



Diagnosis of the food situation in Algeria: context, potential and constraints.

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Abstract

This contribution takes stock of the food situation in Algeria. It identifies the main determining factors and the risks and threats that characterize it.

The Algerian population has reached more than 45 million inhabitants (2023), it is expected to grow by more than 50% and reach 63 million in 2050. This development will constitute a real challenge in the future, the issue that has been a priority for the public authorities since independence.

All calculations made, it can be said that on average, the food situation has improved significantly over the last half-century both quantitatively and qualitatively.

However, the quantitative improvement in the food situation has been, consistently, the result of resorting to imports to fill a structural deficit in the national agricultural supply, a deficit explained by the rain-fed nature of Algerian agriculture. and in the future there will be an increased risk due to climate change which will create new challenges for our agricultural sector to maintain or improve current growth rates.

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1. Introduction

The progress made by Algeria in the food situation in recent years is widely recognized. However, this issue remains highly complex, due to the multiplicity of socio-economic factors that influence it. These factors mean that the results, however positive they may be, cannot be considered definitively acquired. Issues such as population growth, climate change and other structural challenges represent major obstacles to ensuring sustainable food and nutritional security for the population. The objective of this contribution is to provide an updated overview of the food and nutritional security situation in Algeria. It aims to deepen the analysis of the main determining factors, as well as the risks and threats associated with them. Then, it will focus on identifying gaps in public policies, the instruments implemented and the targeting of actors, in order to formulate recommendations for the necessary adjustments.

2. Methodological framework for analysis of the food situation

It seems interesting to us to retain the definition given by the Rome Declaration at the end of the World Summit on World Food Security in November 1996, namely:

"Food security exists when all human beings, at all times, have physical and economic access to sufficient, safe and nutritious food allowing them to satisfy their energy needs and their food preferences for a healthy and active life." From this definition, it emerges that food security is guaranteed in a country when four requirements are met simultaneously:

Availability: *refers to the volumes of food available in a country, whether they are the result of domestic, agricultural and industrial production, or whether they come from imports, previously constituted stocks or food aid.*

Accessibilit.: *which must translate, in concrete terms, into the possibility for any household and any individual to acquire the quantities of food needed by drawing on either the production that they have been able to achieve, the reserves that they have been able to constitute, the bartering that they can do, the purchases that they can make on the market, the donations or food aid that they can obtain from various sources, or by combining several of these possibilities.*

Use: *this refers to the forms of use by households of the food to which they have access, these forms must allow each member of the household to fully and completely satisfy their needs in nutrients and energy, in a manner appropriate to their age, the nature of their activity, and their state of health. Use also includes forms of food preparation, hygienic conditions for preparation, diversity of diet and practices of food distribution among household members.*

Stability: *it refers to the sustainability of food availability for all households and all people, availability should not be called into question even in the event of exceptional circumstances*

(natural disasters), social crises, and economic crises leading to a drop in income, unemployment and/or a significant increase in food prices.

The examination of the food security situation in Algeria must also refer to Sustainable Development Goal No. 2 (SDG 2), which is one of the 17 Sustainable Development Goals (SDGs) including 169 targets, a list adopted on September 25, 2015, by the 193 Member States of the United Nations in the framework of the 2030 Agenda for Sustainable Development that they adopted. As a reminder, Goal 2 explicitly aims to "end hunger, achieve food security and improved nutrition and promote sustainable agriculture."

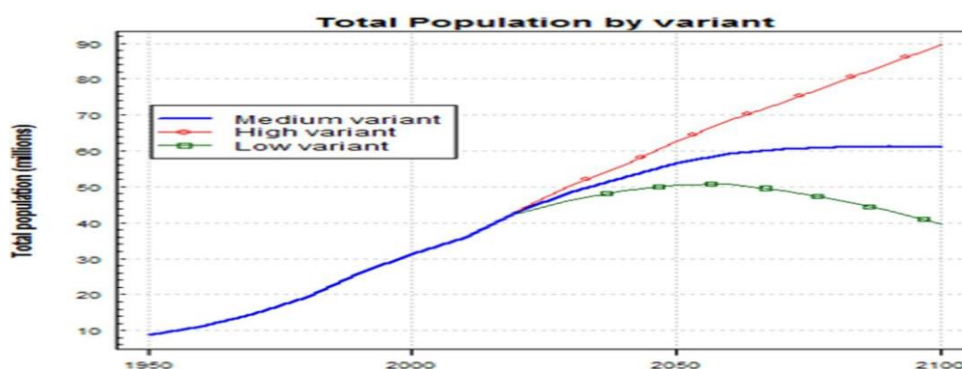
In Algeria, the issue of food security has been a priority for the public authorities since independence; successive governments have ensured at all costs a regular supply of basic food products to the domestic market. With agriculture that is essentially rain-fed with low and irregular yields, increasingly massive imports have been a solution for supplying the market, although the option of improving domestic supply has never been abandoned.

Until the end of the 1980s, this option was reflected in the reference to the objective of food self-sufficiency and it was only during the decade's of 1990 and 2000 that the stated objective became food security. As part of the Renewal policy, production targets will be set for twenty agricultural production sectors, per year and per wilaya, over the period 2009-2014. These targets implied achieving a doubling of the growth rate of agricultural production compared to the previous five-year period.

3. Overview of the socio-economic context of the food situation

Demographically, the evolution of the Algerian population will constitute a real challenge to food and nutritional security in the 21st century. A study by the United Nations predicts, based on the average hypothesis, that this population should grow by 52% and reach 63 million in 2050 before doubling to reach 90 million in 2100.

Graph 1: Algeria: Population growth prospects to 2100



Source : ONU, Département des affaires économiques et sociales

Economically speaking, the application of the structural adjustment program during the 1990s will then have very negative impacts on the objective of food security. Indeed, the policy of consumer price subsidies is gradually abandoned. Combined with a strong devaluation of the national currency, this removal of subsidies causes on average a tripling of consumer prices between 1990 and 1996, especially for basic products (examples: the prices of bread, milk, edible oils and sugar are multiplied respectively by eight, by five, by seven and by eleven in the space of four years). At the same time, wages only increased very slightly, which will have the consequence of considerably reducing the purchasing power of the majority of the population (-0.8% per year from 1990 to 1999).

Ultimately, economic reforms have implicitly led to an abandonment of the objective of food security. The liberation of market forces has not mechanically caused an increase in local agri-food production, since the removal of subsidies has also affected the factors of agricultural production. And the agricultural trade balance continues to experience the same level of deficit despite the decline in demand.

Table 1: Evolution of prices of bread, semolina and milk packaged in sachets from 1984 to 2016 (in current D.A)

Année	Pain (250g)	Semoule (kg)	Lait (L)
1984	0,70	1,80	1,00
1987	0,80	2,00	1,50
1989	1,00	2,30	1,70
1992	1,00	2,30	4,00
1993	1,00		5,50
1994	3,00	18,00	8,50
1995	5,00	20,00	12,00
1996	6,00	21,60	15,00
1997-2001	7,50	31,00	20,00
2001-2016	8,00	46.70	25,00

Source : O.N.S. Collection statistiques, O.N.S. Bulletin Données Statistiques

Despite the support of the policy of eliminating direct consumer subsidies by a policy of direct support for the incomes of the poorest social categories, the economic recession that is taking hold is reflected in a drop in demand for products from the agri-food industries as well as a reduction in the capacity to import raw materials and therefore in the rate of use of the productive capacities of the agri-food industries. Apart from the dairy industry, whose production has increased during the reform period, and the cereal industry, whose production has remained more or less stable, all the others are experiencing a very sharp drop in their output.

Table 2: Sources of supply for the national market (average 2008/2012)

Produits	Production (T)	Taux de Couverture	Importations (T)
Blé dur	1 845 336	52%	1 702 636
Blé tendre	757 143	14%	4 497 606
Légumes secs	67 990	27%	182 145
Pomme de terre	3 237 336	100%	243
Autres légumes	5 156 943	99%	28 009
Agrumes	956 798	99%	13 102
Dattes	662 498	100%	885
Autres fruits	1 324 679	80%	325 496
Huiles alimentaires	45 000	6%	708 611
Sucre	0%	0%	1 387 831
Lait (ML)	2 307 000	44%	2 892 000
Viande rouge	331 180	85%	59 407
Viande blanche	257 460	100%	11
Poissons et crustacés	112 803	87%	17 577

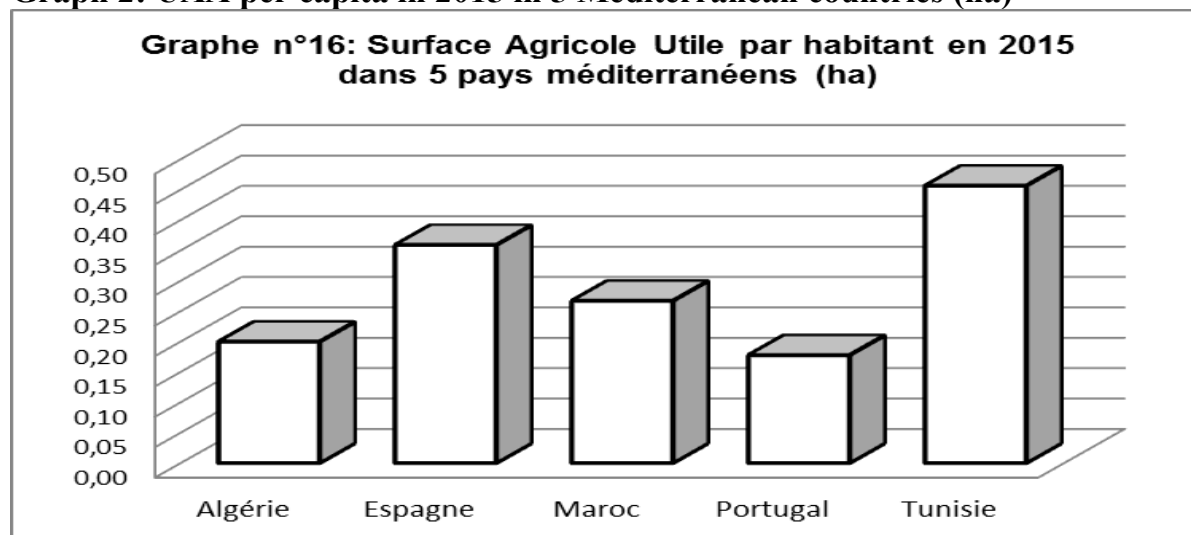
Source: MADRP et CNIS

4/ Potential and constraints of the agricultural sector

The national UAA has gained about 500,000 ha since the beginning of the 1980s, rising from an average of 7.713 million ha to 8.227 million ha in 2011-2015.

Compared to the number of inhabitants, the UAA per capita is now barely equal to 0.2 ha, or 20 ares. Graph No. 2 shows that, compared to some of its Mediterranean neighbors (Spain, Morocco, Tunisia), Algeria and Portugal are the least endowed with arable land per capita.

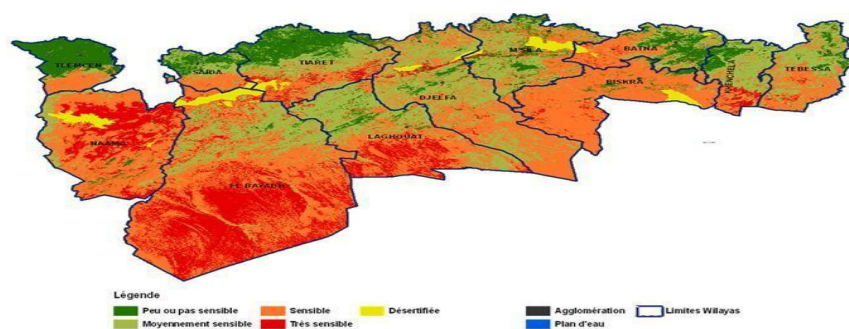
Graph 2: UAA per capita in 2015 in 5 Mediterranean countries (ha)



Source : FAOSTAT, 2017

Analysis of climate data from recent decades, as well as projections for the future, indicate an intensification of climate change on a global scale. For the Mediterranean region, to which Algeria belongs, studies converge on an alarming observation: a marked increase in aridity, exacerbating the region's vulnerability to water stress and desertification. A desertification sensitivity map, developed by remote sensing (see map no. 3), reveals that more than 570,000 hectares of land in the steppe zone are already completely desertified, with no possibility of biological regeneration. In addition, nearly 6 million additional hectares are seriously threatened by wind erosion. Added to this are unsuitable agricultural practices, which expose approximately 1.2 million hectares of plowed land to this same erosion phenomenon each year.

Figure No. 1: National map of sensitivity to desertification at 1/200,000 covering 12 steppe wilayas (27 million 435 thousand hectares)



Source : Direction Générale des Forêts.

In Algeria, this risk is all the more worrying as the increasing pressure of demand has led to the expansion of crops to areas where the natural limits of adaptation of species and varieties have already been exceeded. The worsening of salinization and desertification phenomena, accentuated by the effects of climate change, as well as the reduction in water resources available for irrigation, constitute major challenges that call into question the conditions for the development and sustainability of agriculture.

It appears that national production suffers from a structural deficit, mainly affecting basic products essential to the Algerian consumption model, such as wheat, dried vegetables, milk, edible oils, fats and sugar. To meet the needs of the domestic market, recourse to imports remains essential. Despite the significant progress made in increasing local supply, the volumes and costs of imports show no sign of decreasing.

Today, as in the past, the issue of food security remains posed in virtually unchanged terms, but with increasing intensity due to major structural factors. Among these factors, the most worrying are:

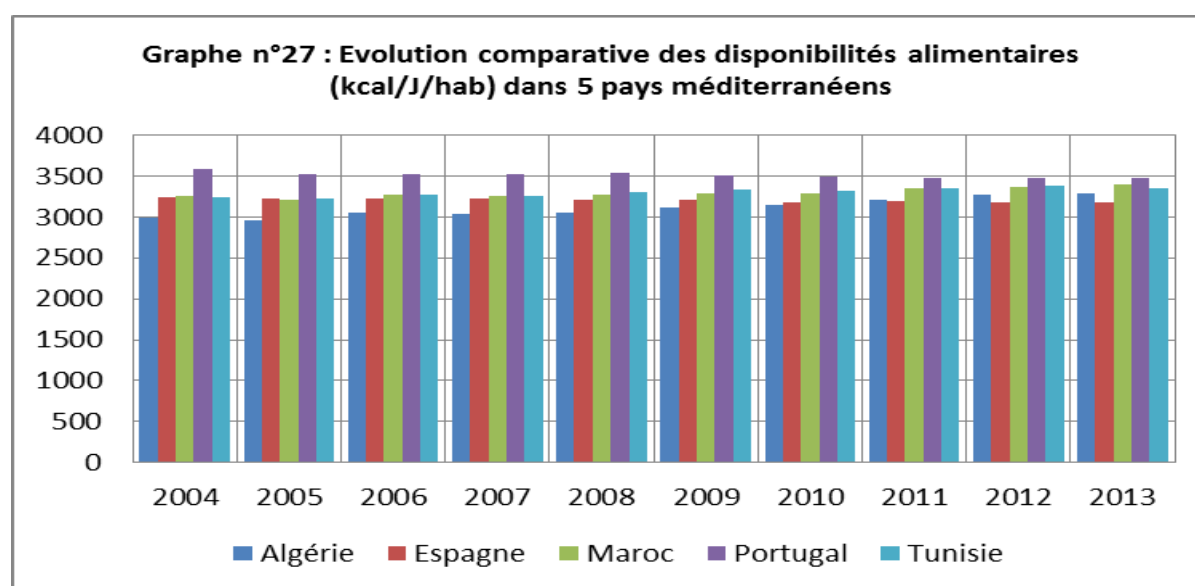
- A **strong dependence** of the country on international markets, due to the large volumes of basic food products imported to meet the needs of the population;*
- **Increased human** pressure on natural resources (particularly soil and water), particularly in the northern regions, which are most suitable for agriculture;*
- **Increasingly marked** effects of climate change, as well as a foreseeable worsening of these effects in the medium and long term, particularly in terms of drought and desertification, which threaten agricultural productivity and the availability of resources.*

In this context, it appears essential to carry out an in-depth analysis, sector by sector, of the constraints that explain the inadequacy of the national agricultural supply. This examination must also cover the policies and means deployed to remedy these shortcomings and strengthen local production.

5/Summary of the food and nutritional situation

The use of the FAO database makes it possible to examine the evolution of the average food ration between 2009 and 2019. Algeria being an arid and semi-arid country, harvests vary greatly from one year to the next because they are highly dependent on climatic hazards. All calculations made, it is possible to say that, on average, the food and nutritional situation has improved significantly over the last half-century, both quantitatively and qualitatively. Quantitatively, the average food ration per capita has doubled in more recent years. 2010-2019 In terms of total daily food availability, graph no. 3 shows that the Algerian consumer has seen his ration improved in terms of quantity of calories (3,296 kcal/inhab/d in 2013) over the ten years considered, this ration becoming higher than that of the Spanish consumer (northern shore of the Mediterranean, 3,194 kcal/inhab/d) and very close to that of Moroccan and Tunisian consumers (southern shore of the Mediterranean).

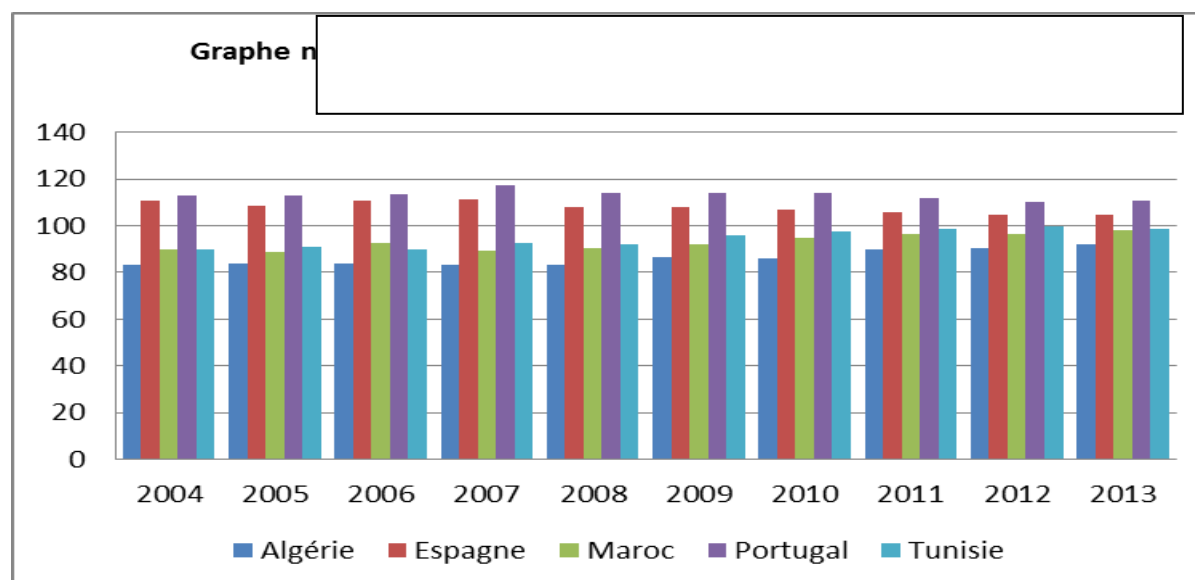
Graph 3: comparative evolution of food availability (kcal/day/person) in Mediterranean countries



Source: FAOSTAT, 2017

It is also noted that the Algerian consumer is the one whose daily ration contains the lowest quantity of proteins. Nevertheless, this quantity increases towards the end of the period to reach 91.6 g/inhab/d, close to that of Moroccan and Tunisian consumers and significantly higher than the average for net importing countries of agricultural products (66.9 g/inhab/d). This means that the structure of the ration, in qualitative terms, is still insufficient.

Graph 4: evolution of protein consumption in g/d/hab in Mediterranean countries



Source: FAOSTAT, 2017

The share of food expenditure in relation to total consumption expenditure, these expenditures constantly represent the highest share of Algerian household expenditures (2009-2019) compared to their level in Tunisia, Morocco, Spain and Portugal. By product groups, at the global level, the structure of food expenditures shows that animal products (meat, poultry, fish, milk and dairy

products) represent 31.4% of food expenditures while plant products account for 68.6%. In detail, the cereal products group occupies the first item of expenditure (17.5%), followed by the fresh vegetables group (13.4%), red meats (13.3%), milk and dairy products (8.4%), poultry (8.3%) and oils and fats (7.1%).

Table 3. Structure of food expenditure by product groups according to dispersion.

Sous-groupe de produits	Urbain	Rural	Total
	%	%	%
Produits céréaliers	16,3	19,9	17,5
Viande rouge	13,8	12,2	13,3
Volaille, lapin, gibier et œufs	8,7	7,4	8,3
Poissons	1,5	1,1	1,4
Lait et produits laitiers	8,7	7,8	8,4
Huiles et graisses	6,7	7,9	7,1
Légumes frais	13,3	13,5	13,4
Légumes secs et en conserve	3,3	3,5	3,3
Fruits frais	5,4	4,4	5,1
Fruits secs	1,8	2,2	1,9
Sucres et produits sucrés	4	4	4
Café, thé et stimulants	3,1	3,7	3,3
Boissons non alcoolisées	4,1	2,9	3,7
Epices, sel et condiments	1,6	1,9	1,7
Autres dépenses alimentaires	7,5	7,7	7,6
Total	100	100	100

Source : ONS. Collection Statistiques, n° 195

6. conclusion

As a conclusion to this diagnosis of the nutritional situation in Algeria, we note that it has always been at the center of the concerns of the public authorities; and whatever the period examined and the economic situation experienced by the country, priority has been systematically given to the supply of the national market with basic foodstuffs (wheat, milk in particular) and to the regulation of markets and prices for these goods. Overall, in quantitative terms, a clear improvement in food availability per capita has been noted and the current ratio in terms of kilocalories is more than satisfactory.

However, the diagnosis has shown that this available food ration was still unbalanced, with the place occupied by wheat being too important and that of proteins and fats still too low.

In addition, it has been shown that the quantitative improvement of the available food ration has been, constantly, the result of a recourse to imports to fill a structural deficit in the national agricultural supply, especially for the most consumed goods (durum wheat, soft wheat, milk, sugar, edible oils), a deficit explained by the rain-fed nature of most Algerian agriculture and by the slow progress in terms of yields and productivity.

It is then clear that this situation cannot continue without exposing serious risks of food insecurity for a country where population growth continues to be relatively strong and for a country whose foreign exchange resources come almost exclusively from exports of hydrocarbons alone. It is equally clear that the diversification of the economy is becoming essential and that within this diversification, the agricultural sector is the one that will have to demonstrate the greatest efforts, both in terms of improving these performances and in terms of diversifying its production.

In the coming decades, Algeria will be increasingly unable to continue on the same path and resort to the same solutions because, beyond the risks linked to the volatility of prices on international markets constituting an uncontrollable external variable, there will be an increased risk linked to climate change which will create more difficulties for the national agricultural sector to guarantee the maintenance or improvement of its current growth rates.

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