

Research Article

# Importance of the Food Issue in Algeria's Economic Policy

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## Abstract

The issue of food security has been taken very seriously by the public authorities since the country's independence in 1962. This major social and political concern was manifested in the various political speeches of leaders and in the national charter which proclaims this universal right of the population to healthy, varied, sustainable and accessible food for all. To achieve this, a decisive role was given to the national agricultural sector to ensure the supply of basic foodstuffs to the population at accessible prices, particularly for disadvantaged social groups. Thus, agricultural and agri-food policies were designed and implemented to achieve the objective of food security and preserve national sovereignty. In this article, we will try to provide some answers on the main axes of this food policy adopted by the State. First, we briefly present the characteristics of the consumption model of Algerians, then, we expose the importance of the means and actions implemented to achieve these objectives through in particular the recommended subsidy and import policies for basic foodstuffs. by the state. Finally and thanks to the statistical data available, we deduce some aspects of the limits and constraints of this food policy before suggesting some recommendations to strengthen its reliability in the face of the country's economic constraints.

## Keywords

Food Policy, Agriculture, Consumption Model, Food Dependence, Food Security

## 1. Introduction

The food issue was and still remains a major and universal concern for the States which are committed to taking charge of this problem in a very serious manner. That said, recognition of the scale and scope of the food problem and its harmful consequences on the social and political stability of countries and on their development was only affirmed at the beginning of the 1970s with the appearance of food crisis in 1973. A crisis which forced all those paid, under the pressure and insistence of international bodies (FAO, WFC, nutritionists in particular) to work for the adoption and implementation of policies and plans development plans integrating food and nutritional objectives for the first time. This obligation

for paid workers to adopt concrete food and nutritional strategies is serious in their development plans, was further affirmed in November 1974, during the World Food Conference in order to improve consumption patterns in their socio-economic planning [1].

A food strategy defined by the World Food Council (WFC) as "a means which allows a country to achieve a greater degree of self-sufficiency, through an integrated effort aimed at increasing food production, improving food consumption and eliminate hunger. It consists of an examination of the food situation of a country which then serves as a basis for the development of a coherent set of measures, programs and

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projects aimed at achieving the government's food objectives. Achieving a strategy requires strengthening national capacities and mobilizing additional external assistance.” [2].

Algeria, affected by this phenomenon, appropriated, following its independence, the right and duty to take charge of feeding its population. This mission had as its primary objective, the satisfaction of the food and nutritional needs of the population and was classified as a national priority in the economic policy of the country through the various development plans adopted from the 1970s, in particular, following the emergence of the “food shock” phenomenon in 1973, causing an unprecedented food crisis. The State is therefore obliged to ensure sufficient food to promote development and guarantee a certain “social peace” [2].

The management of the country's food policy was monopolized exclusively by the State, which set strict control over food [3]. It therefore establishes public devices and institutions which allow it to manage production as well as imports and distribution through a heavy subsidy policy giving access to the entire population, particularly the most deprived, to have a balanced diet.

The agricultural sector was at the heart of the country's economic choices given the important role assigned to it to succeed in the food policy recommended by the State. A determining role which is essentially summed up in “the promotion and establishment of an agriculture operating according to the technological model dominant globally (mechanization, hybrid seeds, chemical fertilizers, pesticides, etc.), economically capable of ensuring the continuous improvement in the purchasing power of the populations who make a living from it, to meet the food needs of a growing urban population, to participate in the investment effort undertaken by the State [4].

This interest given to the agricultural sector was felt more for cereal farming which still occupies “a preponderant place both in Algeria's agricultural and agri-food production and in household food consumption” [5]. An objective which, despite the multiple constraints, natural, technical, financial and social, seems to have been partially achieved. Indeed, on a quantitative and qualitative level, the average Algerian – like his Moroccan and Tunisian neighbors – eats much better today than at the start of independence [6]. A reality affirmed by the results and conclusions drawn from the three national consumption surveys relating to the periods 1966/1967, 1979/1980/1988 and 2011 and which reveal a clear improvement in the food consumption of citizens) both for cereal products (durum wheat, soft wheat and derivatives) as well as for products of animal origin such as: poultry, eggs and milk in addition to fish, fruits and vegetables.

That said, this improvement in the population's consumption is only made possible by massive recourse to imports of widely consumed products such as wheat, seed oils, sugar, milk). An observation allows us to affirm that at the end of the 1960s, agricultural production could meet more than 90% of needs, whereas from the beginning of the 1980s it was

only sufficient for 30%. The agricultural trade balance experienced a spectacular turnaround in 1974: the deficit became lasting, calling into question the objectives of food self-sufficiency [7].

That said, our contribution attempts to expose the capital importance that Algeria attaches to the food problem of the population. An importance that we will expose and analyze thanks to a documentary study resulting from various research work carried out by national and foreign academicians renowned in the field as well as by international institutions specializing in the subject such as the FAO, WFC and also thanks to an objective statistical study based on reliable data collected from the IMF, World Bank, NSO<sup>1</sup>, NCSS<sup>2</sup> and others. An affirmed importance in the various economic development plans adopted by the State, in particular those aimed at the promotion and modernization of the national agricultural sector. An approach which will allow us to provide some answers on the relevance and limits of these agricultural policies. Also to understand the crushing weight of systematic imports of basic foodstuffs made to fill the deficit and meet internal demand. A practice which calls into question the country's entire food security strategy and exposes it to unprecedented food dependence.

## 2. The Dietary Model in Algeria

### 2.1. What Definition

In the absence of a universal definition of the food model, specialists define it as being “a system developed from a set of rules, choices and practices of a technical, social, symbolic and political nature and goes well beyond the nature of the foods consumed. It is at the confluence of the culture of the country including the identity and values of society and the individuals who compose it, its economic situation, the public policy of the State, household income and the state health of the population” [8].

### 2.2. Structure of Food Consumption

The consumption model of Algerians is dominated by the consumption of cereals and milk (39.22%) for cereals and (20.6%) for dairy products, sugar and sweets (10%) and oils and body fat (10%). Cereals provide 59% of the calories in the ration and 70% of the proteins. [9] The dietary practices of Algerians are dependent on the country's development policies. The State is committed, through various plans, to ensuring that citizens are fed by truly addressing the food and nutritional deficiencies inherited from the colonial period. Also, the State sought to increase the degree of self-

1 NSO National Statistics Office. State institution responsible for collection, analysis and interpretation of data economic and social statistics.

2 NCSS National Council for Social Studies. A council made up of researchers and academicians responsible for social and economic studies of the country operating under the authority of the State

sufficiency by ensuring an accessible and stable food supply by implementing several mechanisms such as:

- Subsidy policies;
- The development of existing agricultural potential;
- Development of agri-food sectors
- Additional imports of agricultural production factors.
- Intensive use of imports of basic products.

### 2.3. Factors Influencing Changes in Food Consumption Patterns

Several factors directly or indirectly influence changes in a country's consumption model. These factors can be of technological, sociological, economic or cultural and also political origin. They are making notable changes in eating behaviors and consumer practices. These factors influence the evolution of the consumption model on two levels:

#### 2.3.1. Quantitatively

##### A. The demographic explosion:

The rapid growth of the total population in Algeria has dramatically influenced the consumption level of citizens. We note in this regard that this population, estimated at 10.8 million inhabitants at independence, increases to 43.3 million

in 2020 [10]. This large demographic has led to strong demand for basic food products.

##### B. Income and level of household expenditure:

The improvement in the standard of living of Algerians has contributed positively to the quantities of food products consumed. Thus and according to available statistical data, [9] the annual amount received by households increased from 15.5 billion dinars in 1969 to 181 billion dinars in 1988, and amounted to 11,381.5 billion dinars in 2018 [10].

##### C. The scale of imports:

The internal food deficit has forced the authorities to resort to imports to fill this gap and meet the growing food demand of the population. A practice which is becoming a constant in the country's food policy and leads to a very heavy bill paid thanks to oil revenues. A bill that rose from \$684 million in 1974 to \$9.75 billion in 2011 before stabilizing around \$8 billion in recent years. A food bill which represents almost 30% of total imports these imports consist of cereals which represent more or less four billion dollars per year, by milk and its derivatives (1 billion dollars), closely followed by the import of sugar (\$800 million) [11]. Thus, the share of imports in the composition of the ration has increased from 36% to 68% in recent years [12].

**Table 1.** Food bill (2000-2017).

U: In billions of US dollars.

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2104	2015	2016	2017
2,5	2,4	2,8	2,7	3,6	3,6	3,8	5,0	7,8	5,9	6,0	9,8	9,0	9,5	11,0	9,3	8,0	8,4

Source: O, Bessaoud, 2018.

#### 2.3.2. Qualitatively

It should be noted that the food ration implies the quantity of food that a person must consume per day in order to meet the needs of their body. It is calculated per average food ration, expressed in calories. Available statistical data show that the food ration consumed by an Algerian increased from 1723 calories in 1962 to 2944 in 1990 [13]. It now stands at 3343 calories, which means that it far exceeds the energy needs recommended by the WHO (2700 Calories [10]. Algeria is therefore classified in the category of countries with low levels of hunger (IFPRI ranking).

## 3. Place of the Food Issue in Different Agricultural and Economic Policies

The food issue was at the heart of the economic and social concerns of public authorities. A concern displayed in the

various development plans adopted by the State, in the national charter and in the political discourse of leaders.

For some authors [14], the interventionist role of the State is decisive in the functioning of agricultural and agri-food markets. A policy which targets, first of all, the improvement of the food ration through better qualitative and quantitative satisfaction of the food and nutritional needs of the population, particularly disadvantaged groups. This State intervention is justified, given the scale of the problem presented by the food issue. This interventionist role of the State in regulating markets is difficult to contest within the economies of developing countries [15]. In what follows, we will discuss the different phases of the evolution of food policy in Algeria. An evolution closely linked to the economic and agricultural reforms undertaken by the State since its independence to the present day.

### 3.1. Phase 1: State Monopoly (1967-1989)

Ensuring a healthy and balanced diet for all Algerians was

a choice and a challenge for the Algerian State which, from the beginning of its independence, opted for a food policy supported by a price subsidy policy aimed at:

1. Satisfy the food needs of citizens at affordable prices.
2. Targeting the most deprived social strata affected by the policy of improving consumption, limiting disparities between social strata and eliminating all forms of undernourishment in the country [16].
3. Better diversification of consumption by favoring food products of animal origin rich in proteins to the detriment of basic products making up the consumption model of Algerians.

That said, feeding the population becomes a state affair and an exclusive mission entrusted to the public authorities who will become solely responsible for the management and regulation of the country's food policy. A sincere and determined desire which manifested itself a little late compared to neighboring Maghrebi countries as underlined by certain specialists in the food issue [2]: "Algeria was late in adopting a real food policy but it is undoubtedly it (compared to the North African countries Egypt, Morocco and Tunisia) which has gone furthest in reforms and global thinking [16].

This phase was, therefore, characterized by centralized management of the national economy and an exclusive monopoly of the State over all sectors of activity and more especially the agricultural and agri-food sector. Thus, and to succeed in its food policy, the State, and after having carried out the nationalization of the land held by the large owners and subsequently launched the famous project of the agrarian revolution and established the legal framework for the management of the agricultural sector and its development, has launched, through the various development plans [17], into a vast investment program in all sectors reaching more than 40% of the Gross Domestic Product (GDP) to revive the national economy. The main objectives of this relaunch are:

1. Rational valorization of agricultural resources,
2. Effective targeting of agri-food sectors to be developed, particularly cereals, milk and fruits and vegetables,
3. A significant reduction in imports of agricultural products and reduction of the country's food bill.

This allowed a significant development of productive activities and income. We are also witnessing an evolution in the number of the population and strong urbanization. Positive economic results which have had a very marked influence on the eating habits of the population and stimulated "the evolution of the consumption of food products supposes a transformation of the consumption model which will allow the satisfaction of needs for the most necessary products »<sup>3</sup>. Food availability has improved in quantity and quality. Access to food at affordable prices has become easy for all citizens thanks to the policy of subsidies and price support

the consumption. The development of the local agricultural sector thanks to the policy of intensification of animal and plant production has enabled citizens to eat well and better. This food performance remains, however, dependent, in the vast majority, on the import policy implemented to fill the country's food deficit, jeopardizing the country's objective of food self-sufficiency.

### 3.2. Phase 2: The Progressive Disengagement of the State (1990-1999)

This phase marked the history of Algeria, known as the black decade, this period was characterized by a very marked slowdown in economic activity following the scourge of terrorism. A phenomenon at the origin of all the economic, social and political misfortunes of the country. During this period, and despite the constraints, the State continued its economic reforms while further promoting the contribution of the private sector in the economic sphere. An important role given to private partners to revive the national economy in all sectors, particularly the agricultural sector. However, and despite everyone's wishes, the national economy did not experience real performance during this period due to the low level of investments due to lack of substantial financial resources. Indeed, the volatility of oil revenues, the low rate of GDP due to the slowdown in economic activity, the scale of the needs of the population, have profoundly affected the achievement of the economic objectives set. The agricultural and agri-food sector displays derisory results, minimal added value and a low production volume, the country's debt is increasing, the level of imports is reaching its high levels, the objectives of the food policy are being called into question and the ration citizen's food is not experiencing any significant change. Thus, the State and despite the economic reforms undertaken the structural adjustment plan (SAP), content to support and ensure the food of its citizens and at exorbitant costs in a hostile economic, social and political context characterized, above all, by the closure of public enterprises and the reduction of the workforce, the explosion in the level of unemployment, the devaluation of the dinar, the fall in purchasing power and the increase in the level of inflation. To alleviate these misfortunes, the State has put in place certain measures aimed at combating the correction of precariousness, the establishment of an unemployment insurance system and a compensation system for the number of compressed workers. A social safety net for targeted low-income support for heads of families.

### 3.3. Phase 3: Liberalization of the Economy (2000 to the Present)

This phase of the country's economic life was characterized by better performance, both economically and socially and in terms of political stability. Several development programs and plans [18] have been launched, particularly in the

<sup>3</sup>The first four-year plan (1970-1973): objectives: Food satisfaction of the population with basic food products. An objective which will stimulate the evolution and improvement of food consumption and gradually transform the consumption model of Algerians.



agricultural and agri-food sector, to finalize and achieve the objectives set in previous phases. Programs reinforced and supported by a very substantial level of investment aimed at modernizing agriculture and improving its performance in terms of production, yields and diversification. The contribution of the private sector in this phase was very decisive following the privatization of public companies such as “the mills” and by encouraging private investment in the agricultural and agri-food sector. To this end, significant financial facilities have been granted to private partners to create their companies and set up their businesses thanks to bank credits and tax and parafiscal incentives.

All these measures were possible thanks to significant oil revenue collected during this phase. Examining the results of these reforms allows us to affirm that the economic results obtained, especially in the agricultural and agri-food sector, are significantly better than those achieved in previous phases. To this end, we note a total absorption of the external debt, an improvement in the level of gross domestic product (GDP) and agricultural domestic product AGDP, a more or less lasting rebalance of the trade balance, a better accumulation of foreign exchange reserves, a reduction in the unemployment rate and a control you inflation rate. These economic performances have had a positive impact on the country's food situation; both in terms of availability and accessibility and in terms of the quality of the citizen's ration in general and disadvantaged groups in particular. The improvement in household income has favored the level of food expenditure. That said, these observed performances were achieved at very high costs due to the subsidy and support policies recommended by the State to succeed in its food policy and guarantee social stability. A food policy which survives, above all, thanks to the systematic and increasing recourse to imports of basic foodstuffs to meet the growing needs of the population<sup>4</sup> and fill the gap observed in the local agricultural sector.

#### 4. Quantified Presentation of The Food Situation in Algeria

Through an objective reading of the statistical data available on the results of food policy in Algeria; we can say that no one can deny the considerable efforts made in recent years by the State to ensure a healthy, balanced and accessible diet for its population. A reality confirmed by Food Policy Research Institute which places Algeria between 1992 and 2016 in the group of countries with low levels of hunger.

Thus, the rate of the undernourished population in relation to the total population fell from 7.4% to 2%, the prevalence of weight loss among children less than 5 years old fell from 7.4% to 4.1%, the prevalence of stunting among children under 05 fell from 22.9% to 11.7%), the mortality rate of children under 5 fell from 4.5% to 2, 6%. In 2016, Algeria achieved a score of 8.7 (low food risk country) on a scale of 50 points and ranks 22nd in the world out of a total of 113 countries, ahead of Morocco (28th) or Egypt. (45th) [13].

The same source states that the food ration consumed by an Algerian increased from 1723 calories in 1962 to 2944 in 1990 [10] to stand today at around 3343 calories. A level which far exceeds the energy needs recommended by the WHO (2700 Calories) [18] and classifies Algeria in the category of countries with low levels of hunger (IFPRI classification).

These performances achieved in the country's food policy are obtained, above all, thanks to a heavy food import bill supported in a hostile economic situation marked by a drastic drop in foreign exchange reserves which decreased from less than 100 billion US dollars in 2017 to 90 billion in 2018 while they were at US 200 billion in 2013.

Household food expenditure tells us that an average household spends 491 US dollars each month, or 70,000 DA/month for its Elsharq Economy [19] food purchases. Also the NSO [9] affirms that the share allocated to food products in the Algerian household budget increased from 28.9% in 2015 to 30.1% in 2021.

Another study carried out in 2021 by INUPAP [20] in collaboration with AGCWA [21] shows that an Algerian household made up of 05 members requires a minimum monthly salary of 81,000 dinars to ensure its essential needs. A salary distributed over:

1. Food expenses (red meat, white meat, fresh vegetables, basic products such as oil, flour, sugar, etc.) (i.e. 22,630 DA/Month),
2. Health expenses (i.e. 5,271.15 DA/Month)
3. Expenses for housing, maintenance and daily charges (i.e. 31,100 DA/Month),
4. School fees for children (i.e. 1,250 DA/Month).

Also, the study suggests that the private sector absorbs more than 70% of employment, 50% of which is informal. People active in the agriculture, construction and processing sectors number more than 6 million employees without being declared and without social security coverage. To alleviate this situation, the State has taken tax measures to support businesses and granted exceptional quarterly aid to “small trades” to the tune of 30,000 Da. Also an allowance of 10,000 Da is granted to needy families, of which only 5% have actually received it.

The Covid-19 crisis has worsened the deterioration of the country's economic and social situation, leading to a depreciation of the dinar, high inflation, shutdown of businesses, a high unemployment rate, oil crisis and consequently a depreciation of the food situation of citizens. In its report for 2022, the FAO

<sup>4</sup>The first five-year plan (1980-1984): Objectives: a- the importance of access for the poorest categories to improved and diversified consumption. b- a reduction in the degree of food independence of the country.

a- National Agricultural and Rural Development Plan (PNDAR), from 2000 to 2008.

b- The Agricultural and Rural Renewal program (PRAR) in 2009-2015.

c- The Filaha 2016-2019 program made it possible to complete the sector programs initiated by the PRAR policy, especially.

highlights the extent of the damage caused by the global conflict between Russia and Ukraine on the global food price market which increased by 14.3% in 2022 compared to 2021. Prices of cereals are up 17.9% compared to 2021, those of vegetable oils by 13.9%, those of dairy products by 19.6%, those of meat by 10.4% and those of sugar by 4.7%.

Concerning Algeria, the FAO [22] emphasizes that Algeria's capacities to resolve the food equation are weak with barely one million tonnes per month. Cereals (durum wheat and soft wheat) constitute the backbone of the Algerian consumption model. Algeria, ranks among the largest cereal-consuming countries, is also one of the world's largest importers of this product. For this, the FAO recommends that for the 2022/2023 campaign, Algeria must reach, at least, 41 million quintals of cereals, 2 million quintals of legumes, 44.2 million quintals of potatoes, 23 million quintals for tomatoes, 9.5 million quintals for table oil, 5.7 million quintals of red meats, 4.8 million quintals of white meats and 3.4 billion liters of milk.

These expected results for the year 2022 are estimated on the basis of available production capacities but still remain insufficient to meet the increasingly significant internal demand.

In its 2021 report, the WFP [23] underlines that the Algerian consumes on average 220 kg of wheat per year, which gives us a total of 88 million quintals to meet the needs of the population estimated at 44 million inhabitants. The report also states that 70% of these needs are met through cereal imports, which endangers its food security. A situation also denounced by the UN Economic Commission for Africa which calls on Algeria to make more efforts to increase its local production in strategic sectors such as food and nutrition in order to avoid consequences of the COVID-19 pandemic and the instability of the global food market.

The massive recourse to cereal imports by Algeria in the face of the internal deficit seems to be the only alternative to fill the gap and meet growing internal demand. According to the USDA [24], the volume of imports amounts to 10.5 million tonnes of wheat annually.

Likewise, the NCIS [11] states that food imports represented nearly 30% of total imports in 2020. A high rate which suggests that this considerable food dependence abroad is becoming a structural factor in the Algerian model. These imports consist of cereals which represent more or less 4 billion dollars per year, milk and its derivatives (1 billion dollars), and sugar (800 million dollars).

## 5. Conclusion

As a conclusion, we can affirm that, despite the financial, material and human resources put in place by the State to carry out this food policy and achieve its various objectives, self-sufficiency and food security; the results obtained are not very convincing. Its control over the country's food economy, in the name of the general interest, by exercising

its exclusive monopoly of management, regulation and control through public bodies; seems to be the origin of this observation. The various agricultural and agri-food development policies designed and implemented since independence to date have proven to be inadequate and inconsistent, further widening the gap between local agricultural and agri-food production of basic foodstuffs and imports. Indeed, Algeria still finds itself forced to resort to imports for up to 70% to meet internal demand. An option which plunges the country further into food independence and jeopardizes its food security policy.

This vision of food policy advocated by the public authorities based almost exclusively on a policy of massive imports and a policy of generalized subsidization of the consumption of basic food products must be reviewed and reformed because it is too expensive for the public treasury and remains very fragile in the face of fluctuations in world oil prices, the main source of foreign currency for the national economy. The main areas of reform of this food policy can be summarized as follows:

1. A food policy which must encourage local agricultural production to the detriment of recourse to imports by establishing a realistic and coherent agricultural policy which makes it possible to increase agricultural production and improve the yields and productivity of the various essential plant and animal production and at studied costs.
2. Develop marketing and distribution channels for basic food products in order to facilitate citizens' access to these products in time and space and to put an end to speculation and to properly control the food products market and agri-food.
3. Encourage agricultural scientific research and that of other sectors and fields located upstream or downstream of the agricultural sector. This would make it possible to improve agricultural yields and diversify production and achieve a degree of efficiency and deficiency of the labor factor for other related sectors.
4. Establish bodies responsible for collecting and processing information and statistical data relating to economic activity and making them available to researchers for study and research purposes.
5. Review the production and consumption subsidy policy and put in place mechanisms that would make it possible to direct this policy towards the desired targets in order to increase the effectiveness of this policy and deal with opportunists. In the following chapter, we will focus on the characteristics of cereal cultivation, its policies, its missions and its objectives as well as its constraints and limits.

## Author Contributions

Horri Khelifa is the sole author. The author read and approved the final manuscript.

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Bencharif. A. The objectives of the agri-food economy. The CREAD notebooks, no. 7/8 – 1986.
- [2] M Padilla - Francis Delpeuch - Geneviève Le Bihan - Bernard Maire “food policies in North Africa, From generalized assistance to targeted interventions”. Éditions KARTHALA, 1995 p.9. 15-34.
- [3] M Boukella: Agro-food industries in Algeria: policies and performance since independence.
- [4] Bourenane N. Agriculture and food in Algeria: between historical constraints and future perspectives in Bedrani S. (ed.), Campagne P. (ed.). Technological choices, risks and security in Mediterranean agriculture. Montpellier: CIHEAM - Mediterranean Options: Series A. Mediterranean Seminars; not. 21 1991 pages 145-157.
- [5] Jean-Louis Rastoin and El Hassan Benabderrazik. Cereals and oilseeds in the Maghreb For the co-development of territorialized sectors. Chap 1 p. 05 EPEMED 2004.
- [6] Slimane BEDRANI. Foued CHERIET. “Some elements for an assessment of half a century of agricultural and rural policies” CREAD notebooks n°100-2012. p. 140.
- [7] Omar Bessaoud, Mohamed Tounsi “Maghrebi agriculture at the dawn of the year 2000” Options Méditerranéennes, Ser. B / n°14, 1995 p. 110 CIHEAM-IAM, Montpellier (France).
- [8] Chikhi, Kamel / Padilla, Martine (2014): Food in Algeria, what forms of modernity? Mediterranean review of economics, agriculture and environment, N°13, 3, pp. 50-58.
- [9] NSO (National Statistics Office). State institution responsible for collection, analysis and interpretation of data economic and social statistics, 2011 statistical survey on household expenditure.
- [10] Bessaoud, Omar / Pelissier, Jean Paul / Rolland, Jean Pierre Paul / Kherchimi, Wided (2019): Summary report on agriculture in Algeria, ENPARD Méditerranée.
- [11] NCIS (National Center for Information and Statistics) Algeria.
- [12] Faostat data cited in “Food dependence and agricultural policies: the case of Algeria.
- [13] Frahi, Said (1999): The evolution of food consumption in Algeria from 1962 to the 1990s, Horizons Maghrébins - The right to memory, N°37-38, pp. 151-157.
- [14] Giner, C. (2010). New avenues for value creation in the agri-food sector, OECD Publishing. 40 p.
- [15] Boussard, J-M, Delorme, H, Fabre, P. (2007). Practices and necessity of regulating agricultural markets. Grain de sel magazine, NEE n°27, April 2007, pp. 31-55.
- [16] Bencharif. A: Elements for reflection on the dynamics of consumption in Algeria. Applied Economics and Development. no14 1988. p 37-69. CREAD (Algiers).
- [17] Feliachi K., 2000. Cereal growing development program in Algeria. In: Proceedings of 1st Internat Symposium on the wheat sector, issues and strategy, February 7-9, Algiers. Ed.
- [18] IFPRI, (2016). Global Hunger Index. Armed Conflict and the Challenge of Hunger.
- [19] Agency approved for data collection (Fitch Solution).
- [20] Independent National Union of Public Administration Personnel.
- [21] A. G. C. W. A Autonomous General Confederation of Workers in Algeria.
- [22] Annual Report FAO Algeria 2021.
- [23] World Food Program, the largest UN humanitarian agency that fights world hunger by distributing food assistance.
- [24] USDA (US Department of Agriculture).