

Food Security: Diplomatic Perspectives

الأمن الغذائي : منظور دبلوماسي

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Received date : 14/04/2024

Admission date : 12/12/2024

Published date :30/12/2024

Abstract

The present research paper aims to explore the link between diplomacy and food security in a constantly changing global context. Methodologically, it relies on documentary analysis and case studies as well. This paperwork reveals the crucial importance of diplomacy in promoting food security mainly through fostering the international cooperation, the conflict resolution and the implementation of sustainable agricultural policies. Moreover, this study identifies key challenges and opportunities for effective diplomacy in this domain; it also highlights the need for a holistic and collaborative approach to afford ensured and sustainable food for all.

Key words

Food security, Diplomacy, International Cooperation, Food Availability, Food Crises.

الملخص

تهدف هذه الورقة البحثية إلى ضبط وتحليل العلاقة القائمة بين الدبلوماسية والأمن الغذائي في سياق عالمي متغير ومتحول باستمرار، وذلك بالاعتماد على منهجية قائمة على تحليل مجموعة من الوثائق مع عرض بعض الحالات المرتبطة بالموضوع للدراسة.

برز من خلال هذه الدراسة مدى أهمية الدبلوماسية باعتبارها أداة حاسمة في تعزيز الأمن الغذائي من خلال تعزيز وتكثيف التعاون والتكافل الدولي في هذا المجال، إلى جانب حلّ النزاعات التي قد تشكل خطراً على الأمن الغذائي، بالإضافة إلى مساهمة القناة الدبلوماسية في تنفيذ سياسات الزراعة المستدامة.

كما تم من خلال هذه الدراسة تحديد مختلف التحديات الرئيسية للدبلوماسية العالمية في مجال تحقيق الأمن الغذائي من خلال التوجه نحو تجسيد نهج تعاوني شامل يرمي إلى ضمان الوفرة الغذائية بشكل مستدام.

الكلمات المفتاحية

الأمن الغذائي، الدبلوماسية، التعاون الدولي، وفرة المواد الغذائية، الأزمات الغذائية.

Introduction

In fact, food security is a pressing global challenge transcending national borders. Ensuring ample access to nutritious and affordable food becomes a crucial priority as the world's population is steadily increasing. It is not just a question of merely food production; nevertheless, it is a complex issue of equitable distribution, resilience against natural disasters and economic shocks, and sustainable development of food resources.

In this article, we will explore -in two chapters- the significant role of diplomacy in achieving global food security. In the first chapter, we will explore the fundamental issues of food security by examining its definition, importance and the multiple factors that influence its maintenance. A deep understanding of these aspects is essential to address food security.

The second chapter of this article focuses on diplomacy as a key element for achieving food security. Moreover, we will examine how international actors -including international organizations, trade

agreements and bilateral cooperation- shape the way nations address food security challenges. Besides, through case studies and in-depth analysis, the present study sheds light on the successes, challenges and prospects of food diplomacy.

Indeed, this article purposes to answer the following question:

How can diplomacy play a key role in solving the complex global food security issues? What are the required diplomatic strategies to ensure access to ample food for all in a world that faces growing challenges such as hunger, malnutrition, and climate change?

As a step to answer the problematic, this paper relies on a variety of sources and references and reports on international relations, diplomacy and food security such as Rachida Kaabache's Impact of Eating Behavior on Health and Sustainable Food: Case of Algeria (2019), Isabela Nogueria and Ossi Ollinaho's Brazilian Cooperation and Investment in Mozambique: A Contested Complementarity (2015), Emmanuel Yai, et al., Agricultural productivity and food security: A theoretical and analytical framework (2021), in addition to international official reports such as Monitoring Food Security Report issued by the World Food Program (WFP) (2012), The state of food security and nutrition in the world Report of the Food and Agriculture Organization of the United Nations (FAO), (2023) and Food security and climate change Report of the Food and Agriculture Organization of the United Nations (FAO), (2012). Likewise, the present paper relies on the analytical method to demonstrate and discuss the role of diplomacy in solving food security issues from different perspectives.

In an increasingly interconnected world, diplomacy and food security are inherently related. The interaction between nations and international organizations as a step to guarantee the availability and access to ample food is fundamental for the future of our planet. By exploring this complex relationship, this article sheds light on effective

policies and actions aiming at ensuring food security for all, today and tomorrow.

Chapter 1: Food Security Issues

This chapter tends to explore the main aspects of food security; it provides the reader with an in-depth understanding of this fundamental concept.

Section 1: Definition and Importance of Food Security

In fact, this section is fundamental to attain a deep understanding of the concept of food security as it explains its meaning and significance.

Subsection 1: Understanding Food Security

This subsection purposes to deeply discuss the main concepts and elements of food security.

1. Food availability: Key concept of food security

Food availability is one of the fundamental pillars of food security; it refers to the overall quantity of food produced in a given region. It constitutes a crucial concept for ensuring food availability required to meet the population's needs¹.

Indeed, the concept of food availability relates to several aspects linked to food security, namely:

Food availability emerges with agricultural production, including the cultivation of grains, vegetables, livestock, fish, etc. This production constitutes a starting point to assess whether a region can meet its food requirements. In addition to current production, food availability takes into account food stocks. The latter serve as a safety

1- "Monitoring Food Security", Report drafted by the World Food Program (WFP), Technical Guide No. 2: Compendium of indicators for monitoring food security, September 2012, p 16 and following, available on the website: <https://urlz.fr/nlzU>, accessed August 27, 2023 at 12:47 p.m.

reserve in case of natural disasters, food crises or production fluctuations. Several countries sustain strategic food reserves to ensure unrelenting availability in cases of disruptions. These reserves can be used to meet potential emergency needs. In fact, food availability can also be influenced by international trade. Food imports and exports play a critical role in bridging the gaps between national production and needs. It is quite important to consider seasonal variability in food production. In several regions, agricultural production differs throughout the year because of growing seasons. This can lead to peaks and troughs in food availability. Agricultural productivity is often related to food security². In this context, as a step to guarantee long-term food availability, it is important to promote sustainable agricultural practices that preserve natural resources such as land, water and biodiversity.

Accordingly, from the above discussion, it is clear that food availability is a key element of food security for it is the first step in meeting the nutritional needs of population. Nevertheless, it represents only one aspect of food security that also requires accessibility, consumption and food stability to ensure adequate nutrition for all.

2. The Dimensions of Food Security

In fact, food security is a complex concept that encompasses several fundamental dimensions to ensure food availability, accessibility and sufficiency for a given population. National dimension of good security focuses on a country's capability to produce enough food for its population. Moreover, it involves monitoring national food reserves, agricultural policies and governmental food security

2- For more information, see: YAI Emmanuel, YABI Jacob, Floquet Anne, BIAOU Gauthier, DEGLA Pamphile, "Agricultural productivity and food security: A theoretical and analytical framework", Les Cahiers du Cread, volume 37, number 03, 2021, p 151

programs (Food and Agriculture Organization of the United Nations FAO).

Regional food security refers to the cooperation between neighboring countries for ensuring access to sufficient food. This may comprise regional agreements on food trade and shared resources management (Agricultural Research Centre for International Development CIRAD).

Food security at the individual and community level highlights the situation of households and communities; it assesses their ability to access nutritious food³. Social safety nets and food aid programs are examples of actions aiming at strengthening food security at this level (World Food Program WFP).

Further, world food security encompasses global issues related to the availability and access to food on a global scale. International organizations such as FAO and WFP purpose to alleviate global food crises and promote sustainable food security (International Fund for Agricultural Development IFAD).

Besides, environmentally related food security considers the effect of agricultural practices on the environment⁴. It tends to ensure that food production does not compromise the health of ecosystems and the planet on the long-term (United Nations Environment Program UNEP).

In fact, during armed conflicts, natural disasters or humanitarian emergencies, food security becomes a critical issue. Humanitarian organizations such as the ICRC work to provide emergency food assistance in such situations (International Committee of the Red Cross

3- For more information, see: LEWANDOWSKI-ARBITRATOR Magdalena, Community and International Food Safety Law, Lavoisier, Paris, 2006, p 05 and following.

4- See: GUIGNIER Armelle, "International law in the face of food and environmental insecurity: current situation and perspectives", *Ecologie et Politique*, N° 38, 2009, p 110.

ICRC). In this respect, in 2020, the number of people faced malnutrition caused by several crises like the corona-virus pandemic and armed conflicts increased and reached between 720 and 811 million people in the world⁵. Moreover, the dimensions mentioned above are interconnected and must be addressed holistically to ensure global and sustainable food security.

3. The Importance of Food Security in the Global Context

Food security is a subject matter of a critical importance on the international level due to its various impacts on stability, public health and the well-being of populations.

For instance, food shortages can trigger conflicts, social instability and mass migration. Further, food security is closely related to political stability; it prevents tensions linked to the accessibility to food resources (United Nations Development Program UNDP). In addition, food security is crucial to reduce poverty. Poor households often spend most of their revenue on food. Moreover, food security improvement helps freeing up financial resources for other necessary needs such as education and health (World Bank). Likewise, poor nutrition can lead to serious health problems including malnutrition, obesity, nutrient deficiencies and diet-related diseases. Likewise, food safety is fundamental to ensure healthy and nutritious diets (World Health Organization WHO).

Besides, food production has a significant impact on the environment. Indeed, sustainable food security purposes to preserve natural resources, reduce food waste and promote eco-friendly agricultural practices⁶ (Food and Agriculture Organization of the

5- "Resilient food security in crises caused by conflict", Report made by Mercy Cops, August 2021, p 01, available at: <https://urlz.fr/nlCD>, consulted on August 27, 2023 at 2:13 p.m.

6- See: BRUNEL Sylvie, "The new food question", La Hérodote, number 131, 2008, p 24.

United Nations FAO). Moreover, food trade is a key element of global food security; it allows countries to offset food shortages and benefit from dietary diversity. Besides, it is important to note that international trade agreements play a decisive role in this dimension (World Trade Organization WTO). Further, food crises - caused by conflict, natural disasters or other factors- require coordinated global action to provide emergency food assistance. Moreover, organizations like the WFP intervene in these situations (World Food Program WFP).

Based on the explanation above, it becomes evident that food security has become a key issue in the 21st century; it involves insightful implications for the stability, health, prosperity and sustainability of our planet.

Subsection 2: The consequences of food insecurity

The overwhelming impact of food insecurity exceeds the simple survival needs; it deeply extends into diverse areas generating complex and multifaceted consequences.

1- Human Health: Which impacts and consequences?

1.1 Acute and Chronic Malnutrition

Extended food shortage causes serious forms of malnutrition that are both acute and chronic⁷. In fact, deficiencies in vital nutrients, such as vitamins and minerals, weaken the immune system; it makes individuals more susceptible to diseases. Chronic malnutrition can cause stunted growth, cognitive impairment, and developmental problems in children and newborns⁸.

7- 20 million children are affected by this form of malnutrition worldwide.

See: "The different forms of malnutrition" UNESCO Report, August 2011, p 01, available on the site: <https://urlz.fr/pbX1>, consulted on January 9 at 11:20 a.m.

8- NDAMOBISSI Robert, "The Sociodemographic and Political Challenges of Child Malnutrition in the Countries of the Sahel and the Horn of Africa", Doctoral Thesis, Bourgogne Franche-Comté University, France, 2017, p 46.

1.2 Epidemics and Diseases Related to Malnutrition

Precarious living conditions related to food insecurity encourage the spread of epidemics. The emerging diseases, linked to malnutrition such as beriberi⁹ and scurvy¹⁰, increase the vulnerability of already weakened communities.

2. Socio-Economic Consequences

Firstly, Food insecurity leads to an important fall in economic productivity and unemployment. Farmers affected by insufficient or damaged crops find themselves in poverty. Likewise, agribusiness-related industries suffer major losses too. Unemployment is increasing and exacerbating socio-economic tensions within communities¹¹.

Secondly, The consequences of food insecurity affect health and education systems. The costs of medical treatment are increasing and overburdening weak medical infrastructures. At the same time, children, prey to malnutrition, face learning difficulties. This compromises the educational future of upcoming generations.

Through exploring the detailed hints of the consequences of food insecurity, we are confronted with complex challenges that require an integrated approach, going beyond purely food solutions, to address health, economic and human development aspects.

9- See: Moonen N, Lancelloti P, Betz R, Lambermont B, Piérard L, "Béribéri", *Revue Med Liege*, 2007, pp 523-530.

10- See: BERCHE.P, "The history of Scurvy", *Revue Biologie et Histoire*, number 347, March 2019, pp 49 – 59.

11- Unemployment has significantly and globally fallen: in 2022, there were 205 million unemployed, compared to 216 million in 2021 and 235 million in 2020.

See: "The state of food security and nutrition in the world" report of the Food and Agriculture Organization of the United Nations (FAO), 2023, p 13, available on the website: <https://www.fao.org/3/cc3017fr/cc3017fr.pdf>, accessed on January 9, 2024 at 11:30 a.m.

Section 2: Factors Influencing Food Security

Indeed, food security is the complex outcome of multiple interrelated factors. This section takes an in-depth view at key influences; it is divided into two subsections: environmental factors and socio-economic factors.

Subsection 1: Environmental Factors

In fact, climate change, marked by severe phenomena such as droughts and floods, has a direct impact on agricultural production¹². Impulsive deviations in precipitation and temperatures disrupt crop growth cycles; the latter leads to inconsistent yields and increased vulnerability to natural disasters. In addition, land degradation, which resulted from unsustainable agricultural practices and increasing urbanization, reduces land fertility. Exhausted soils make food production more difficult contributing to long-term food insecurity. Likewise, Declining crop diversity and biodiversity loss weaken food systems resilience. Harsh monocultures are more prone to diseases and pests that jeopardize the stability of food supplies.

Subsection 2: Socio-economic factors

Besides, socioeconomic inequalities influence access to the resources necessary for adequate nutrition. Poor populations often suffer from limited access to agricultural land, agricultural education and modern technologies. This creates a cycle of food vulnerability. Moreover, instabilities in food prices on global markets have a direct impact on the availability of food products. Sudden increases can cause

12- See: "Food security and climate change", report of the Food and Agriculture Organization of the United Nations (FAO), 2012, available at: <https://www.fao.org/3/av035f/av035f.pdf>, accessed on January 9, 2024 at 1:05 p.m.

some essential foods to become inaccessible to low-income households; this exacerbates food insecurity¹³.

Moreover, rapid urbanization stirs the increase in people's migration to cities; this often makes rural areas under-populated and affects local food production. The disentanglement between urban consumption centers and agricultural production areas can lead to food deficits¹⁴.

Throughout our analysis of the different facets of the factors influencing food security, our research shows that holistic approaches, combining environmental and socio-economic solutions, are essential to address these complex challenges.

Chapter 2: Food Security Diplomacy

As a complex global challenge, food security requires a diplomatic and cooperative approach for ensuring access to adequate and nutritious food for all individuals on the planet. In this chapter, we will deeply explore the fundamental role of international actors in food security diplomacy. In addition, we will examine -in detail- the impact of trade agreements on global food security, by highlighting the challenges and opportunities they present.

Section 1: Role of International Actors

In fact, food security promotion requires the collaboration of various international actors including international organizations and multilateral institutions. Their work purposes to strengthen countries'

13- See: CL172/5, Council of the Food and Agriculture Organization of the United Nations (FAO), 172th session, 24-28 April 2023, Rome, p 10, available on the site: <https://www.fao.org/3/nl652fr/nl652fr.pdf>, accessed on January 9, 2024 at 1:00 p.m.

14- See: Bricas Nicolas, Dury Sandrine, Figuié Muriel, Maire Bernard, Delpeuch Francis, "Food Security and Urbanization: Challenges for Intra- Urban and Peri-Urban Agriculture", 2003, pp 03-09, available on the site: <https://urlz.fr/pbYd>, accessed on January 9, 2024 at 1:10 p.m.

capacities, manage food crises and promote sustainable agricultural policies.

Subsection 1: Food International Organizations

1. United Nations Food and Agriculture Organization (FAO)

FAO is a specialized agency of the United Nations working to eliminate hunger and ensure food security in the world. Moreover, it provides technical assistance to governments collects and analyzes food security data; it also coordinates responses to food crises. Furthermore, FAO manages projects to improve agricultural productivity and promote sustainable food systems¹⁵.

2. World Food Program (WFP)

Besides, the WFP is the United Nations humanitarian agency responsible for fighting hunger worldwide. It provides emergency food assistance to populations affected by armed conflicts¹⁶, natural disasters and economic crises. WFP plays a crucial role in food distribution, implementation of nutrition programs and creation of food safety nets for the most vulnerable populations.

3. World Health Organization (WHO)

Although it's primary directive is public health, WHICH plays a crucial role in promoting food security by monitoring diet-related

15- See: Report, "The role of FAO in humanitarian contexts", 2020, available on the site: <https://www.fao.org/3/ca7391fr/CA7391FR.pdf>, consulted on 02/12/2024 at 10:53 a.m. , p p 01-12.

16- On the sidelines of the Economic and Social Council debate on humanitarian affairs in 2019, WFP and FAO organized a side event on Conflict and Hunger: Implementation of UN Security Council Resolution 2417. for humanitarian purposes, which aimed to encourage Member States to act as defenders of this resolution.

See: FAO Annual Session, Rome June 29-July 3, 2020, available on the site: https://executiveboard.wfp.org/document_download/WFP-0000116634, consulted on 02/14/2024 at 9:00 a.m., p 09.

health risks¹⁷, developing nutritional guidelines and supporting the implementation of healthy food policies. More to the point, it collaborates with other United Nations agencies to fight malnutrition-related diseases and promote balanced diets.

4. International Fund for Agricultural Development (IFAD)

IFAD is an international financial institution that works for reducing rural poverty by investing in agricultural and rural projects in developing countries. It provides loans and grants to smallholder farmers, community organizations and governments to improve agricultural productivity and build institutional aptitude and promote social inclusion in rural areas¹⁸.

5. World Bank

The World Bank finances agricultural and rural development projects in developing countries in the aim of improving food security and reducing poverty. In this respect, it provides loans, grants and technical advice to support initiatives such as improving agricultural infrastructure, amplifying marketing systems and promoting sustainable agricultural practices.

Subsection 2: Food Security and The impact of Trade Agreements

Indeed, international trade agreements can have significant impacts on food security through influencing trade flows, agricultural policies and access to food resources. Their impact depends on a variety of factors such as trade standards, agricultural subsidies and global governance mechanisms.

17- See: KAABACHE Rachida, "Impact of Eating Behavior on Health and Sustainable Food: Case of Algeria", *Economy and Environment Review*, Vol. 02, number 02, 2019, pp 132-144.

18- See the IFAD strategic framework 2016-2025, available on the site: <https://urlz.fr/pAuQ>, consulted on 02/14/2024 at 10:15 a.m.

1. Markets Access

In fact, trade agreements can bring in new market opportunities for agricultural producers by eliminating tariff and non-tariff barriers to trade. Further, this can boost economic growth and improve the livings of rural people. Nevertheless, opening markets can expose local farmers to bigger foreign competition. This would jeopardize their ability to maintain sufficient food production to meet domestic needs¹⁹.

2. Sanitary and Phytosanitary standards²⁰

In fact, trade agreements often comprise provisions on sanitary and phytosanitary standards to protect consumers' health and ensure the quality of traded food products. Nevertheless, these standards can also be used as non-tariff barriers to trade; this would limit developing countries' access to international markets. Henceforth, it is necessary that these standards must be based on sound scientific evidence and applied in a transparent and non-discriminatory manner to avoid any distortion of agricultural trade.

3. Agricultural Subsidies

In fact, agricultural subsidies provided by developed countries can distort trade by making local food products less competitive in international markets. This would lead to increased dependence on

19- See: "Trade and food security", agricultural trade and poverty: can trade work for the poor, available on the site: <https://www.fao.org/3/a0050f/a0050f06.pdf>, consulted on 02/14/2024 at 7:05 p.m.

20- "An Agreement on the Application of Sanitary and Phytosanitary Measures (the "SPS Agreement") entered into force upon the establishment of the World Trade Organization on January 1, 1995. It relates to the application of regulations concerning the safety of food products, as well as the protection of animal health and the preservation of plants. »

See: "Sanitary and Phytosanitary Measures", WTO Agreement Series, Geneva, 2005, available on:

https://www.wto.org/french/res_f/booksp_f/agrmtseries4_sps_08_f.pdf, consulted on 14/ 02/2024 at 9:13 p.m.

food imports and damage long-term food security in developing countries. To diminish this impact, it is necessary to reform agricultural subsidy policies and endorse support mechanisms that strengthen the competitiveness of local producers by ensuring the environmental and social sustainability of agriculture.

4. Food Sovereignty²¹

Besides, trade agreements can challenge the food sovereignty of developing countries through promoting the opening of markets and exposing local farmers to frequently inequitable international competition. To protect food sovereignty, it is necessary that countries have the capacity to regulate their own food production, guarantee equitable access to natural resources and promote agricultural policies adapted to their needs. This involves building the capacity of smallholder farmers, promoting sustainable agricultural practices and protecting the land-rights of local communities.

5. Foreign Agriculture Investments

Moreover, trade agreements can influence foreign investment in agriculture; this can have positive and negative implications for food security. On the one hand, foreign investments can provide both capital and technologies required to improve agricultural productivity and strengthen food value chains. On the other hand, they can also lead to problems such as land grabbing, environmental degradation and the marginalization of local populations. Hence, it is crucial to regulate foreign investments in agriculture to ensure that they actually contribute to rural development and to local populations' food security.

21- "Food sovereignty is not a spontaneous created idea; it is part of a succession of theoretical paradigms and reflection to solve world hunger that began in the 1970s." See: "Food sovereignty", Conference by Gilles Maréchal on food sovereignty, ALIMENTERRE training, March 2023, p 01.

6. International Cooperation for Food Security

In response to the challenges emerged from trade an agreement on food security, a consolidated international cooperation is required to ensure agricultural trade's contribution to the improvement of global food security. This comprises the promotion of fair and transparent trade policies, strengthening the capacities of developing countries to address agricultural trade challenges, and supporting the implementation of sustainable and inclusive agricultural practices.

7. Global governance of food security

Besides, for ensuring sustainable global food security, it is necessary to strengthen global governance mechanisms in the field of agriculture and food security. This entails strengthening existing institutions, such as FAO and WFP, and promoting coordination and cooperation between different UN agencies, national governments, civil society and the private sector. Likewise, it is important to adopt an integrated approach to food security that considers the economic, social and environmental dimensions of food security²².

Furthermore, international trade agreements have a significant impact on global food security. Their outcome depends on how they have been designed and implemented. To ensure the contribution of agricultural trade to the improvement of global food security, it is essential to adopt a fair approach that takes into accounts the needs and priorities of developing countries through promoting environmental sustainability, social justice and food sovereignty. Moreover, this requires firm collaboration between governments, international organizations, civil society and the private sector to

22- See: "Global Governance of Food Security; Are current devices suitable for the task? », Global Forum on Food Security and Nutrition, Discussion No. 68 from April 4 to 26, 2011, available on: <https://urlz.fr/pAv2>, consulted on 02/16/2024 at 9:20 a.m

develop trade and agricultural policies that address global food security challenges.

Section 2: Bilateral and Regional Food Diplomacy

In fact, bilateral and regional food diplomacy plays a crucial role in ensuring food security on the global level. This section tends to extensively examine food cooperation case studies between countries and the challenges faced by food diplomacy -in this context- as well.

Subsection 1: Food Cooperation Case Studies between Countries

In the context of the role of diplomacy in food security, there are several cases of bilateral cooperation between countries purposing to intensify their efforts to help each other under the food economy.

Case 01: Agricultural Partnership Agreement between Algeria and Turkey

Algeria and Turkey have established an agricultural partnership to strengthen their cooperation in both agriculture and food security fields. Moreover, their agreement was signed by the agriculture ministers of both countries, on the sidelines of the visit of Turkish President Recep Tayyip Erdogan to Algeria in February 2018²³. "The duration of the agreement is 5 years renewable by tacit agreement if no party expresses the desire to end it" adds the Algerian Official Journal (See footnote reference).

Further, according to the first article of the agreement: "the two parties collaborate on the basis of common interests to establish channels of scientific, technical and economic cooperation in the fields of Agriculture, Rural Development and Food Industries ". The present agreement defines "the areas of cooperation in terms of exchange of

23- Presidential Decree No. 20-113 of May 6, 2020, Ratifying the memorandum of understanding of cooperation between the Government of the People's Democratic Republic of Algeria and the Government of the Republic of Turkey in the field of agriculture, signed in Algiers , February 26, 2018, JO No. 29 of May 14, 2020.

scientific and technical information and research results in the field of agriculture in both countries". Besides, it involves exchanging equipment and experts and organizing training sessions and meetings under the information exchange relating to irrigation systems and agricultural equipment. Following this agreement, a routing and coordination committee, composed of four members from each country, will be established and meet once a year in one of the two countries. Moreover, its mission is to develop activity programs and evaluate bilateral cooperation and formulate proposals to high authorities. Besides, Algeria is Turkey's leading trading partner in Africa with a yearly trade volume between \$3.5 and \$4 billion. In addition, the volume of Turkish investments in Algeria surpasses the threshold of \$3 billion. Further, both countries purpose to amplify it to more than \$5 billion²⁴.

Case 2: Food Cooperation Agreement between Algeria and Italy

In fact, Algeria and Italy have signed a food cooperation agreement to promote trade in agricultural products and reinforce their own food security. This agreement tends to assist Italian agricultural products imports into Algeria, particularly processed products and gastronomic goods. Likewise, Algeria exports agricultural products like olives, dates and dried fruits to Italy. This collaboration has boosted agricultural trade between Algeria and Italy; it has created economic opportunities for farmers in both countries and strengthened their food security too²⁵.

24- See: "Algeria Aspires To A Fruitful Economic Partnership and Mutually Beneficial Cooperation with Turkey", APS, November 21, 2023. Available on the site: <https://urlz.fr/pSbp>. Consulted on: 03/13/2024 at 3:10 p.m.

25- See: "Algeria/Italy: The Signing Of Several Cooperation Agreements", APS, May 26, 2022. Available on: <https://www.aps.dz/economie/140254-algerie-italie-signature-de-plusieurs-cooperation-agreements-in-various-domains>, consulted on 03/13/2024 at 7:05 p.m.

Case 3: Cooperation Agreement between Brazil and Mozambique for Food Security

Brazil and Mozambique have established a strategic partnership as a step to strengthen food security in Mozambique that faces challenges related to production and food access. In this respect, Brazil shared its expertise in tropical agriculture and agricultural technologies adapted to hot climates with Mozambique. Training and knowledge transfer programs have been established to support local food production capacities. Hence, this cooperation has increased food production in Mozambique. This reduces its dependence on food imports and improves the food security of the population²⁶.

Case 4: India-Kenya Agricultural Partnership Agreement

India and Kenya have signed an Agricultural Partnership Agreement to promote cooperation in agricultural research, agricultural technology and agricultural products trade. Indeed, the agreement states that India will provide technical assistance to Kenya to improve its agricultural practices counting introducing water conservation techniques and improved seeds.

Henceforth, this collaboration has contributed to the increase of agricultural productivity in Kenya. This strengthens its capacity to ensure food security for its population and boosts its agricultural economy too²⁷.

26- See: Isabela Nogueira and Ossi Ollinaho, "Brazilian Cooperation and Investment in Mozambique: A Contested Complementarity", *Autrepart*, volume 04, number 76, 2015, pp 109-125.

27- See: Samira Njoya, "Kenya Signs Several Agreements with India Comprising One in Digital Economy", *Wearetech.Africa*, December 6, 2023, available on: <https://urlz.fr/pSNu>, consulted on 14 /03/2024 at 11:30 a.m.

Case 5: Ethiopia-Egypt Agricultural Cooperation Program

Ethiopia and Egypt have launched an agricultural cooperation program as a step to improve their agricultural productivity and strengthen food security in the Nile region.

More to the point, Ethiopia shared its expertise in irrigation and water resources management with Egypt. Likewise, Egypt provided financial and technical support to modernize agricultural infrastructure in Ethiopia. Consequently, this collaboration has amplified agricultural yields in both countries. This contributed into food security enhancement and promoted regional cooperation in the Nile region²⁸.

Case 6: Agricultural Collaboration Program between Senegal and China

Both Senegal and China have launched an agricultural collaborative program; the latter aims to improve agricultural productivity and to strengthen food security in Senegal²⁹.

Practically, under this program, China afforded technical and financial support for the construction of pilot farms and to the development of innovative agricultural projects in Senegal. More to the point, Chinese experts have been dispatched to train Senegalese farmers in efficient agricultural practices.

Accordingly, this collaboration led to a significant increase in agricultural yields in various regions of Senegal mainly in the production of rice, corn and vegetables. Moreover, Chinese

28- See: Pierre Blanc, "From Egypt to Ethiopia: When Power Moves To Nilotic Africa". *Confluences Méditerranée*, Volume 03, number 90, 2014, pp 123-139.

29- See: Xinhua, « China is taking very well-received and well-established initiatives in Senegal, according to a Senegalese minister (INTERVIEW) », 16/11/2023, Available on:

http://www.focac.org/fra/zfzs_2/202311/t20231116_11181762.htm. Consulted on; 14/03/2024 at 11h40.

agricultural technologies adapted to local conditions have been widely adopted; they contributed to the improvement of food security and to the reduction of food imports dependency³⁰.

Case 7: Food partnership program between the European Union and Lebanon

Both the European Union (EU) and Lebanon have established a food partnership program; the latter purposes to strengthen food security and promote sustainable agricultural development in Lebanon, particularly, in response to the Syrian refugee crisis in the area.

In practice, this program incorporates several elements, including support for the modernization of agricultural infrastructure, improvement of sustainable agricultural practices, and capacity building of local farmers. In addition, the EU affords financial and technical assistance to help Lebanon develop its agricultural sectors and increase its resilience to economic and environmental shocks as well.

Thus, this collaboration has led to the increase in food production in Lebanon. This has also reduced dependence on imports and improved the food security of the population. Besides, it helped to strengthen ties between the EU and Lebanon, hence, promoting regional stability³¹.

30- See: "China and Senegal Vowing To Further Enhance Agricultural Cooperation." Xinhua, 23 April 2022,

http://www.xinhuanet.com/english/2022-04/23/c_1310360297.htm, consulted on: 03/13/2024 at 14:30.

31- See: Newsdesk Libnanews, "Lebanon: The EU Offers €25 Million in Food Aid", January 10, 2023, available on: <https://libnanews.com/liban-lue-offre -25-millions-euro-food-aid/>, consulted on: 03/14/2024 at 12:05 p.m.

Subsection 2: Food Diplomacy Challenges

Indeed, Bilateral and regional food diplomacy faces several challenges that impede its ability to ensure food security successfully.

1- Political and Geopolitical Constraints

Political conflicts and geopolitical tensions between countries can hold back bilateral and regional food cooperation through undermining mutual trust and impeding collaborative efforts. More to the point, territorial rivalries between some countries can undermine food cooperation initiatives. In this context, they can be seen as attempts at political domination rather than efforts to ensure food security.

2- Economic and Logistical Constraints

Economic disparities and underdeveloped logistics infrastructure can obstruct the effective implementation of food cooperation programs, with regard to food transportation and distribution in particular.

Elevated transportation costs can make food trade unbeneficial mainly for developing countries with limited resources³².

3- Constant Demographic Pressures

In fact, rapid population growth and accelerated urbanization in many countries can put substantial pressure on food and agricultural resources. Growing demand for food -linked with urban sprawl and agricultural land loss- can make it difficult to produce enough food to meet population needs. Further, these demographic pressures can lead

32- See: G Panozzo, G Minotto, and A Barizza, "Transport And Distribution Of Food Products: Current Situation And Future Trends", *International Journal of Refrigeration*, Volume 22, number 08, December 1999, pp 625-639.

to a heavy food imports dependency. This can make countries more vulnerable to external shocks and fluctuations in global food prices³³.

Through overcoming these challenges, bilateral and regional food diplomacy can play a crucial role in promoting global food security, fostering collaboration and strengthening countries' capacities in facing food challenges. Nevertheless, this entails sustained political and financial commitment in addition to a holistic approach taking into account the political, economic, social and environmental aspects of food security.

Conclusion

Food security is a major issue of the 21st century that is directly related to international diplomacy. Moreover, in a world where different challenges -like climate change, population growth and conflicts are heavily exacerbating pressures on food resources- diplomatic cooperation becomes necessary for ensuring fair and sustainable access to food for all.

Likewise, diplomacy affords a framework for resolving disputes and promoting collaboration among nations in food security domain. Further, multilateral agreements -like those concluded under the Food and Agriculture Organization of the United Nations (FAO) and other international organizations- allow countries to share best practices, coordinate policies and mobilize resources to reinforce the resilience of global food systems.

Additionally, diplomacy plays a key role in promoting peace and stability as essential factors for food security. In fact, armed conflicts and geopolitical tensions can disrupt food production, impede food

33- See: Rokhaya Diagne, Food Security and Agricultural Liberalization, A PhD Dissertation to obtain a Doctorate in Economic Sciences, Doctoral School 513 Law and Political, Economic and Management Sciences, Higher Institute of Economics and Management, Research Group in Law, Economy, Management (Gredeg) UMR CNRS 6227, Nice Sophia Antipolis University, 2013, p 55.

distribution and compromise the access of vulnerable populations to food. Throughout promoting dialogue, mediation and the peaceful conflicts resolution, diplomacy contributes at creating an encouraging environment for food security.

Besides, food diplomacy, aiming at using foreign policy to promote food security, is actually gaining an important significance. Explicitly, countries can use their diplomatic influence to promote investment in sustainable agriculture, support smallholder farmers, assist fair trade exchanges and promote technological innovation in the agricultural sector a well.

Overall, diplomacy and food security are closely interdependent; they require coordinated action at the global level. Through strengthening international cooperation, promoting peace and stability, and strategically using food diplomacy, nations can collaborate to address the 21st century food challenges of and ensure a future without hunger.

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