Automation**

**8.5. Soil DNA Detection**

**8.6. Smart Sensor Technologies**

**8.7. Agricultural Artificial Intelligence Technologies**

**8.8. Laser Scarecrow Projects**

**8.9. Vertical Farming Applications**

**8.10. Other Modern Agricultural Applications**

1. **Responsible Investment in Agriculture and Food Systems**
2. **Questions to be Answered**
3. **References**

***Letter from the Secretary-General***

*Most distinguished participants and dearest guests,*

*I am delighted to welcome you to the HASMUN’24 Conference of Kadir*

*Has University as the Secretary-General. Your participation and unique*

*perspectives will contribute to the success of this event.*

*With 8 diverse committees, each crafted to address the urgent need*

*forsolutions across a broad spectrum of specializations, we're set for*

*impactful discussions and innovative ideas. With our special 15th year of*

*Kadir Has University Model United Nations Club celebration, our*

*committees are:*

*• United Nations Office of Counter-Terrorism (UNOCT)*

*• International Atomic Energy Agency (IAEA)*

*• United Nations Population Fund (UNFPA)*

*• United Nations Industrial Development Organization (UNIDO)*

*• United Nations Office for Outer Space Affairs (UNOOSA)*

*• World Food Programme (WFP)*

*• International Monetary Fund (IMF)*

*• Historical Crisis Committee (HCC)*

*We, as the HASMUN'24 team, have made marvelous efforts to serve you,*

*participants, one of the greatest Model United Nations Conferences.*

*I want to conclude my words by thanking everyone involved in the*

*Academicand Organization teams for their greatest work. Delegates, I look*

*forward to your valuable contributions and meeting you in person.*

*#welcomehome*

*Best regards,*

*Aylin Rassad*

*Secretary-General HASMUN'24*

**World Food Program: "Sustainable Approaches to Hunger Prevention: Exploring Alternatives to Genetically Modified Foods and Promoting Agricultural Practices for Long-Term Food Security."**

***‘In a world of plenty, hunger should be a thing of the past’***

1. **Introduction**

The World Food Programme (WFP), a vital organ of the United Nations (UN), plays an important role in providing and coordinating food aid globally. As the leading international organization in the fight against hunger, the WFP is committed to the 2030 Agenda for Sustainable Development. The main mission extends beyond mere sustenance; it encompasses the pursuit of a world where every individual has access to nutritious food, regardless of their circumstances.

In this committee, the collective goal is to address multifaceted challenges related to food security, distribution, and humanitarian assistance. You should recognize that hunger knows no borders and affects millions of lives daily. Therefore, your discussions should turn into innovative solutions, advocate for effective policies, and explore collaborative strategies to create a more food-secure world.

Throughout the deliberations, the House will consider the interconnectedness of food systems, climate change impacts, and socioeconomic disparities. You should aim not only to end hunger but also to build resilience, promote sustainable agriculture, and empower communities. By working together, we can transform words into action, ensuring that no one is left behind in the pursuit of a nourished and equitable planet.

1. **Background Information**

As of January 2022, the World Food Programme (WFP) continues to exert significant efforts to address pervasive issues of hunger and food insecurity through a diverse array of international initiatives. One of the cornerstone endeavors of the WFP remains its provision of emergency food assistance to regions beleaguered by conflicts, natural disasters, and various crises. This vital assistance extends to countries grappling with acute humanitarian challenges such as Syria, Yemen, South Sudan, and the Democratic Republic of the Congo, where the WFP plays a crucial role in delivering essential food aid to refugees and internally displaced persons, often amid challenging operational environments.

Moreover, the WFP remains deeply invested in implementing extensive nutrition programs aimed at tackling the alarming rates of malnutrition prevalent in vulnerable communities worldwide. These programs, meticulously designed and executed by the WFP, specifically target segments of the population most vulnerable to malnutrition, notably children and pregnant or lactating women. Through the provision of specialized nutritious foods and comprehensive advocacy campaigns promoting breastfeeding and the adoption of healthy feeding practices, the WFP endeavors to combat malnutrition and its adverse consequences on individuals' health and well-being.

In tandem with its nutrition-focused initiatives, the WFP remains steadfast in supporting school feeding programs across numerous countries. Recognizing adequate nutrition's pivotal role in enhancing educational outcomes, the WFP's involvement in school feeding programs aims to improve children's nutritional status, bolster school attendance rates, and enhance academic performance. By providing nutritious meals or snacks within educational settings, the WFP strives to ensure that children receive the essential nutrients necessary for their growth, development, and overall well-being.

Furthermore, the WFP prioritizes the cultivation of resilience within communities grappling with chronic food insecurity and recurrent crises. Through a multifaceted approach encompassing livelihood diversification, agricultural development, and the establishment of robust safety nets, the WFP aims to bolster communities' capacity to withstand shocks and adversities while facilitating their swift recovery in the aftermath of disasters. Collaborating closely with governmental bodies, non-governmental organizations (NGOs), and other key stakeholders, the WFP endeavors to improve food security and promote sustainable livelihoods in vulnerable communities worldwide.

These examples underscore the multifaceted approach of the WFP in addressing the complex and interconnected challenges of hunger and food insecurity on a global scale. With a steadfast commitment to continual adaptation and responsiveness to evolving challenges and community needs, the WFP remains at the forefront of international efforts to alleviate hunger and foster sustainable development. For the latest updates on the WFP's activities and initiatives, interested parties are encouraged to consult the organization's official website or recent reports.

1. **Current International Efforts**

The World Food Programme (WFP) operates in alignment with the Sustainable Development Goals (SDGs), particularly focusing on Goal 2, “Zero Hunger.” Since the SDGs’ adoption in 2015, the WFP has concentrated its efforts on Goals 2 and 17, adapting its interventions based on national contexts and priorities. The WFP Strategic Plan (2017-2021) serves as a roadmap to synchronize organizational objectives with relevant SDGs, with a primary emphasis on emergency response, life-saving interventions, and developmental initiatives targeting marginalized populations. Goal 17 underscores the imperative of enhancing international cooperation, capacity building, and increased funding for development endeavors. The WFP’s commitment to Goal 17 materializes through close collaboration with the international community and civil society, crucial for achieving humanitarian aid delivery and food security program objectives. Notably, approximately 75% of WFP’s food distribution is facilitated through partnerships with local civil society partners. Other SDGs aligning with WFP’s priorities include Goals 1 (ending poverty), 3 (ensuring healthy lives), 5 (achieving gender equality), and 12 (ensuring sustainable consumption and production patterns).

The WFP Strategic Plan (2017-2021) provides a comprehensive operational framework without extending the organization’s mandate. Instead, it capitalizes on WFP’s primary strengths and capacities in humanitarian response. The plan formulates two strategic goals: “supporting countries to achieve zero hunger” and “partnering to support SDG implementation.” These goals underpin five strategic objectives aimed at ending hunger, improving nutrition, ensuring food security, supporting SDG implementation, and fostering partnerships for SDG outcomes. The anticipated results of these objectives align with specific SDG targets, such as ensuring universal access to food (SDG Target 2.1) and eliminating malnutrition (SDG Target 2.2). This strategic approach underscores WFP’s transition from a food aid agency to a comprehensive food assistance agency, providing holistic “hunger solutions” beyond traditional aid through initiatives like vouchers and cash transfers. Recognizing the importance of innovation, WFP has strengthened its innovation efforts, exemplified by the Innovation Accelerator established in Munich, Germany, in July 2017.

Despite notable progress, 2016 presented significant challenges for WFP, marked by a record number of Level Three emergencies. Currently, six Level Three emergencies persist in regions including Syria, Iraq, Yemen, Nigeria, South Sudan, and Southern Africa. Various contextual factors, such as increasing refugee numbers, ongoing conflicts, climate change-induced natural disasters, and economic downturns, further complicate WFP’s operations. Notably, WFP faced one of its most demanding operations in Syria in 2016, delivering food to millions amidst conflict and siege conditions, employing innovative delivery methods facilitated by the Logistics Cluster. Additionally, funding shortfalls have threatened WFP operations, particularly in Syria and Yemen.

Addressing gender disparities is central to WFP’s mandate, as reflected in the WFP Gender Policy (2015-2020). This policy aims to address differing food security and nutrition needs across gender lines, striving for gender equality and women’s empowerment. Progress has been made, with millions of women directly assisted by WFP in 2016, and increased decision-making power observed among women in households.

The WFP continues to refine its strategies and operations to navigate complex global challenges, as evidenced by discussions at the Annual Session of the Executive Board in June 2017. The Executive Board deliberated on key policy issues such as the Integrated Road Map, WFP’s Collective Humanitarian Response, and the implementation of WFP’s Gender and Nutrition Policies. Flexibility for implementing the Strategic Plan (2017-2021) and WFP’s Financial Framework were also discussed, underscoring the organization’s commitment to adaptability and effectiveness in achieving its mission.

1. **Committee’s Mandate**

The World Food Programme (WFP) is a prominent humanitarian organization that saves lives and improves livelihoods by providing food aid during emergencies and collaborating with communities to enhance nutrition and resilience. Despite global efforts to eliminate hunger, achieve food security, and enhance nutrition By 2030, one in ten individuals worldwide will still lack access to sufficient food. Food assistance plays a pivotal role in breaking the cycle of hunger and poverty. In recognition of its efforts to combat hunger, promote peace in conflict-affected regions, and prevent hunger from being used as a weapon of war, WFP was honored with the Nobel Peace Prize in 2021 In 2022, WFP reached a milestone by assisting 160 million people, showcasing its effectiveness as an emergency responder with a fleet of trucks, ships, and aircraft delivering aid to those in need. WFP's activities encompass emergency aid, relief, rehabilitation, development assistance, and special operations, with a significant focus on conflict-affected countries where the risk of undernourishment is three times higher. During emergencies, WFP is often the first to respond, providing vital food aid to victims of war, natural disasters, and other crises. Following emergencies, WFP aids in rebuilding communities and strengthening their resilience. WFP prioritizes nutrition, especially for mothers and children, through various programs targeting malnutrition from conception to a child's second birthday and school initiatives. es. As the largest implementer of school meal programs globally, WFP provided nutritious meals to 20 million children in 2022. The use of cash-based transfers by WFP is expanding rapidly, assisting millions while supporting local economies. WFP also provides air transportation services through the UN Humanitarian Air Service, facilitating aid delivery to numerous locations worldwide. In 2022, WFP raised a record-breaking $14.1 billion in contributions, with a dedicated staff of over 23,000, the majority of whom work in countries receiving assistance. Working closely with partner organizations and NGOs, WFP strives to address the root causes of hunger and food insecurity worldwide. Despite the abundance of food production globally, hunger persists due to conflicts, climate change, inequalities, and the impacts of the COVID-19 pandemic. WFP remains committed to confronting these challenges and finding sustainable solutions to hunger.

The World Food Programme’s (WFP) Strategic Plan for 2022–2025 2022-2025 is in line with renewed global commitment to the 2030 Agenda for Sustainable Development and its associated Sustainable Development Goals (SDGs). A strategic plan sets the organization’s course for the next four years. It outlines the many ways that WFP, working in partnership, can most efficiently save and change lives.

The vision for 2030 underlying WFP’s strategic plan is that:

• the world has eradicated food insecurity and malnutrition (SDG 2: Zero Hunger)

• National and global actors have achieved the SDGs (SDG 17: Partnerships for the Goals).

The Strategic Plan emphasizes the interconnectedness of the SDGs, highlighting that WFP’s activities also contribute to and depend on other goals.

The key drivers of hunger—conflict, the climate crisis, and economic downturns—provide entry points for WFP’s programming, new partnerships, and the generation of evidence. Amidst such sizeable and complex global challenges, WFP will primarily meet urgent needs while seizing opportunities to build resilience and address the root causes of vulnerability.

Turning the tide against hunger and achieving WFP’s vision relies on 5 outcomes: 1, 2, and 3 linked to SDG 2 and encompass WFP's work across the humanitarian-development-peace nexus, from saving lives to changing lives:

People are better able to meet their urgent food and nutrition needs

People have better nutrition, health, and education outcomes

People have improved and sustainable livelihoods

Outcomes 4 and 5 relate to SDG 17 and contribute to enabling governments and humanitarian and development actors to reach the SDGs.

National programs and systems are strengthened

Humanitarian and development actors are more efficient and effective

WFP will continue to advocate for those furthest behind and support global stakeholders in collective action to achieve the SDGs.

WFP’s work will be guided by seven principles, with four cross-cutting priorities maximizing program efficiency and effectiveness. Investing in people, strengthening partnerships, growing and diversifying funding, building on evidence, leveraging technology, and fostering innovation—these are the building blocks that enable WFP’s strategic plan. Country strategic plans serve as the vehicle for contextualizing and implementing the strategy at the country level, while the corporate results framework is WFP’s tool for monitoring and reporting performance and progress towards global goals. The latter therefore creates the results chain from strategic intent to achieving field-level outcomes.

1. **Scientific Background**

Food security is a global concern that affects every human being. Historically, efforts to increase agricultural productivity and yields have often come at the cost of environmental degradation and reduced biodiversity. However, sustainable agriculture offers a practical solution—one that aims to achieve global food security while minimizing further harm to our planet. In sustainable agriculture, we consider ecosystem services—the vital functions provided by natural ecosystems. These services include pollination, biological pest control, soil and water quality regulation, soil fertility maintenance, carbon sequestration, greenhouse gas mitigation, nutrient cycling, hydrological services, and biodiversity conservation.

To achieve food security, we must balance agricultural systems with surrounding ecosystems. Recognizing how services flow between these systems is crucial. By doing so, we can ensure both food security and environmental health. Sustainable practices include conservation tillage, crop diversification, integrated nutrient and pest management, and site-specific crop management. These approaches address agroecosystem deterioration and environmental concerns while meeting rising food demand. As the world population grows, estimated to reach around 9 billion by 2050, the pressure on existing agricultural resources intensifies. Climate change exacerbates this challenge. Sustainable solutions are essential to ensuring food security for all.

In summary, sustainable agriculture provides a pathway toward long-term food security by considering ecosystem services, minimizing environmental risks, and maintaining the quality of food products.

1. **Legal Framework**

In the pursuit of ensuring food security and nutrition for all, policymakers are increasingly turning to sustainable approaches. These strategies aim to address hunger while safeguarding the environment. Here are some key components of this legal framework:

**6.1. Promotion of Sustainable Agricultural Practices:** Encouraging farmers to adopt sustainable methods such as conservation tillage, crop diversification, and integrated nutrient and pest management is crucial. These practices enhance soil health, reduce environmental impact, and contribute to long-term food security.

**6.2. Alternatives to Genetically Modified Foods (GMOs)**: While GMOs have been widely used to increase crop yields, concerns about their safety and impact on biodiversity persist. Legal provisions should encourage research and adoption of non-GMO alternatives, such as traditional crop varieties and organic farming. For instance, countries like France have implemented strict regulations on GMO cultivation.

**6.3. Food Sovereignty:** The concept of food sovereignty emphasizes local control over food production and distribution. Laws can support community-based initiatives, empower small-scale farmers, and promote diverse, locally adapted crops. Brazil has embraced food sovereignty principles through policies that prioritize family farming and agroecology.

**6.4. Support for Agroecosystem Resilience:** Legal frameworks should incentivize practices that enhance ecosystem resilience. This includes soil conservation, water management, and biodiversity protection. Countries like India have enacted laws to promote sustainable agriculture and protect natural resources.

In conclusion, a robust legal framework that balances agricultural innovation, environmental stewardship, and equitable access to food is essential for achieving long-term food security.

1. **Challenges and Barriers**

Several challenges and barriers emerge in the quest for sustainable approaches to hunger prevention. One of the primary issues is the exploration of alternatives to genetically modified foods. While genetically modified foods have been instrumental in increasing food production and reducing hunger, they have also raised concerns about long-term health effects and environmental impact. Alternatives such as organic farming and traditional agricultural practices are often touted as more sustainable and environmentally friendly. However, these methods typically require more resources, including land, water, and labor, and often yield less produce compared to genetically modified crops. This makes them less efficient and can be a significant barrier to their widespread adoption. Furthermore, promoting agricultural practices for long-term food security is another challenge. Factors such as climate change, soil degradation, and water scarcity can make it difficult to implement and sustain these practices. Additionally, there is often a lack of education and awareness about sustainable farming methods among farmers, particularly in developing countries. This can hinder the adoption of these practices and limit their effectiveness in preventing hunger. Lastly, transitioning to sustainable practices often requires significant investment in terms of time, money, and resources. For many low-income farmers, this investment can be prohibitive. Despite these challenges, we must continue to explore and promote sustainable approaches to hunger prevention. Not only can these methods contribute to long-term food security, but they can also help protect our planet for future generations.

1. **Current Technology Trends**

Until the Industrial Revolution, agriculture served as the primary livelihood for the vast majority of humanity. However, today, there are visible advancements in agriculture and the impacts brought by technology. Significant changes have occurred in agriculture, especially throughout the 20th century. Mechanization and the use of artificial fertilizers, in particular, have caused significant harm to the environment, leading to major issues such as water pollution. Furthermore, with the emergence of environmental problems and abnormal natural events such as global warming in the 21st century, there has been a decrease in mechanization and the use of artificial fertilizers in agriculture.

When compared with the current industrial agriculture that causes environmental damage, organic farming, which was first discussed in the early 20th century, emerges as a clean and healthy alternative. Although organic farming receives global attention today, it is only accessible to upper-class individuals due to its high cost. Towards the end of 2007, price increases were observed in many agricultural products, primarily grain, due to global economic fluctuations. Furthermore, according to the United Nations, by the year 2025, Africa will only be able to feed 25% of its population. Therefore, in the future, as prices are expected to rise even further, food wars are anticipated to occur in Africa as well as in many Third World countries.

In today's world, agriculture serves two main purposes. Especially in the 20th century, developments in agricultural chemistry have increased production and reduced the ratio of human labor. However, this has led to both unhealthy food production and unemployment. While pesticides used against pests in agriculture largely prevent their damage, they disrupt the natural balance and harm the environment in return. Despite all this damage, the use of equipment such as tractors in agriculture increases production, thus providing food for more people.

Especially during the 20th century, as primitive agriculture was replaced with modern farming and irrigation units, there was a rapid increase in agriculture. According to the National Academy of Engineering in the United States, mechanization in agriculture is one of the 20 revolutions the world has experienced. Also, as of 1999, due to the advancement of technology, a single farmer could feed more than 130 people. Then again, developments in 21st-century technology, resulting in diversity in agriculture, increase through genetic crossbreeding, allowing for the creation of much more efficient and resilient new breeds by combining several productive strains. This is considered one of the factors underlying the increase in agricultural production. However, the aforementioned developments gave birth to certain problems regarding agricultural production and its economy: (1) environmental damage caused by chemical usage, such as but not limited to insecticides and artificial fertilizers; (2) excessive water treatment systems; and (3) vaccination of products.

However, agriculture is, and always has been, a fundamental aspect of any society, regardless of its level of development. This is because the provision of food and raw materials, essential for sustaining human life, is primarily reliant on the agriculture sector, and more importantly, there are no substitutes for this sector. Therefore, the real problem arises when conventional methods cannot be replaced with safer and healthier options since established agricultural practices must continue to feed the population. Furthermore, it can be discerned that there is a spiral-like structure in the development, advancement, and replacement of agriculture across the globe. For example, the use of technology in agriculture caused farming to be more efficient, which resulted in an increasing global population and exponential urbanization rates that, in turn, made it necessary to also increase agricultural production. To meet this demand, the highest yield must be obtained from existing agricultural land. Therefore, there is a need for technology and the positive impacts of technology on agricultural production. Especially benefiting from smart agricultural technologies is crucial in showcasing limited spaces and small businesses. Digital agricultural technologies that revive the interest of the rural workforce and young people in agriculture support the revival of local agriculture. The use of technology in agriculture also becomes a key condition for ensuring sustainability. According to United Nations data, the world's population will be over 9.7 billion by 2050. Ensuring food security for the increasing population is directly related to making the right moves in agriculture.

Smart agriculture primarily refers to a set of techniques that focus on increasing productivity in the agricultural field and aim for the more efficient, economical, and environmentally friendly use and management of existing resources. As understood from the definition, in smart agriculture, not only increasing product productivity and quality is considered sufficient. For agriculture to be more effective and sustainable, the technologies applied must also include other components. Therefore, modern agricultural technologies aim to improve production in many areas, from resource use and distribution to the economy. In addition to the financial aspects of the job, environmental factors are also taken into account. Smart agricultural technologies minimize damage to the environment by reducing the chemicals used in fertilization and pest control during farming. The goal here is to protect the environment by minimizing the use of chemicals during fertilization and pest control. In addition, smart alert systems and sensors, which support farmers in cultivation, are also part of smart agricultural practices. Especially, new technologies that come to the aid of inexperienced young farmers in the learning process enable small family businesses to grow faster. Thus, this sector is included in the process of meeting increasing demands. The usage areas of smart agricultural technologies are quite diverse. These technologies and how they are utilized can be listed as follows:

**8.1. Sensors**: They help improve production conditions with various measurements during the plant's growth stages. Sensor systems that determine the plant's water needs and enable automatic Irrigation can be an example here. Sensors can also be used in many different stages, such as fertilization and weather forecasts.

**8.2. Drones and satellite technologies** enable remote monitoring of data in agricultural fields. Satellite imaging is particularly useful in large agricultural areas. Drone and satellite-assisted imaging technologies allow problems that would take days to detect by wandering around to be identified within minutes, and solutions to these problems can be provided quickly.

**8.3. Robots**: They support agricultural production by working more efficiently and quickly in areas that require human labor, just like machines. Robots are needed in many areas, from planting to harvesting. Robotic planting and harvesting technologies can handle almost any task that can be done with human labor. Even tasks such as storing and packaging crops grown in the field can be assisted by robots. Many tasks in agriculture, such as seed planting, soil analysis, and weed control, can be easily performed with robot technology. The field of robot technology is constantly evolving and advancing.

Furthermore, all agricultural technologies enable farmers to archive their agricultural data and compare it when needed, thanks to the reporting system. In this sense, the use of technology in agriculture supports farmers in evaluating their data correctly and developing agricultural production on a more solid foundation.

Currently used modern agricultural technologies and planned applications for the future can be listed as follows:

**8.4. Smart Farming Automation**: These enable farming to be carried out using smart technologies, providing support to the production side in meeting increasing demands and meeting the demand for insufficient labor through robots.

**8.5. Soil DNA Detection**: This system, which allows the mapping of soil DNA, enables early detection of possible crop damage and diseases. It can also determine easily which type of soil needs how much water and fertilizer by conducting soil analysis. On the other hand, fertilization programs should be made by detecting the deficiencies of macro and micro-nutrients in plants through leaf analysis.

**8.6. Smart Sensor Technologies**: Mechanical, acoustic, optical, and satellite technologies. All these sensors can provide effective solutions to problems in different stages of agricultural production.

**8.7. Agricultural Artificial Intelligence Technologies**: Artificial intelligence, which manifests itself in almost every technological field, can also be actively used in agriculture through modern agricultural technologies. Robots and machines that can work autonomously without the need for human labor, with the help of artificial intelligence, enable agricultural production to gain speed.

**8.8. Laser Scarecrow Projects:** Laser scarecrow technologies used to keep harmful creatures that cause much of the harvest to disappear from the field are effective in large areas. Traditional methods have a success rate of over 90% in scaring away birds that damage crops.

**8.9. Vertical Farming Applications**: It is a method that allows maximum yield to be obtained from decreasing agricultural areas. Vertical stacking of crops in vertical farming allows you to get more products from a much smaller area.

**8.10. Other Modern Agricultural Applications**: In addition to the examples above, precision farming, harvest quality vision, bee vectoring, shrub straightening, and plant cultivation with zero gravity can be counted among modern production practices.

These agricultural technologies contain many advantages compared to traditional agriculture. First of all, the use of technology has positive effects on product quality. Also, by preventing resource waste, limited resources can be used more efficiently. In agricultural production through technology, there is a visible increase in the number of products obtained with limited resources. While agricultural production gains speed and momentum, efforts are made to maintain a supply-demand balance. The reduction in the use of chemicals in agriculture can also be counted among the advantages provided by technology. Excessive chemical use financially harms farmers. Besides, it causes environmental damage in a spiritual sense. Therefore, minimizing the use of chemical substances in agriculture through technology offers positive returns both to farmers' pockets and environmental health. In addition, effective use of water resources available on Earth is ensured at the environmental level. Technological irrigation systems allow crops to be irrigated with less water. These irrigation techniques prevent the waste of decreasing freshwater resources. At the same time, irrigation hours can be determined by following the evaporation hours calculated with technological data. Soil moisture status can also be observed from the air with the help of drones. The irrigation, spraying, and fertilization needs of the land can be monitored remotely. Tracking data can be recorded daily, weekly, or monthly. In short, technology-supported agricultural production brings countless advantages from the beginning of planting to the completion of harvesting.

1. **Responsible Investment in Agriculture and Food Systems**

Due to the indispensable and strategic importance of the agriculture sector compared to other sectors, there is an increasing interest from large-scale and even multinational enterprises in the agriculture sector or its related sectors. Agricultural activities should be conducted by large-scale and specialized agricultural enterprises using modern agricultural methods. More importantly, in volatile market conditions, both large-scale and medium-scale farm managers must act more professionally and systematically in response to events while conducting business operations. There arises a requirement of standardized rules of conducting agriculture that would guide nations to achieve sustainable, healthy, sufficient, and efficient means of producing food. To fulfill this, a series of principles and guidelines have been published by international organizations to determine the concept of “Responsible Investment” and what it means.

As such, according to the FAO, “Responsible investment in agriculture and food systems refers to the creation of productive assets and capital formation, which may comprise physical, human or intangible capital, oriented to support the realization of food security, nutrition, and sustainable development, including increased production and productivity, by the Principles outlined in this document.”

The document in question is the Principles for Responsible Investment in Agriculture and Food Systems which has also been endorsed by institutions such as WFP, FAO, AND IFAD. The most related principle in the committee agenda is principle 8.

Responsible investment in agriculture and food systems promotes safety and health through: i Promoting the safety, quality, and nutritional value of food and agricultural products; ii Supporting animal health and welfare, and plant health, to sustainably increase productivity, product quality, and safety; iii Improving the management of agricultural inputs and outputs, to enhance the efficiency of production and minimize potential threats to the environment and to plant, animal, and human health, including occupational hazards; iv Managing and reducing risks to public health across agriculture and food systems, including strengthening science based strategies and programmes for the control of food safety, with supporting infrastructure and resources; v Enhancing awareness, knowledge, and communication, related to evidence-based information on food quality, safety, nutrition, and public health issues, leading to strengthened capacity along the entire agriculture and food system, particularly for smallholders; vi Enabling consumer choice by promoting the availability of and access to food that is safe, nutritious, diverse and culturally acceptable, which in the context of this document is understood as food that corresponds to individual and collective consumer demand and preferences, in line with national and international law, as applicable.

Moreover, the OECD and FAO have released the OECD-FAO Guidance for Responsible Agricultural Supply Chains to narrow down principles to actual practices that can guide nations to achieve the aforementioned goals.

The Guidelines are a series of suggestions by 51 governments to multinational corporations designed to reduce harm to people, the environment, and society. Then again, the Guidelines establish a one-of-a-kind, government-backed framework that addresses all essential areas of business responsibility, such as human rights, labor rights, the environment, bribery and corruption, consumer interests, disclosure, science and technology, competition, and taxes. Moreover, the Guidelines have been updated to address pressing social, environmental, and technical objectives facing communities and enterprises while also referencing current international accords in those domains.

This update has been deemed necessary after FAO and OECD research unraveled that the agricultural sector is responsible for a significant share of global environmental pressures, including approximately one-third of global GHG emissions, 70% of freshwater use, up to 73% of tropical deforestation, and is the most significant driver of terrestrial biodiversity loss, as well as phosphorous and nitrogen pollution. This implies that reforming food systems has become an essential aspect of reaching the Paris Agreement and the SDGs.

Therefore, the Environment Chapter received one of the most major changes. This chapter is especially relevant for participants in agricultural supply chains because it can help them meet the issue of moving to a green economy while still protecting natural ecosystems. It is advised for businesses to align with internationally agreed-upon goals on climate change and biodiversity. It also explains company responsibility for land use, marine and freshwater ecosystems, deforestation, air, water, and soil pollution, and waste, including hazardous chemicals—all of which are key suggestions for accelerating global food system transformations.

By the aforementioned developments, the relevant clauses of the charter have been provided as follows (OECD/FAO, 2016):

**5. Food security and nutrition**

We will strive to ensure that our operations contribute to food security and nutrition. We will give attention to enhancing the availability, accessibility, stability, and utilization of safe, nutritious, and diverse foods.

**8. Environmental protection and sustainable use of natural resources**

We will establish and maintain, in coordination with responsible government agencies and third parties as appropriate, an environmental and social management system appropriate to the nature and scale of our operations and commensurate with the level of potential environmental and social risks and impacts.

We will continuously improve our environmental performance by:

• preventing, minimizing, and remedying pollution and negative impacts on air, land, soil, water, forests, and biodiversity, and reducing greenhouse gas emissions.

• avoiding or reducing the generation of hazardous and non-hazardous waste, substituting or reducing the use of toxic substances, and enhancing the productive use or ensuring a safe disposal of waste.

• ensuring the sustainable use of natural resources and increasing the efficiency of resource use and energy.

• reducing food loss and waste and promoting recycling

• promoting good agricultural practices, including maintaining or improving soil fertility and, avoiding soil erosion

• supporting and conserving biodiversity, genetic resources, and ecosystem services; respecting protected areas, high conservation value areas, and endangered species; and controlling and minimizing the spread of invasive non-native species

• increasing the resilience of agriculture and food systems, the supporting habitats, and related livelihoods to the effects of climate change through adaptation measures.

These become feasible only when managers have a certain plan or make conscious and rational decisions in the face of developing events in the presence of accurate, and real information. For this reason, just like in all businesses, accounting information systems have a separate place and importance for the future of agricultural enterprises.

One of the most recent examples of responsible investment conducted by the government of Italy as it tries to encourage a new generation of farmers by providing financial support (Up to 1.5 million euros for large-scale and 500.000 euros for small-scale farmers) that would be in line with the aforementioned principles.

The desire to ensure food supply security within the union, the need to protect the income levels of those working in this sector against price fluctuations, and the significant differences between national agricultural policies and market mechanisms have led to the need to create a common agricultural policy (CAP) (KV, 2006). Moreover with examples; The Common Agricultural Policy (CAP), the first common policy of the EU, was established in 1962. The EU initially pursued a protectionist and interventionist agricultural policy. However, faced with surplus product supplies, the EU embarked on reform efforts under the Mansholt Plan in 1968. In this framework, in an attempt to address surplus supply issues, a decision was made to leave 5 million hectares of land uncultivated. However, realizing that this would not solve the problem, in subsequent years, a tax was imposed on producers exceeding production quotas for selected products. In later years, under the Delors Plan, payments were made per hectare to land left fallow to reduce the share of agricultural expenditure within the EU budget, and early retirement opportunities were provided to farmers. Support payments were largely shifted to products experiencing supply shortages. In the United States (US), the Direct Green Dollar (DGD) system began to be implemented in the mid-1990s. Therefore, it is not a coincidence that the revision of support payments in the EU coincided with the obligations imposed on developed countries within the framework of the Uruguay Round conducted under the World Trade Organization (WTO). In this context, the FAIR Act enacted in 1996 served as a precursor to the widespread implementation of the DGD system in the US and partially reduced the incentives for support to stimulate production increases. To predict the burden of support payments on the budget, a similar practice to the single payment scheme implemented in the EU was adopted much earlier, and the amount of aid for the products in question was determined based on fiscal years (Eraktan et al., 2004). Looking at the direct government assistance received by US farmers in past periods, it can be seen that they benefited from $70 billion in aid between 1996 and 2001. It was estimated that farmers benefited from $100 billion in direct government assistance between 2002 and 2008, and it was planned to provide $80 billion in aid until 2012 (Mitra, 2002). This led to a backlash from US farmers against policies aimed at reducing support (Eraktan et al., 2004). ‘

1. **Questions to be Answered**

1. What are the main challenges in implementing sustainable approaches to hunger prevention?

2. How do genetically modified foods contribute to hunger prevention?

3. What are the potential long-term health effects and environmental impacts of genetically modified foods?

4. What are some alternatives to genetically modified foods for hunger prevention?

5. How do organic farming and traditional agricultural practices compare to genetically modified crops in terms of efficiency and yield?

6. What are the key factors that make it difficult to implement and sustain agricultural practices for long-term food security?

7. How does climate change impact sustainable agricultural practices?

8. What role do education and awareness play in promoting sustainable farming methods among farmers?

9. What are the financial implications for low-income farmers transitioning to sustainable practices?

10. How can sustainable approaches to hunger prevention contribute to long-term food security and environmental protection**?**

1. **References**

*Eraktan, Gülcan ve Canan Abay (2004) Türkiye’de Tarımın Teşvikinde Doğrudan Gelir Desteği Sitemi ve Sonuçları, 1. Baskı, İstanbul: İstanbul Ticaret Odası Yayınları.*

*Mitra, Sabyasachi (2002) US Farm Bill 2002: Its Implications for World Agricultural Markets,*

*Mustafa, A. C. A. R., & Bulut, E. (2009). Türkiye’de Ve Dünyada Tarimsal Destekleme Politikalarinda Son Gelişmeler. Sosyal Ekonomik Araştırmalar Dergisi, 9(17), 1-19.*

*İKV (2006) Avrupa Birliği Ortak Tarım Politikası Reformları, İKV Yayınları, No. 193.*

<https://link.springer.com/chapter/10.1007/978-3-030-59687-3_5>

<https://www.frontiersin.org/research-topics/60516/towards-sustainable-development-goal-of-zero-hunger-exploring-the-dynamic-relationships-between-food-pricing-agriculture-and-food-security>

<https://www.ssph-journal.org/journals/international-journal-of-public-health/articles/10.3389/ijph.2023.1605956/full>

<https://link.springer.com/article/10.1007/s11356-022-23635-z>

<https://www.fao.org/3/ca9476en/ca9476en.pdf>

<https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode/legalcode%29>

<https://www.frontiersin.org/research-topics/60516/towards-sustainable-development-goal-of-zero-hunger-exploring-the-dynamic-relationships-between-food-pricing-agriculture-and-food-security>

<https://link.springer.com/article/10.1007/s41055-023-00126-6>

[*http://www.networkideas.org/themes/agriculture/may2002/ag17\_US\_Farm\_Bill\_2002*](http://www.networkideas.org/themes/agriculture/may2002/ag17_US_Farm_Bill_2002)

https://tr.oliveoiltimes.com/business/italy-launches-land-generation-initiative-to-foster-generational-change-in-farming/115720

<https://www.fao.org/3/au866e/au866e.pdf>

<https://www.wfp.org/>

[*https://www.fao.org/about/about-fao/en/*](https://www.fao.org/about/about-fao/en/)

[*https://www.fao.org/news/countries-good-practices*](https://www.fao.org/news/countries-good-practices)