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Food Issue in Algeria between Achieving Self-Sufficiency and Maintaining Food Security-An Analytical Study (2016-2020)

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Abstract:

This study addresses the development of the total gap, the overall food gap and self-sufficiency rates for various food sources through an analytical study of the food gap at both total and partial levels. Additionally, it tackles some key concepts related to the study subject, such as food security, self-sufficiency, and food gap.

Food security and achieving self-sufficiency have become a determined requirement for Algeria to maintain economic and social stability. This is in light of internal changes such as climate change that has affected agricultural yield and farming production, as well as external changes like Corona pandemic, which increased food prices because of disrupted food supply chain.

Keywords: Food Production; Food Sources; Food Gap; Food Security; Self-Sufficiency.

INTRODUCTION

Today, the economic issue is mainly related to food security, an is affecting most countries, especially developing nations that depend, for their income, on traditional energy resources. Algeria lived through a financial abundance period from 2000 to 2014, in which it could have settled all food security issues. Nevertheless, after 2014, energy prices declined and stabilized at about $70 per barrel in 2019. Then, they rose gradually. In comparison to energy prices decline, there was a noteworthy increase in global food prices because of Corona pandemic in 2020, followed by the Russian-Ukrainian war.

In spite of these changes, since 2019, Algeria has been endeavouring to provide solutions aiming at maintaining food security

and achieving high levels of self-sufficiency depending on local production and reducing import costs. Additionally, increased temperatures have aggravated the task of maintaining food security, where reliance on irrigated farming has become a necessity over rain-fed crops.

In light of climate changes and global instability, Algeria has registered a food deficit in grains, oils and fats, sugar, and rice, in spite of having 43 million hectares of arable land, which could make it a major agricultural pivot. However, Algeria loses thousands of hectares annually because of desertification, sand encroachment, and drought. This makes achieving self-sufficiency and shifting towards exports challenging, yet not impossible.

Problem Statement:

Providing food and maintaining food security requires achieving high levels of self-sufficiency across all food sources and sectors. This can only be identified through food gap measurement. Sometimes, even if we achieve high self-sufficiency rates, it must be across all food sectors without exception, particularly, the vital food sectors to the national food consumption.

Based on the aforementioned, the main question of this study is:

What is the state of food security and self-sufficiency in Algeria during the period of 2016-2020?

Study Objectives:

This study aims at:

- Defining the concepts related to food security, food gap, and self-sufficiency.
- Identifying the important developments in the overall food gap between 2016-2020.
- Determining the development of self-sufficiency rates in various food sources.
- Identifying the food sectors that require govermnetal support and encouragement.

Importance of the Study:

This is an analytical study with a prevalent applied aspect. It sheds light on the development of the important plant and animal food sources in Algeria by addressing the development of the food gap and self-sufficiency rates across various food sectors between 2016 and 2020. The study highlights the causes of the deficit in achieving high self-sufficiency rates, especially in the main food sources.

Study Methodology:

The study employed the descriptive-analytical method for its suitability for analytical studies and statistical data based studies. To answer the main research question, the researcher collected the study data from various sources, such as national and international reports and statistics, scientific journals, books, and articles.

Study Structure:

The study is divided into three main sections:

Section One: General concepts related to food gap, food security, and self-sufficiency.

Section Two: The development of the food gap in Algeria (2016-2020).

Section Three: The Development of Self-sufficiency Rates and Value Added in the Agricultural

Section One: General Concepts of Food Gap, Food Security, and Self-Sufficiency:

1. The Concept of Food Security and Self-Sufficiency;

1.1. Definition of Food Security:

Food and Agriculture Organization (**FAO**) defines food security as "providing all people in a society with sufficient and nutritious food to meet their needs continuously in order to maintain a healthy and active life." **(**Al-Jazeera Information Network, 2022**)**

According to the **world bank** Food Security Committee: Food security means: “the physical, economic, and social ability of every person to obtain sufficient nutritious food to meet his dietary needs to live a healthy and active life. (bank, 2022)

The concept of food security is also related to another concept, which is food sovereignty. It means: "the right of peoples to determine

their own agricultural policies to achieve and meet their food needs and priorities."(Shalighm, 2023, p. 208)

Experts differentiate between relative and absolute food security. **Absolute food security** refers to food production within a single country that equals or exceeds local demand. It is synonymous with self-sufficiency. **Relative food security** is a country's or group of countries' ability to provide goods and foodstuffs completely or partially and ensure the minimum food requirements regularly.(Dhou, 2022, p. 83)

Currently, the concept of food security differs from the traditional concept related to achieving self-sufficiency with the country relying on its resources and capabilities in meeting its local food requirements. Rather, it is food production in a single country that equals or exceeds local demand.

1.2. The development of the concept of sustainable food security:

The concept of food security has developed due to several economic and quantitative considerations, then due to qualitative and human factors. This has led it to shift from a holistic concept to a partial one and from concern with supply to concern with demand. It has also enabled it to move from the international level to the national, household, and individual levels, and from providing the minimum to focusing on the quality of the food items, while preserving the environment and ensuring the sustainability of food for future generations. (Boubekir, 2021, pp. 185--186)

1.3. Definition of Self-Sufficiency:

Food self-sufficiency is the community's ability to fully meet its food needs by depending on itself and its own resources and capabilities to produce all its food needs locally. (Ben Shaa & Ashit, 2018, p. 113)

The self-sufficiency rate is calculated using the following formula:

$$Self - sufficiency\ rate = \left(\frac{National\ Production}{Available\ Food\ for\ Consumption}\right) x\ 100$$

1.4. The Concept of Food Gap:

Types of Food Gaps:

There are two types of food gaps. The first type is **Apparent Food Gap** which represents the extent of achieving self- sufficiency locally, and the extent of sufficient local production to meet the needs of local consumption. The second type is the **Actual Food Gap** which exceeds production sufficiency to production quality. It reflects food-sufficiency at the level of the individual concerning food quality and type and its contribution in providing the individual with calories, proteins and fats.

- Apparent Food gap:

It reflects the extent of a country in achieving its food security. it is, also, the difference between exports and imports of food. (Laalam & Benoune, 2023, p. 110)

$$Apprent\ Food\ Gap = Food\ Exports - Food\ Imports$$

- Actual Food Gap:

This type concerns the sufficiency of individual intake of calories, fats, and proteins to live a healthy life. (Laalam & Benoune, 2023, p. 110)

$$Actual\ Food\ Gap = Essential\ Needs\ of\ Calories - Actual\ Quantity\ of\ Calories$$
$$= Consumption - Physiological\ Need$$

Food Gap:

It is the difference between a country's local production and its food needs for consumption. It, also, reflects the deficit in local production to cover local needs, which is provided through external

imports. It is calculated through the following formula: (Ben Shaa & Ashit, 2018, p. 114)

$$Food\ Gap = Overall\ Food\ Consumption - Local\ Food\ Production$$

Food Security and Food Dependency:

- Food Dependency:

Food dependency is the inability of a country to meet the nutritional and consumption needs of its population, making reliance on imports inevitable. Any disruption or scarcity of food can threaten the population by famine and diseases. (Ben Shaa & Ashit, 2018, p. 113)

- Food Security:

Since the 1980s, the world has experienced relative food security because of the increasing use of chemicals in agriculture, which raised concerns about consumer health. This has led to hold discussions for new strategies to improve agricultural productivity in ways that are secure for human health, such as alternative and organic farming methods. (Ben Shaa & Ashit, 2018, p. 113)

Section Two: The Development of the Food Gap in Algeria (2016-2020)

1- The Development of the Overall Food Gap (2016-2020)

Table 1. Development of the Total and Overall Food Gap (2016-2020)

Unit: Million Dollars

Year	Total Exports	Food Exports	Percentage of Food Exports to Total Exports	Total Imports	Food Imports	Percentage of Food Imports to Total Imports	Total Gap	Food Gap
2016	30027,6	349,1	%1,16	46059,2	7603	%16,5	-16031,6	7253,9-
2017	35191,1	328,3	%0,93	47089,5	7212,1	%15,3	-11898,4	6883,8-
2018	41797,3	342,9	%0,82	46333,1	7385,9	%15,9	4535,8-	7043-
2019	35823,5	410,9	%1,15	41934,1	6925,9	%16,5	-6110,62	6515-
2020	22483,1	477,6	%2,12	34665,4	6701,1	%19,3	-12182,3	6223,5-
Average	33064,52	381,76	%1,24	43216,2	7165,6	%16,7	-10151,7	-6783,84

Source: Prepared by the researcher based on data from the Arab Organization for Agricultural Development, the annual book of Arab agricultural statistics, volumes 40 and 41.

The table shows that food exports have witnessed fluctuations between increases and decreases, as well as a weak growth in 2020. In comparison to the percentage of total exports, that of food exports was very weak, with the highest value of 2.12% recorded in 2020. The annual average of food exports' percentage to total exports was 1.24% between 2016-2020, which is weak compared to Algeria's agricultural capabilities. Algerian food exports included dates, wines, vegetables, some food pasta, sunflower oil, and olive oil...etc.

The annual average of food imports was 16.7% for the period of 2016-2020, with 19.33% recorded in 2020 as the highest value. It is evident from these high percentages that food imports represent a

significant portion (the third rank) of total imports. This highlights a national deficit in providing food supplies. This is proved by the values the trade balance recorded at the total and food levels. The average food deficit reached $6,783.84 million annually, which is a considerable amount for a country with more than 40 million hectares of agricultural areas. There was a decline in the deficit between 2016 and 2020 because of the governmental strategies and policies to lower import costs, yet the recorded values indicate that bridging the food gap is challenging. This led the government to step up its efforts in desert agriculture through the creation of agricultural poles to achieve food security in light of unusual climate changes.

From the aforementioned readings, we see that the trade balance is inadequate, and the food gap is wider but has been lowered moderately by $290 million between 2019 and 2020 because of the governmental policies working to reduce import bills, especially the agricultural. Nevertheless, increased food prices in international markets and the spread of the Corona pandemic led to a disruption in the global food supply chain, followed by the Russian-Ukrainian war in 2022, which impacted the economic situation in general and the food situation in particular. All of this has negatively affected the food gap and food security in Algeria.

2. The Development of Animal Food Production gap (2016-2020)

Table 2. The Development of Animal Food Production Gap (2016-2020)

Unit: Thousand tons, million dollars (for Value)

Year	Red Meat				White Meat				Fish			
	Producton	Available for Consumption	Gap Quantity	Gap Value	Producton	Available for Consumption	Gap Quantity	Gap Value	Producton	Available for Consumption	Gap Quantity	Gap Value
2016	537,6	604,4	66,8	233,3	302,8	301,8	-1	-0.1	102,1	132,6	30,5	74,9
2017	543,9	595	51,1	188,8	529,8	528,3	-1.5	-0.4	108,3	123,3	15	56
2018	529	716	187	187	482	481,6	-0.4	-0.4	120,4	138,2	17,8	17,8
2019	504,2	561,1	56,9	201,6	264,1	263,4	-0.7	-1.4	104,9	116,2	11,3	17,9
2020	505,9	539,6	33,7	12,9	292,6	292,2	-0.4	-0.7	86,9	96,6	9,7	5,2
Average	524,12	603,2	79,1	164,72	374,26	373,46	-0.8	-0.6	104,52	121,38	16,86	34,36
Year	Eggs				Dairy Products				Milk			
2016	167,3	99,8	-67.5	4,5	3719	4616,5	897,5	971,6	803,18	4,64	-799	/
2017	394,2	394,3	0,1	0,4	3521,2	3924,9	403,7	1376,5	1239,54	0,1	-1239	/
2018	314	316	2	1,9	3280	3913,1	633,1	1277,7	1108,88	1,53	-1107	/
2019	341,6	341,7	0,1	2	3189,2	4278,9	1090	1091,3	977,53	0,88	-977	/
2020	308,5	309	0,5	2	3354,7	4625,4	1271	1265,9	1111,37	0,25	-1111	/
Average	305,12	292,2	-12.96	2,16	3412,8	4271,8	858,9	1196,6	1048,1	1,48	-1047	/

Source: Prepared by the researcher based on data from the Arab Organization for Agricultural Development, the annual book of Arab agricultural statistics, volumes 40 and 41.

The table demonstrate that red meats recorded a deficit in the food gap with an annual average of $164.74 million during the period 2016-

2020. This reflects the failure of national strategies for livestock farming to provide meat for local consumption.

White meats achieved a surplus in production with an annual average of $0.6 million. The eggs sector achieved a surplus of $12.96 million annually. This highlights the success of both sectors in providing white meats and eggs products and achieving self-sufficiency locally due to the private sector activity and the efforts of private investors in providing these products with financial support from the state.

The fish sector has witnessed a deficit in the food gap with an annual average of $34.36 million in spite of the Algerian coastline stretching 1600 km, which confirms the absence of a developmental strategy for this sector, along with disrespecting for fishing deadlines, especially during the breeding season, as well as overfishing by some foreign fishing companies in the deep sea using modern fishing technologies. It is imperative that the state impose special protection for this sector.

The dairy sector, also, recorded a deficit in the food gap, with an annual average of $1,074 million. Although, sometimes, there is surplus in production, there is a lack of storage facilities for fresh milk, which lead farmers to get rid of thousands of liters of milk daily. National milk production covers approximately 80% of national consumption, while the remaining 20% is imported in the form of milk powder. Despite numerous governmental efforts to provide this commodity through enhancing investment projects in dairy cows, the absence of governmental control led to its failure.

The dairy products sector (yogurt, milk, whey, butter, cheese) recorded an annual deficit with an average value of $1,196.6 million. This highlights the lack of adequate and qualified dairy food industries to cover the deficit in this sector. Additionally, most of the raw material for dairy production is imported.

3. The Development of the Plant-based food gap (2016-2020)

Table 3. The Development of the plant-based food gap (2016-2020)

Unit: Thousand tons, million dollars (for value)

Year	Total Grains				Wheat and Flour				Maize			
	Production	Available for consumption	Gap quantity	Gap value	Production	Available for consumption	Gap quantity	Gap value	Production	Available for consumption	Gap quantity	Gap value
2016	2942,3	16379	13437	2805,6	1937,6	10160	10160	1782,4	3,7	4119	4119	765,3
2017	2478,1	16370	13892	2746,2	2436,5	10515	8078,7	1788,6	2,6	4144,1	4144,1	776,1
2018	6065,9	22788	16722	2858,5	3981,2	10969	6987,3	1864,2	5,5	9162,1	9162,1	796
2019	5633,5	22811	17178	2451	3876,9	11788	7911,2	1477,9	6,4	8451,9	8451,9	862
2020	4393,1	17478	13085	2733,2	3106	10999	7892,7	1608	3,2	5011,9	5011,9	832,1
Average	4302,6	19165	14863	2718,9	3067,6	10886	8206	1704,2	4,28	6177,8	6177,8	806,3
Year	**Rice**				**Barley**				**Total Legumes**			
2016	0	110,5	110,5	59,8	919,9	1821,2	901,3	164,3	88,5	285,8	197,3	223,9
2017	0	130	130	79,9	969,7	1511,3	541,6	100,4	107,2	212,3	105,1	111,2
2018	0	87,25	87,25	87	1957,3	2039,3	82	82	146,3	405,5	259,2	259,2
2019	0	126,7	126,7	57,9	1947,7	2345,9	398,2	31	146,6	370	223,4	321,4
2020	0,3	139,7	139,4	61,9	1213,1	2090	876,9	184	115	306,5	191,5	151,8
Average	0,06	118,83	118,77	69,3	1401,5	1961,5	560	112,34	120,72	316,02	195,3	213,5
Year	Total oils and fats				Total fruits				Sugar			
2016		1147,2	1147,2	910,2	4802,3	5067,1	264,8	271,9	0	1357,8	1357,8	646,6
2017	99,4	977,8	878,4	668,8	4942,7	4978,3	35,6	57,3	0	1692	1692	780,3
2018	101,4	978,2	876,8	743,3	4779,8	4740,8	- 39	39	0	642,4	642,4	682,4
2019	115,8	1038	922,2	785,3	5006,1	4885,3	-120.8	111,5	0	1156	1156	488,1
2020	249,9	1252,1	1002,2	766,5	4552	4736,5	184,5	41,7	0	1318,5	1318,5	452,6
Average	113,3	1078,7	965,36	774,82	4816,6	4881,6	65,02	104,28	0	1233,3	1233,3	610

Source: Prepared by the researcher based on data from the Arab Organization for Agricultural Development, the annual book of Arab agricultural statistics, volumes 40 and 41.

It is evident from the table that Algeria experiences a food deficit in the grains sector (wheat and flour, barley, maize, rice). The value of the deficit in the food gap is between $2450 and $2880 million during the period 2016-2020, with an annual average deficit of $2718,9 million and an average deficit in food quantity of 1385 thousand tons of grains annually. This is a significant quantity that needs future reduction in order to bridge the food gap and achieve self-sufficiency in staple crops. The deficit was recorded obviously in wheat and flour, with an average deficit of $1608 million and a percentage of 59%. Wheat, both hard and soft, is a strategic commodity for daily consumption of Algerians, such as bread and pastries. Also, wheat is a key indicator of measuring the true capacity of Algerian agriculture to achieve food security.

Maize recorded an annual deficit with an average value of $830.1 million, representing 30%. Barley recorded an annual deficit with an average value of $112.3 million, about 6%. Rice recorded an average deficit value of $69.3 million, representing 4% because of the complete absence of rice national production, along with a continuous decrease in barley production due to climate changes. This resulted in reducing the agricultural area due to drought and soil poverty, thereby a decrease in productivity.

The legumes (lentils, chickpeas, beans, peas, fava beans…), recorded an average annual deficit with a value of $213.5 million during the period 2016-2020. Dry legumes ranked fourth in food deficit after wheat, flour, and maize.

Oils (soybean oil, cottonseed oil, peanut oil, olive oil, sesame oil, maize oil, flaxseed oil, sunflower oil, margarine, palm oil, coconut oil, and other vegetable oils) recorded a deficit with an annual average value of $774.8 million. We observe that the production quantity of these

commodities does not exceed 113.3 thousand tons annually. The average imported quantity is 1078.7 thousand tons annually, with an annual average deficit of 965.36 thousand tons. This demonstrates the lack of a food industry in this sector as it relies greatly on imports.

Fruits recorded a food gap with an annual average deficit of $104.28 million and an average deficit in quantity around 184.6 thousand tons annually. Additionally, this sector achieved significant surpluses. In 2018, it achieved a surplus of 39 thousand tons, while in 2020, it achieved a surplus of 120.8 thousand tons. This sector also achieved self-sufficiency exceeding 98%.

The sugar sector recorded a food gap with an annual average deficit of $610 million and an average deficit in quantity estimated at 1233 thousand tons annually. This sector is 100% dependent on imports because of the lack of an agriculture or a food industry concerned with producing the raw materials for sugar production.

Section Three: The Development of Self-sufficiency Rates and Value Added in the Agricultural

1. The Development of Self-sufficiency Rates(2016-2020)

Table 4. The Development of Self-sufficiency Rates (2016-2020)

Unit: %

	Year / Sector	2016	2017	2018	2019	2020	Average Period	Self-sufficiency rate by food source
Plant Sources	Total Grains	20,5	21,2	26,6	24,7	25,1	23,6	28,0
	Wheat and Flour	19,1	23,2	36,3	32,9	28,2	27,9	
	Maize	0,1	0,1	0,1	0,1	0,1	0,1	
	Barley	50,5	64,2	96,0	70,3	56,0	67,4	
	Rice	-	0,2	0,3	0,2	0,2	0,2	
	Total legumes	31,0	50,5	36,1	39,5	37,5	38,9	
	Total Vegetables	99,6	100,0	99,8	100,0	99,8	99,8	
	Total fruits	94,8	99,3	100,8	102,5	96,1	98,7	
	Sugar	-	-	-	-	-	-	
	Oils and Fats	8,7	10,7	9,0	10,0	20,0	11,7	
Animal Sources	Red Meats	89,0	91,4	90,8	90,3	93,8	91,1	91,8
	White Meats	100,3	100,3	100,3	100,2	100,2	100,3	
	Fish	77,0	84,8	87,1	90,3	89,9	85,8	
	Eggs	99,6	100,0	99,4	99,9	99,8	99,7	
	Dairy Products	80,6	89,7	83,8	83,5	72,5	82,0	
Annual self-sufficiency rate		49,3	52,3	55,4	53,7	52,1	52,6	

Source: Prepared by the researcher based on data from the Arab Organization for Agricultural Development, the annual book of Arab agricultural statistics, volumes 40 and 41.

The table demonstrates that self-sufficiency in plant food sources during the period 2016-2020 averaged 28%. Self-sufficiency in animal food sources during the same period was 91.8%. Hence, the food deficit was in basic agricultural crops and the annual self-sufficiency rate ranges from 49% to 55%, with the highest value in 2018 at 55.4%.

Food sources in Algeria can be divided into four groups according to the self-sufficiency rate:

- Group 1: Food sources that achieved self-sufficiency rates of 100% or more during the period 2016-2020, including vegetables, white meats, and eggs.

- Group 2: Food sources that achieved self-sufficiency rates between 50% and 98% during the period 2016-2020, including red meats, fish, dairy products, total fruits, and barley. This group is closely achieving self-sufficiency and maintaining food security.

- Group 3: Food sources that achieved self-sufficiency rates between 30% and 50%, including legumes. They require the state to step up investment efforts by backing private investors to expand production and achieve future surpluses.

- Group 4: Food sources that achieved self-sufficiency rates of less than 30%, including grains, wheat, flour, and finally, maize, rice, and sugar, with self-sufficiency rates approaching zero. This group covers essential commodities with wide consumption that necessitate dependency on the private sector and foreign partners to rise self-sufficiency rates.

2. Value Added in the Agricultural Sector in Algeria (of the Total Local Production):

Table 5. Value Added in the Agricultural Sector in Algeria (2000- 2023) in Current Prices:

Year	Annual Value Added (%)	Annual Value Added (Billion Dollars)
2000	11.1	4.6
2002	8.4	5.18
2004	7.7	7.10
2006	6.4	7.48
2008	5.5	10.12
2010	7.5	13.39
2012	8	18.23
2014	9.4	22.48
2016	11.1	20.01
2018	11.2	21.88
2020	12.8	21.16
2022	10.6	23.95
2023	13.2	31.55

Source (Global Bank, 2023)**:**

According to the table, we observe that the value added in the agricultural sector and its contribution in the total local production has significantly increased between 2000 and 2023. It shifted from 11.1 % in 2000 to reach its highest value in 2023 estimated at 13.2 %.

The value added was decreased between 2000 and 2008 with the lowest value recorded in 2008 estimated at 5.5 % and with a financial

value added of 10.12 billion dollars. After that, since 2010 up to 2023, it has increased reaching 12.8 % with a financial value added estimated at 21.16 billion dollars in 2020, whereas in 2023, it has reached its highest value estimated at 13.2 % with a value added of 31.55 billion dollars.

Conclusion:

Achieving food security in Algeria experiences fluctuations and instability in the global food market. This is because of Algeria's dependency on its petroleum revenues to cover its food imports to meet local consumption demand. In spite of achieving self-sufficiency rates in some food sectors, food security in Algeria is still challenging. This must be put down to the unclear policies adopted by the government to promote agriculture and farming. These programs and policies are nothing but temporary patchwork solutions not founded on realistic and future-oriented projections.

The correlation between internal factors related to climate change and mismanagement with external factors related to the Corona pandemic which disrupted the global food supply chain, accompanied by a rise in food prices, as well as the ongoing Russian-Ukrainian war, also affected grain stocks and agricultural production.

Since 2019, Algeria has been striving to reduce the overall deficit (related to the trade balance) and the food deficit to achieve self-sufficiency in both its traditional and modern concepts. Agricultural products rank high in value, with wheat, hard and soft, legumes including lentils, chickpeas, beans, peas, and fava beans are leading the list, which have wide daily consumption all the year. Despite that, Algeria has adopted some precautionary measures in order to lower the import bill costs. It managed to achieve self-sufficiency in some products like vegetables and eggs, as well as surpluses exported abroad. However, there are some food products close to achieving self-sufficiency like red meats, dairy products, and the fruit sector. The products that have achieved self-sufficiency rates of less than 30%, such as grains have become more challenging. The real dilemma is related

to products approaching zero self-sufficiency rates, including maize, sugar, and rice, which cause annual losses to the public treasury with an average of $2,818 million.

Study results:

- Weak contribution of food exports (2.12%) to total exports.

- Food imports reached about 20% of total imports, with the third rank in the list of imports.

- The food deficit and the overall deficit were impacted by the corona crisis and the Russian-Ukrainian war.

- A deficit was recorded in various animal food sectors, except for the white meats and eggs sectors.

- A deficit was recorded in various plant food sectors, except for the fruit sector, achieving significant production surpluses.

- Algeria achieved an annual self-sufficiency rate exceeding 50%.

- Algeria achieved a self-sufficiency rate of 28% in plant sources and a self-sufficiency rate of 91.8% for animal sources during the period 2016-2020.

***Bibliography List*:**

Books:

1. the Arab Organization for Agricultural Development. (n.d.). *the Annual Book of Arab Agricultural Statistics* (Vol. Volumes 40 and 41).

Journal article :

2. Ben Shaa, M., & Ashit, A. (2018, April). Impact of Agricultural Production on the Food Gap in Algeria (1980-2015). *Algerian Journal of Economy and Finance*(Issue 09).

3. Boubekir, A. (2021, June). Measuring Sustainable Food Security in the Agricultural Sector - A Field Study on Farm Owners in Algeria. *Namaa Journal of Economy and Commerce, Vol. 05*(Issue 01).

4. Dhou, K. (2022, January). International Care for Achieving Food Security and Its Protection Mechanisms. *Algerian Journal of Historical and Legal Studies, Vol. 06*(Issue 03).

5. Laalam, L., & Benoune, K. (2023, March). An Analytical Study of the Status of the Food Gap for Main Foodstuffs in Algeria during the Period 2009-2020. *Journal of Finance and Business Economics, Vol. 07*(Issue 01).

6. Shalighm, S. (2023). Food Sovereignty in Algeria: Policies and Requirements. *Journal of Political Topics, Vol. 07*(Issue 01).

Internet websites:

7. Global Bank *2023* .(2023) .*Statistics*) .National Account Data of the World Bank and the Organization for Economic Co-operation and Development in the Economic Field تم الاسترداد من (. https://data.albankaldawli.org/indicator/NV.AGR.TOTL.CD?locations=DZ)

8. bank, w. (2022). *what is food security*. Retrieved from world bank group: https://www.worldbank.org/en/topic/agriculture/brief/food-security-update/what-is-food-security