Chelonian Conservation And Biology

Vol. 20 No. 1 (2025) | https://www.acgpublishing.com/ | ISSN - 1071-8443

DOI: doi.org/10.18011/2025.01(1). 116-138

FOOD SECURITY ISSUES ON FACEBOOK: A DESCRIPTIVE STUDY OF THE ALGERIAN NATIONAL ORGANISATION FOR AGRICULTURE AND FOOD SECURITY'S PAGE DURING JULY 2024

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Abstract:

This study aims to address a scientific issue concerning the role of the National Organisation for Agriculture and Food Security in promoting awareness about food security through its Facebook page. The topic of food and its security has become a critical global issue due to health crises, wars, and conflicts, which have directly impacted food and water supplies.

This research is part of descriptive-analytical studies, focusing on the role of new media in fostering food security culture, as communication tools have become remarkably widespread since the mid-2000s.

The study reached several key conclusions, the most important being that the page heavily relies on videos accompanied by text. It predominantly uses the Arabic language, with its content leaning towards a scientific approach based on intellectual and cognitive appeals. The page focuses on economic objectives in promoting food security culture, with most posts related to food, agriculture, technology, and land reclamation.

Keywords: Food Security, Food Self-sufficiency, Food Sovereignty, Food Gap, Facebook.

1- Introduction: The world today is witnessing profound transformations driven by various circumstances and conditions, shifting the focus of nations from military and political conflicts to a new type of struggle: securing human safety and how to achieve it. The aftermath of COVID-19 had a significant impact on countries globally, leaving leaders searching for solutions to overcome the crisis, especially when quarantine was imposed, and global food supply chains were disrupted. The pandemic forced countries into individual confrontations in terms of health and food security, highlighting the central importance of humans and their security as a critical issue requiring attention.

The Earth is experiencing climate change and the effects of global warming, such as rising temperatures, wildfires, and the spread of drought, especially in the Southern Hemisphere. Political upheavals also pose significant threats to food security, with events like the ongoing war in Ukraine affecting global food and energy markets, and conflicts in Syria, Niger, Gabon, Libya, Sudan, Yemen, and most recently, Palestine. In this context, food security issues have returned to the forefront, both internationally and locally, becoming a pressing matter in various international forums and organizations.

In its 2023 report, the Food and Agriculture Organization (FAO) of the United Nations indicated that 2.4 billion people globally experienced moderate to severe food insecurity in 2022, with about 900 million people (11.3% of the global population) suffering from severe food insecurity.

Food security has been a vital concern since the dawn of humanity, with early humans striving to secure food by settling near agricultural and water sources. Islamic teachings also emphasized the importance of food security through various Quranic and prophetic rulings, which served as clear laws that ensured social solidarity. On the international stage, food security has been addressed through treaties, declarations, and conferences, starting with the Nutrition and Agriculture Conference in 1943, followed by the 1974 and 1996 Rome Summits, and many other reports and declarations by the United Nations regarding food, hunger, and how to secure food globally, particularly during epidemics and famines.

Like other Arab nations, Algeria has worked to achieve food security since its independence through various developmental projects and plans, utilizing its natural resources. However, the country continues to struggle with achieving full food security, prompting a need to exploit all available means, especially in the agricultural sector. In recent years, attention has increasingly turned to reclaiming land for cereal cultivation, fruit tree planting, and livestock farming.

The role of communication and media is crucial in raising awareness about food security, combating wastefulness, and guiding citizens towards healthy eating habits. This raises the following research question

How does the National Organisation for Agriculture and Food Security contribute to raising awareness about food security issues through Facebook?

To address this central question, the following sub-questions are posed:

1. What communication resources does the National Organisation for Agriculture and Food Security use on Facebook?
2. What language does the organization predominantly use in its Facebook posts?
3. What are the most frequently discussed topics on the organization's Facebook page?
4. What persuasive methods are employed by the organization’s Facebook page regarding food security issues?

5. How does the audience engage with food security posts on the organization's Facebook page?

2- Study Objectives: The current study aims to:

- Highlight the importance of instilling a culture of food security in Algerian society.
- Examine the role of new communication tools in promoting food security and development issues.
- Understand the content shared by the National Organisation for Agriculture and Food Security on its Facebook page.
- Monitor the shared content and determine whether it serves the topic of food security.

3- Study Importance:
The significance of this study lies in the fact that food security has become a critical issue for nations worldwide, especially amidst health crises, wars, and conflicts. Spreading food security awareness is one of the most important factors for achieving food security, and new communication tools are effective means to expand this awareness.

Food security has recently become a strategic issue, particularly in light of the global challenges exacerbated by wars and conflicts. Every country is forced to think about how to plan for its food security, a goal that cannot be achieved without using communication tools as strategic instruments to promote responsible consumption and combat wastefulness.

4- Study Methodology: The study adopts a descriptive research methodology, utilizing the survey method to explore food security issues as addressed by the National Organisation for Agriculture and Food Security's Facebook page.

1.4 Data Collection Tool: Content analysis was chosen as the most appropriate tool for this study's nature and objectives.

2.4 Study Sample: A purposive sampling method was used, focusing on the organization's Facebook page. July 2024 was intentionally selected as the time frame for analysis due to the difficulty of covering all available pages and the possibility of updates or deletions in older posts. The study aims to track the organization's posts during this specific month.

3.4 Unit of Analysis: The unit of analysis will be the "idea" unit, which allows for measuring and counting, using the context unit for interpretation.

5- Study concepts:

1.5 Food security: Food security is defined as a country's ability to achieve self-sufficiency in providing necessary food for its population at any given time. This means ensuring that all people

have access to sufficient and adequate food. Achieving food security depends on the sustainable development and investment of natural and economic resources to produce enough food in both quantity and quality. Food security also needs to grow in tandem with the population to ensure social and political stability. From these definitions, three levels of food security can be identified:

- **Subsistence Level:** This is the minimum amount of food required for individual survival. The state must guarantee a certain number of calories per person according to international standards. This level can be related to the concept of "poverty line," referring to the minimum necessary expenditures for survival, including food. (Fellag, & Hadou, 2017, p. 35).
  - **Intermediate Levels:** This level is above the subsistence level but is still characterized by malnutrition, which worsens the closer one gets to the subsistence level. Achieving food security at this level requires eradicating malnutrition by increasing the essential nutrients the human body needs, especially animal protein and energy sources. While a person may not suffer from a lack of food, they may still face malnutrition. Therefore, states must ensure an adequate biological level of nutrition for all members of society. (the same source).

  - **Optimal Level:** This level ensures individuals can perform their productive activities efficiently. It represents the ability of the state to provide the desired caloric intake per person as recommended by international standards. This level focuses on two sides of the food security equation:
    - **Food Supply:** Through production, storage, and trade.
    - **Food Demand:** Reflected in how food is obtained, either through home production, market purchases, or various forms of food transfers. (the same source).

    In terms of forms of food security, two levels can be distinguished:

  - **Absolute Food Security:** This refers to producing enough food within a country to meet or exceed local demand, also known as self-sufficiency.
  - **Relative Food Security:** This refers to the ability of a country or group of countries to partially or fully meet the demand for essential food products. Relative food security doesn't necessarily mean producing all the essential food needs but focuses on providing necessary resources for producing these needs through other competitive advantages. (Abd El-Daim, 2004).

The World Bank distinguishes between two types of food insecurity:

- **Chronic Food Insecurity:** This occurs when there is a long-term inability to produce sufficient food.
- **Transitory Food Insecurity:** This refers to a temporary decline in a household's ability to access sufficient food, as seen during natural disasters, price volatility, job loss, or income reduction. (Bakdi & Basha, 2016, p. 45).

International attention to food security emerged as a strategic issue at both the political and regional levels. The **World Food Summit** in Rome emphasized that achieving food security for all people at all times requires access to sufficient, safe, and nutritious food that meets their dietary needs and preferences to live active and healthy lives. (Food and Agriculture Organization of the United Nations, 2013)

The **Rome Summit** laid down seven commitments for sustainable food security: (Food Security Declaration, 2019).

1. Ensuring a conducive political, social, and economic environment.
2. Implementing policies to eradicate poverty and inequality.
3. Adopting sustainable policies for agricultural, fishery, and rural development.
4. Ensuring that trade policies enhance food security through a fair global trading system.
5. Addressing natural disasters and man-made emergencies to meet food needs.
6. Encouraging investments in sustainable food systems and rural development.
7. Monitoring and following up on the action plan at all levels with international cooperation.

Countries were called to adopt strategies that align with their capacities and objectives, promoting regional and global cooperation to address food security challenges.

2.5 Pillars of Food Security:

The COVID-19 pandemic exposed the inability of many countries to provide sufficient food for their populations, especially during lockdowns when trade movements halted. This crisis, along with water scarcity exacerbated by climate change and population growth, underscored the need for a more robust focus on food security.

The **Arab Organization for Agricultural Development** launched an initiative in the second half of 2020, aiming to sustain Arab food security amid global and local changes. It replaced an emergency program implemented in 2011 to address new realities and called for focusing on national development projects to reduce poverty and achieve at least self-sufficiency, particularly in economies dependent on oil.

According to the **2009 World Food Summit**, food security consists of four key pillars:

- **Food Availability:** Ensuring a stable supply of food to meet the needs of the population. This is necessary but not sufficient to guarantee that individuals can access food. (Food and Agriculture Organization of the United Nations, 2013, p. 18)

- **Food Accessibility:** This refers to both economic and physical access. Economic access depends on income, food prices, and social support, while physical access depends on infrastructure such as ports, roads, and storage facilities. (same source)

The U.S. Department of Agriculture added that access to food must be socially acceptable, without resorting to emergency food supplies, theft, or engaging in other illegal or inappropriate actions to obtain food. (Al Jazeera, 2018)

- **Food Safety:** This is about ensuring the food people consume is safe and nutritious. Two indicators of this are the health of children under five and the quality of food preparation and hygiene. (Food and Agriculture Organization of the United Nations, 2013, p. 21)
- **Food Stability:** This involves maintaining a stable food supply and prices over time, mitigating risks like climate shocks, market fluctuations, and political instability.

These four pillars define a comprehensive framework for addressing food security challenges at national and global levels. (same source)

Food Security Indicators:

Indicators of food security	Dimension	Notes
Average Dietary Energy Supply Adequacy	Availability	Fixed and Variable Determinants
Average Value of Food Production		
Share of Dietary Energy Supply Derived from Cereals, Roots, and Tubers		
Average Supply of Animal-Based Proteins		
Average Protein Supply		
Percentage of Paved Roads of Total Roads	Physical Access	
Road Density		
Railway Density		
Access to Improved Water Sources	Utilization	
Access to Improved Sanitation Facilities		
Percentage Dependence on Cereal Imports	Exposure to Risk	
Percentage of Arable Land Equipped for Irrigation		
Value of Food Imports Relative to Total Merchandise Exports		
Political Stability and Absence of Violence/Terrorism	Shocks	
Volatility of Domestic Food Prices		
Changes in Food Supply Per Capita		
Changes in Food Production Per Capita		
Prevalence of Undernourishment	Access	Results
Share of Food in Poor People's Expenditures		

Depth of Food Deficit		
Prevalence of Inadequate Food Consumption		
Percentage of Children Under 5 Suffering from Wasting	Utilization	
Percentage of Children Under 5 Suffering from Stunting		
Percentage of Children Under 5 Underweight		
Percentage of Adults Underweight		
Prevalence of Anaemia in Pregnant Women		
Prevalence of Anaemia in Children Under 5		
Prevalence of Vitamin A Deficiency		
Prevalence of Iodine Deficiency		

Tableau 1 Source: Food and Agriculture Organization of the United Nations: The State of Food Insecurity in the World, Food Security in its Multiple Dimensions (2013), p. 16.

The dimensions of food security are linked through indicators that can be used to measure availability, access, stability, and safe food use. Many organizations and official bodies have adopted these dimensions, recognizing every person's right to access safe and healthy food, free from harmful organic and chemical substances that cause diseases and cancers. Achieving food security relies on the four previously mentioned dimensions, but overall, attaining it for all remains theoretical and difficult to achieve completely.

The world faces an imbalance between population growth and food security, particularly in the southern hemisphere, which has become a hotspot for climate change effects, economic difficulties, challenging living conditions, and emerging political unrest. The current concept of food security, encompassing all four dimensions at a macro level (society as a whole), does not ensure that certain social groups (at the micro level) do not suffer from malnutrition or hunger. For this reason, the global movement of small-scale farmers, La Via Campesina, introduced the concept of food sovereignty in the late 1990s. (Abdel-Khaleq & Kareem, 2015, p. 8).

3.5 Similar Concepts to Food Security:

- **Food Sovereignty:** This concept incorporates social and ecological considerations. Social aspects address the political economy of food (production, transportation, distribution, consumption), focusing on equitable land and water distribution, production resources, technology, and sustainable agricultural systems that protect future generations' rights. Ecologically, it emphasizes soil preservation, biodiversity, and protecting local species. Food sovereignty opposes globalization and the dominance of transnational corporations and the World Trade Organization, which threaten small farmers. (same source) Unlike food security,

food sovereignty advocates for control over agriculture and production in favor of farmers, rather than multinational companies. Food security ensures healthy food consumption for the population but does not address production, whereas food sovereignty promotes local agriculture by granting farmers complete freedom to produce what they wish, allowing people to consume what they deem appropriate. Thus, food sovereignty prioritizes popular will over the market logic defended by the World Trade Organization. (World Trade Organization, 2014, p. 13)

- **Self-Sufficiency:** Defined as "a country's ability to meet its population's basic food needs by allocating available agricultural resources to produce food locally, regardless of relative comparative advantages." This refers to the percentage of total food requirements that local production meets. Self-sufficiency may involve rejecting food imports. (Mustafa, 1997, p. 223)

Some criticisms of this concept include:

- The ideological nature of the term.
- The variability of self-sufficiency (minimum, medium, or maximum levels of food requirements).
- The practical feasibility of achieving these goals.
- The economic rationale of the concept, as many countries, especially developing ones, cannot achieve it due to the threats they face. Full food self-sufficiency is often seen as an unclear and idealistic concept if not placed within a specific geographic and historical context, and it can carry an ideological bias. (Abdel Salam, 1998, p. 76) The second criticism concerns the relativity of food self-sufficiency—whether it refers to the minimum, medium, or maximum level of food requirements, which should be linked to the society's economic and living standards. The third criticism argues that while full self-sufficiency may be a noble national goal, achieving it depends primarily on available resources and their capacity to meet the country's needs. Some nations may pursue this goal, but it may come with high economic and social sacrifices compared to more moderate solutions. The final criticism relates to the economic rationality of adopting a policy of full food self-sufficiency, as agricultural resources are limited, and the agricultural sector is vulnerable due to its direct dependence on climate conditions, making it economically irrational to rely solely on it. In the context of economic globalization and the liberalization of trade under the World Trade Organization, the criterion for rational choice favors cost-efficiency, regardless of whether production is local or imported. Additionally, rising living standards and the diversity of consumer demands make it difficult for all food needs to be produced domestically. (Al-Salmany Al-Ouyshi, 2022, p. 166). Food security differs from self-sufficiency in that it extends beyond food production to include sustainability, adequacy, and safety. It is not limited to local production but can be achieved through imports or foreign food aid. (Salmany, 2019/2020, p. 141)

4.5 Food Safety: The World Health Organization defines food safety as "all conditions and standards necessary during the production, processing, storage, distribution, and preparation of

food to ensure it is safe, reliable, and suitable for human consumption." Thus, food safety goes beyond agriculture to include all stages leading to consumption. (Abdel Salam, 1998, p. 98) Food security relates to the quality and value of the food people consume. "Undernourishment" refers to insufficient caloric intake, while "malnutrition" indicates poor-quality food intake, such as relying on plant-based proteins (e.g., legumes) instead of animal proteins (meat) or lacking essential nutrients like salts, vitamins, proteins, and fats, leading to health deterioration and diseases. Increasing numbers of people suffer from hunger globally, with around 800 million individuals affected. This may create a food gap between developed and developing nations in terms of daily food availability and nutritional diversity, especially considering the health aspects of food safety. (Hadjeres, 2015). Marketing science in the field of food products reminds us that, in the first phase, the focus was on providing food products, emphasizing quantity since demand exceeded supply. Then came the phase of focusing on quality and the balance between quantity and quality in food products. Currently, in the latest phase, the emphasis has shifted to the health dimensions of food products, commonly referred to as food safety. This focus intensified further after the global concerns caused by diseases like mad cow disease and foot-and-mouth disease. ((Abd El-Daem, 2004)

Food security depends on the conditions under which food is produced, adhering to standards that regulate the use of fertilizers, organic materials, and chemicals that accelerate agricultural and livestock production. This is achieved through organic farming, which advocates following agricultural processes involving crop rotation and using natural fertilization methods such as animal waste. Even when synthetic materials are used, they must be applied in scientifically controlled ways.

Efforts also focus on intensification, whether in animal or plant production, through experimental methods that assess soil conditions, water, and factors contributing to intensification. This involves selecting suitable elements for the environment being utilized, whether it pertains to plant species or animals adapted to the region's conditions. This intensive research-based approach allows for doubling production, undoubtedly contributing to food security, which is one of the pillars of sustainable development and a priority for all nations, particularly those in need.

5.5 Food Gap: The term was adopted at the 1996 World Food Summit, emerging from the global movement of small farmers since 1993. This movement addressed the monopoly over agricultural products and the dominance of major corporations, particularly the World Trade Organization. This struggle enabled civil society and non-governmental organizations working in development cooperation and human rights to establish the concept of food security. (Buisson, 2013, p. 12) The food gap is defined as the difference between what a country produces domestically and what it needs in terms of food. In other words, it refers to the amount of food a country requires but cannot provide locally, thus relying on imports to meet its needs.

Food Gap = Food Consumption - Domestic Food Production. (Bouchala, 2022)

The food gap is linked to agricultural and livestock production, which tends to be unstable due to its dependence on climatic conditions, consumption levels, global food prices, and population growth. These factors increase demand for products and goods, exacerbated by the degradation of agricultural land, desertification, pollution, and gas emissions, all of which contribute to the widening of the food gap.

According to the Arab Organization for Agricultural Development, the food gap for any specific food commodity for the Arab countries as a whole is the difference between production and what is available for consumption (i.e., the food gap equals net imports). This is assuming there is no change in food stockpiles, excluding Arab environmental trade in those goods. Based on this, the food gap in each country is measured as the difference between local production of any food commodity and what is available for consumption. (Salamany, 2019/2020, p. 144)

Food Insecurity: It is a situation where individuals lack access to adequate quantities of safe and nutritious food to ensure normal growth, development, and an active, healthy life. This may result from a lack of food availability, insufficient purchasing power, inadequate distribution, or inappropriate use of food at the household level. Food insecurity, along with deteriorating health and sanitation conditions and inadequate care and feeding practices, are primary causes of poor nutritional status. Food insecurity can be chronic, seasonal, or transient. (Bouchala, 2022).

6.5 National Security: It is defined as "securing regional immunity, political stability, and economic integration between the countries of the world, establishing mechanisms and rules for joint action, including defensive capabilities to prevent disturbances, and strengthening the currently fragile relationship between nations, institutions, and bodies of the international system. This requires relying on dialogue and negotiation to resolve disputes and conflicts among different entities." It is also defined as "the ability to defend its food and energy security, protect its achievements, and safeguard its values from external threats." Additionally, it is defined as: "the full sovereignty of the state over its land and national resources, and ensuring a sense of security for individuals within society against both external and internal threats. (Alouichi, 2022, p. 242)

7.5 Dimensions of Food Security: Food has become one of the strategic topics that is increasingly being discussed due to the circumstances many countries are facing and the concerns raised about food scarcity and the potential for its complete absence in some parts of the world. This leads to widespread famines, political, social, and economic crises. As a result, food has become a key factor in the stability of nations and the enjoyment of their sovereignty, which has made food security related to several dimensions, which can be summarized as follows:

The Economic Dimension: Relying on external sources to meet food needs, especially when this reliance exceeds 50%, creates an additional financial burden on what can be allocated for economic development in the country. Importing food weakens the country’s foreign currency

reserves by depleting them, thus increasing its external debt, which hinders development. The country also faces difficulties in financing investments and services necessary for production, as resources allocated for food imports are at the expense of those required for essential materials to sustain growth. Furthermore, many countries, especially developing ones, struggle to pay for enough food to cover
the needs of their citizens, which forces them to seek food aid from other countries. This disrupts the local market and negatively impacts the country's stability. As a result, many countries have resorted to establishing organizations, such as the Rice Organization, to control the quantity and prices of products directed to the international market. (Hamdi Bakdi & Basha,2016, p. 57)

The Political Dimension: Food sovereignty is a fundamental issue that ensures the political stability of nations. Food is a strategic weapon used by countries that possess food resources, leveraging the food needs of developing or poor nations that lack the means to produce their own food in order to pressure them and influence their decision-making, ensuring that these countries remain dependent. How can nations without the ability to produce their own food have true national sovereignty? This becomes evident through the control advanced countries have over key food crops such as wheat and corn, as they determine the global quantities and prices. A very limited number of wealthy nations monopolize the international market for these crops. Thus, the advanced nations, through their control of food resources, use countries in need of food as an effective tool to achieve their political interests and objectives around the world. It is important to note that Arab countries, despite holding the largest global reserves of oil and its high global prices, have not seen significant benefits in terms of achieving a developmental strategy. This is because most of these foreign currency revenues are directed towards importing food products. (Houchine, 2007, p. 267)

The Social Dimension: This dimension is closely related to the continuous increase in population. High population growth can lead to more difficult conditions regarding food security, increasing the burden on countries to narrow the food gap. The rapid population growth in the Arab region, for example, is both a cause and a consequence of poverty. Demographic growth often leads to increased poverty through higher dependency ratios, while individual production and income remain largely unchanged. Moreover, high growth rates strain budgets for educational and healthcare services, in addition to the inability of labor markets to absorb the growing population. This highlights how rapid population growth leads to the spread of poverty and food insecurity. Income levels play a key role in providing food for individuals. Those living below the poverty line cannot achieve self-sufficiency in food, and thus suffer, in one way or another, from malnutrition. It is clear that income levels also affect how agricultural lands are managed, including land ownership, which in turn impacts overall food security. (Haouchine, 2007, p. 267)

cultural Dimension: This dimension focuses on the moral or ideological aspect, nurturing beliefs and maintaining customs, traditions, and values. It is as important as the previous dimensions, yet many researchers have overlooked it, considering it part of political security. In reality, the cultural dimension plays a crucial role in shaping endurance, harmony, and peaceful cultural coexistence, both between nations and within a single society. It is a dimension that does not require political decisions or financial resources to implement specific behaviors within a community. Rather, it pertains to the deeply rooted beliefs in the memory and societal identity of an individual, related to the love of the land, working on it, cultivating it, achieving individual, self, and family sufficiency, and elevating agricultural labor. The cultural dimension of societies is clearly evident in reinforcing the national food security strategy adopted by the state, in which participation is necessary. (Slaṭniya & Ararour, 2009)

8.5 Algeria's Efforts to Achieve Food Security: The health crisis and the Russian-Ukrainian war have had negative repercussions on global food security, which led many countries, including Algeria, to turn to the agricultural sector, recognizing its significant role in achieving food security or even self-sufficiency, especially with the soaring food prices worldwide. In the 2023 World Economic Forum, Algeria was ranked as one of the leading countries globally in ensuring food security through national production. This report's findings align with those of the United Nations Food and Agriculture Organization (FAO), which placed Algeria first in the Arab and African regions for three consecutive years (2020, 2021, and 2022) for achieving the United Nations' Sustainable Development Goals related to food security. Additionally, Algeria was ranked first in Africa in the latest World Food Program classification for 2021. This achievement has possibly shielded Algeria from many global challenges, mainly due to the agricultural sector, as noted by the UN report. The percentage of people suffering from malnutrition in Algeria is less than 2.5% of the total population during the period 2018-2020. (Kaabch, 2021)

Algeria is striving to achieve food security through a series of projects aimed at sustainable development. These efforts include reorganizing the agricultural sector, expanding and reclaiming agricultural lands. The agricultural sector saw a relative increase of about 38% in 2022 compared to 2021. The cereal sector, with a production of 41 million quintals during the 2021/2022 agricultural season, marked a 48% increase compared to the previous season. The production of dry legumes increased by 20%, and potato production, a staple food for Algerians, rose by 30%. The production of red and white meats and milk also saw notable increases. According to the Minister of Agriculture, this production covered 75% of the country's food needs, potentially leading to self-sufficiency. (Algerian Radio, 2023).

Some experts believe that the government's measures have led to results supporting its goal of food security. These include increasing the prices for purchasing cereals from farmers by 35%, strengthening the transport fleet, and supporting fertilizers by 50%, among other decisions. Algeria has allocated billions of dollars to secure its food needs. In 2022, subsidies for widely consumed goods such as oil, sugar, milk, and cereals increased by 93% compared to 2011.

(Yahi, 2022) Regarding agricultural land, the government provided a land portfolio to the National Office for the Development of Industrial Crops in the desert regions, covering 233,000 hectares for 210 investors.

In the context of transforming permanent usufruct rights into lease rights (Law No. 10-03), 186,214 contracts were prepared out of 190,014 matching files, representing a 98% completion rate, covering 2,139,358 hectares. Algeria aims to recover unused agricultural land, encourage farmers supplying the national strategic stock, and support them with loans, fertilizers, tax incentives, and subsidies for agricultural equipment. The government is focusing on expanding investment in desert areas, especially for strategic crops such as wheat, corn, legumes, oilseeds, and fodder. For example, in the states of Ouargla, Illizi, Adrar, and Ghardaïa, nearly 170,000 hectares of desert land have been allocated to agricultural investors. Algeria also has 1.4 million hectares of land available for reclamation, distributed across ten provinces. These include Biskra, Ouargla, El-Ménia, Adrar, Illizi, Béchar, Ain Salah, Ain Guezzam, and others, with desert agriculture focusing on non-seasonal crop production. Algeria possesses vast, underutilized potential in mountainous regions, covering 28 northern states with an agricultural area of 2.53 million hectares, of which 1.7 million hectares are productive farmland, representing 20% of the total arable land. The area allocated for cereals is 3.3 million hectares, with yields ranging from 45 to 50 quintals per hectare, and 200,000 hectares of desert farming yielding up to 100 quintals per hectare. Algeria aims to harvest between 27 to 30 million quintals of cereals during the 2021-2022 season. (Leshmout, 2022). Algeria's main focus is on cereals, the essential food for its population. This is done through providing farmers with necessary tools and shifting towards more advanced agricultural practices, incorporating scientific methods to improve soil and crop quality. Agricultural research centers across the country have developed new wheat strains for farmers to experiment with. However, this can only be achieved by developing water resources, both surface and groundwater. This strategy suggests a broader approach that includes communication efforts and media involvement to raise awareness and foster participation in sustainable development, especially in food security at local, regional, and global levels. The United Nations itself has urged countries to direct their communications and media sectors to raise awareness on issues of food and development, recognizing that stability in political and military spheres cannot be achieved without ensuring food for populations. Therefore, media serves as a mirror for nations to connect and collaborate, promoting their development and security.

9.5 Facebook: It is one of the social networking sites that has gained the attention and engagement of many individuals. It helps people exchange information, files, personal photos, videos, and chats with friends, and provides the opportunity to form friendships and relationships in a short period. It is known as a social networking website, essentially a personal blog or page on the internet, where each registered individual has their own page. Users can communicate with all other members of the site from around the world. Facebook allows its members to share their opinions, suggestions, and discussions, as well as upload photos, videos, and other services available on the platform. (Abbas, 2011, p. 37)

Facebook is also distinguished by its friend-finding service or the ability to search for pages on various topics. Users can search by email or the name of a friend in the designated search area. If the person is a member of Facebook, they will be found and can be contacted, or if the pages are available, they will appear and users can interact with them. (Ladmari, 2010, p. 54).

6. **Results of Content Analysis of the National Organization for Agriculture and Food Security Page**
7.

1.6 Technical Profile of the National Organization for Agriculture and Food Security Page.

image 1 shows the page of the National Organization for Agriculture and Food Security on Facebook.

The National Organization for Agriculture and Food Security's page was created on Facebook on October 7, 2019, by the organization's president, Karim Hassan. The organization, which is considered a scientific and professional technical organization, brings together farmers and professional talents to serve as a proposal and unified workforce aimed at developing the national economy and ensuring food sovereignty. The page targets both the general and private audiences, blending three primary colors that are directly related to earth, water, and food: green as the background, symbolizing land, grass, spring, blooming, hope, and comfort; blue, representing the sky, tranquility, serenity, and water; in addition to golden color for the ears of grain, reflecting maturity, yield, and secure food future, as the ears have always been the food treasure in human societies. The harvesting tool predicts the season of reaping and symbolizes that the one who sows

is the one who reaps or harvests. The drone indicates the use of technology in agriculture, along with the Algerian flag and logo that provides the organization's identity. The page has more than 11,000 followers.

2. 6 Results of analyzing the categories of the form:

A. Category of Communication Media

Communication Resources Category	Frequency	Percentage (%)
Video	**30**	**16.21**
Images	**40**	**21.62**
Text	**25**	**13.51**
Links	**10**	**5.40**
Images + Text	**30**	**16.21**
Video + Text	**50**	**27.02**
Total	**185**	**100**

*Tableau 2: Illustrates **the communication media adopted on the page of the National Organization for Agriculture and Food Security.***

The table above shows the communication media used by the National Organization for Agriculture and Food Security. It is evident that the largest percentage is directed towards videos accompanied by text, reaching 27.02%. The organization also relies on images as a secondary option, accounting for 21.62%. The use of videos and images combined with text has a percentage of 16.21%, which is equal. The reliance on text accounts for 13.51%, while links achieved a percentage of 5.40%.

From the table, we can conclude that the organization diversifies its communication media, perhaps due to its importance in achieving food security. However, the large percentage directed towards videos accompanied by text is due to the utilization of cinematic language in moving images, which provides specific features that better introduce the page. Nonetheless, images were placed at the second level of usage, with the remaining media blended among videos, images, text, and pictures.

Communication and media tools are considered essential in achieving food security, and this can only be realized by integrating them into the production process as supports that embody awareness and contribute to rational consumption. They also guide youth towards agricultural investment, as land has become a priority that can ensure food security. Algeria is rich in vast resources, and its lands are fertile and productive, evidenced by the fact that it has been a target for colonization since foreign forces first set foot in Algeria. It produced and has the potential to produce the finest grains, dates, grapes, and citrus fruits, among others.

Thus, communication media can clarify strategic plans in achieving development and food security. They can also take on critical and evaluative roles by adopting social responsibility within the framework of public service, which they can fulfill in support of all sectors, especially in agriculture.

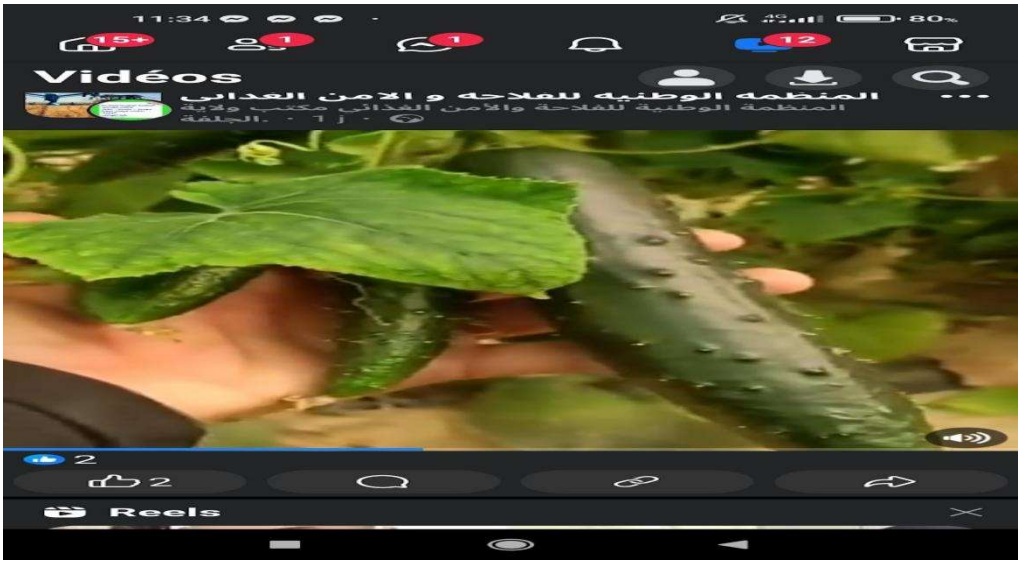

Image 2: Illustrates the adopted communication resources.

The image above shows the types of communication resources utilized, which is evident as it features a video with audio and visuals. This video explains the components of certain vegetables and the benefits of consuming them for humans, especially those that are grown naturally and free from chemical substances that directly harm the consumer's health. Therefore, the page aims to promote a general culture around food and its security, particularly by raising awareness about the fruits and vegetables we consume. Algeria has a favorable climate, and its soil is rich in nutrients and minerals, which makes its products taste good. The communication resources that the page seeks to employ are intended to guide citizens toward achieving food security and rational consumption, whether by fostering a healthy consumption culture or by preserving food, which has become one of the resources that could create conflicts among countries in the near future.

B. Category of language used:

Communication Resources Category	Frequency	Percentage (%)
Arabic	150	81.08
Arabic + French	30	16.21
Arabic + English	5	2.70
Total	185	100

Tableau 3: Language **Used on the Page**

The table shows that the percentage of Arabic language usage is the highest, reaching 81.08%. This is likely due to it being the mother tongue and the most widely spoken language among all groups in Algeria. The page owner aims to achieve a greater impact on the page's followers. There are also videos in French, which accounted for 16.21%, and in English at 2.70%. However, the accompanying text is in Arabic. The texts published by the organization often include words in French or English when it comes to foreign terms, possibly to preserve the meaning of the term

and its implications, allowing the message to resonate with the audience by blending foreign languages with Arabic.

Overall, language is an essential support in achieving communication and understanding among various parties. Therefore, the page attempted to diversify between three languages to enhance communication efforts and raise awareness about the page at the national, regional, and even international levels. More importantly, it aims to instill a culture of food security within society.

Image 3: Examples of the Language Used in Posts

The image above illustrates examples of the language used in the posts, which is simple, clear, correct, and understandable Arabic directed at all demographics without exception. The post discusses climate change, which threatens agricultural crops in neighboring countries. This is one of the natural disasters that humans often cannot control, such as floods and hail outside of the rainy seasons, which causes significant agricultural losses. Therefore, Algeria has pursued an insurance process for farmers to compensate for the losses they may incur. The goal is to encourage small agricultural investors to produce and contribute to the national economy, achieving sustainable development and food security.

3.6 Results of Analyzing Content Categories

A. Category of Post Topics.

Topics	Frequency	Percentage (%)
Modern Technology and Agriculture	40	21.62
Fertilizers and Agriculture	25	13.51
Animal Breeding	10	5.40
Benefits of Fruits and Vegetables for Humans	15	8.10
Benefits of Animal Feed	7	3.78
Medicines for Treating Pets	11	5.94
Land Reform	24	12.97
Agriculture and the Environment	16	8.64
Statistical Information	14	7.56

Agriculture and the Future	10	5.40
Scientific Forums on Agriculture and Food Security	3	1.62
Articles on Food Security Published in the Press	10	5.40
Total	185	100

Tableau 4: shows **the topics published about food security.**

The table above illustrates the topics published about food security, with the majority focusing on modern technology and agriculture, accounting for 21.62%. While this percentage may seem small, it is significant compared to other topics. It appears that the page places special emphasis on incorporating modern technology into agriculture, which is one of the priorities that Algeria bets on to enhance the agricultural sector by providing technology that is an important resource for reducing effort, achieving speed, and optimizing work efficiency. This approach may attract more youth to engage in this field by utilizing technological tools in agricultural work.

In second place, posts about fertilizers accounted for 13.51%. Fertilizers are essential materials used in agriculture, but their use must be rational and scientific to avoid adversely affecting human health, which is what the organization aims to raise awareness about. Furthermore, posts regarding land reclamation came in at 12.97%. This is part of the state's plans to achieve progress in the near future, especially in reclaiming desert lands like Biskra and Ouargla, which have become the beating heart of Algeria in producing vegetables and fruits throughout the year. Land reclamation is a critical and sensitive issue in achieving development and food security for Algeria and attaining self-sufficiency, and substantial progress has been made in this endeavor.

Posts on agriculture and the environment accounted for approximately 8.64%. The environment is a sensitive issue that all nations now prioritize because its preservation directly relates to maintaining human life and health, particularly in light of the waste challenges the planet faces, which significantly contribute to rising temperatures and global warming. Posts on the benefits of fruits and vegetables for human health recorded a rate of 8.10%. These posts are vital for consumers because they relate directly to health and raising awareness among citizens about achieving a balanced and healthy diet. However, this can only be achieved if agricultural products are accessible to all citizens, thereby emphasizing their importance for human health, as confirmed by the publication.

Additionally, publications sharing articles about food security through journalism, posts on agriculture and the future, and animal husbandry were all at equal rates of 5.40%. These contain valuable content related to food security or agriculture, and the future is a priority all countries strive to achieve. Animal husbandry is becoming a serious and sensitive topic, raising many questions about how to secure proteins for the future. Many countries are considering alternatives to animal proteins to compensate for human dietary needs. There were also posts on animal feed and statistical publications, but the percentage of posts related to scientific forums on agriculture and food security was very low at 1.62%. This minimal percentage reflects a lack of scientific discourse on these topics, which could potentially bring specialists from various fields together to

discuss these issues and generate results that might lead to more strategic thinking about food security in both the short and long term.

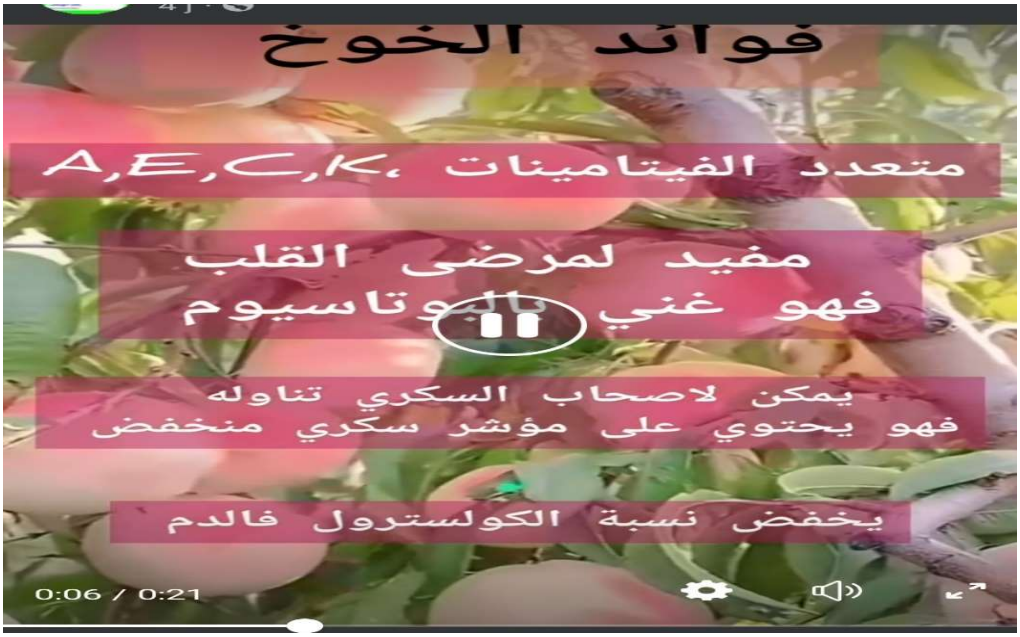

Image 4 shows examples of the published topics

The image above explains a sample of the published topics, which in this post pertains to a type of seasonal fruit represented by peaches. The video explains the types of vitamins available in the fruit and their benefits for patients with heart issues and diabetes, as well as their role in lowering cholesterol, aiding in weight loss, and improving vision in children. It is a promotional video for this fruit, which is cultivated in Algeria, both in the Mitidja coastal area and in the desert regions, where there is rapid planting of this type of fruit, with harvesting beginning at the start of summer.

B. Category of persuasive methods/appeals:

Persuasive Techniques	Frequency	Percentage (%)
Logical / Cognitive	**140**	**68.96**
Emotional	**60**	**29.55**
Religious	**3**	**1.47**
Total	**203**	**100**

Table 5: shows the persuasive methods used.

As indicated in the table above, the most prominent persuasive methods are rational and cognitive, accounting for 68.96%. This reflects that the content adopted by the page is scientific and cognitive in nature, aiming to achieve rational persuasion without embellishment or adornment. Through our observation of the page, we noted that it focuses on purely scientific topics related to food security and ways to achieve it in Algeria. Emotional persuasive methods constituted approximately

29.55%, which occurs when the content of the posts addresses issues related to food, health, and environmental conservation, using emotional appeals to achieve an impact on the audience. In contrast, emotional persuasive methods did not exceed 1.47%, a negligible percentage attributed to the nature of the page itself and the content it publishes.

C. Category of the post's objectives

Objectives	Frequency	Percentage (%)
Economic	**80**	**43.10**
Social	**15**	**8.10**
Health	**70**	**38.91**
Promotional	**17**	**9.18**
Scientific	**3**	**1.62**
Total	**185**	**100**

Table 6**: Objectives of the Posts.**

As shown in the table above, we observe that most of the objectives of the posts on the page in this study sample are economic, which is natural because the type of page relates to an aspect of the economy, specifically food security. It is therefore logical that the predominant goal is economic, as it primarily promotes agriculture, development, and food security, with economic objectives accounting for 43.1%. This is followed by health objectives, which account for 38.91%, especially since the page owner wanted to link economic aspects to human health, as evidenced by posts acknowledging the role of consuming fruits and vegetables in improving health, particularly products grown naturally. However, the objectives of promotional posts achieved a rate of 9.18%, which was evident through the videos and images that considered aesthetic and stylistic aspects. The page owner also aimed to diversify promotional objectives for the benefit of the page and its targeted audience. Social objectives accounted for 8.10%, which related to the nature of the posts themselves, taking into account the social curve in serving the community by promoting food security culture, self-sufficiency, and rational consumption using communication tools primarily aimed at expanding consumer culture, whether in methods of consumption or in ways to maintain good health by adopting healthy behaviors. Scientific objectives achieved a very low rate of 1.62%, a meager figure as noted in the scientific topics above. The page is expected to aim for scientific objectives, which can only be achieved by bridging the gap between universities, specialized institutes, and the National Organization for Agriculture and Food Security. This page could serve as a bridge to connect all parties in raising awareness about food security, especially since Algeria is striving to harness all means and tools to boost this sector, which is crucial. Welfare cannot be achieved without involving researchers and engineers to advance this field and innovate ways to achieve that.

8. Discussion of the Study and Analysis Results:

Through the current study, which aimed to examine food security issues in their theoretical aspects and to scrutinize them in the practical side through the page of the National Organization for Agriculture and Food Security, we noticed that the content of the page is rich in various types of posts. However, the page relies heavily on videos, likely due to the nature of the medium itself and perhaps to exploit the cinematic qualities of moving images, with videos accompanied by text accounting for 27.02%. Arabic was used prominently, accounting for 81.08%, likely due to the page's orientation toward a general audience or the nature of the page owner's background, who may prefer Arabic as the country's mother tongue. The page is characterized by a scientific and cognitive tone, as evident from the large proportion of posts related to technology, agriculture, and land reclamation. It aimed to achieve economic objectives, which reached approximately 43.10%. These also relate to the type of persuasive techniques, with the majority being cognitive in nature at 68.96%. As mentioned, the page admin is very active in updating and feeding the page's content, sometimes posting five times a day, mostly sharing videos and posts sourced from other sites. Posting on the page is available to the admin and some members and regional branches of the organization. However, we were surprised by the absence of audience interaction given the large volume of content, especially since the page is available on social media and is not private, raising further questions about the nature of interaction and content.

8. Conclusion:

Through this analytical research journey of a narrow sample of food security aspects, particularly in its communicative level, we explore how these means can serve as a platform to raise awareness about sustainable development that aims to realize food security for nations. As we observed, this cannot be achieved without returning to the land, especially since the COVID-19 pandemic was a challenging test for many countries. Moreover, wars and crises are another threat to the security and stability of peoples regarding food security levels. This can only be achieved through a strategic vision that ensures this by rationalizing consumption and combating all forms of waste through cultivating a consumption culture, encouraging young people eager to work, and guiding them to reclaim agricultural lands through state-provided assistance, followed by monitoring them in the sales process and gaining technical and technological expertise to advance the agricultural sector. This involves ensuring self-sufficiency and returning to grain cultivation in the high plateaus and areas that were once grain repositories, moving towards mechanization by training workers in the agricultural and farming fields, and establishing public institutions affiliated with the state that produce in agriculture and animal husbandry, under transparent and clear management while securing storage and marketing of agricultural products both domestically and abroad. Most importantly, a scientific center dedicated to food security issues should be established, managed by specialists in the field, including experts tasked with addressing food security matters. Furthermore, communication and media should be integrated into the core of the production process to accompany the realization and embodiment of these projects and fulfill their role effectively in awareness, sensitization, monitoring, and critique.

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