

*Sustainable development in
Algeria through some
indicators for the period
2008-2018*

التنمية المستدامة في

الجزائر من خلال بعض

المؤشرات للفترة 2008-2018

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Abstract

The aim of this article is to study the reality of sustainable development in Algeria for the period 2008-2018 through some economic, social and environmental indicators. It was based on a descriptive analytical method and a set of statistical indicators.

The study concluded that Algeria is still far from achieving the goals of sustainable development, and we find many challenges, but what we confirm is that Algeria has the capabilities and resources that make it competitive in the developed countries in the field of sustainable development.

keyword: sustainable development; unemployment; environment.

ملخص:

الهدف من هذه الورقة هو دراسة واقع التنمية المستدامة في الجزائر للفترة 2008-2018 من خلال بعض المؤشرات الاقتصادية، الاجتماعية والبيئية، وتم الاعتماد على المنهج الوصفي التحليلي وعلى مجموعة من المؤشرات الإحصائية. توصلت الدراسة الى أن الجزائر لازالت بعيدة عن تحقيق أهداف التنمية المستدامة، فنجد العديد من التحديات أمامها أهمها الاقتصاد القائم على الريع البترولي بنسبة أكثر من 93% سنة 2018 والذي يتأثر مباشرة بتقلبات أسعار البترول، لكن ما نؤكد أنه ما تمتلكه الجزائر من إمكانيات وموارد يؤهلها لتكون منافسة للدول المتقدمة في مجال التنمية المستدامة.

كلمات مفتاحية: التنمية المستدامة؛ البطالة؛ البيئة؛

1. Introduction

According to the Brundtland commission's report on 1987 entitled "our common future", the concept of sustainable development has become known and used, the word environment and development comities (WCED) has defined it as development that meets the needs of the present (without compromising the ability of future generations to meet their own needs).

Achieving sustainable development is also one of the most important challenges facing different countries allowing poverty to be addressed and increasing the real average income per capital, and improving the living standard of the individuals, in the sense of access to economic well-being.

Through this paper, we will try to highlight the reality of sustainable development in Algeria, especially in the last decade 2009-2019, and to study the challenges that Algeria faces in this area, so that we can finally come to reality. So, the problem of research is:

- **What is the reality of sustainable development in Algeria through some statistical indicators?**

Through the problem, we find a set of questions as follows:

- What are the dimensions of sustainable development?
- What are the most important tools of sustainable development policy adopted in Algeria in the light of its development experience, and were it enough to achieve this?

To answer the problem, the following hypotheses were formulated:

- **There is no trend towards achieving a sustainable development policy in Algeria.**

- **Algeria is still far from achieving the principles of sustainable development.**

To verify the validity of these hypotheses, the study was based on the descriptive analytical method that in concerned with the collection and analysis of statistical data.

The research aims to:

- ❖ Clarify the concept of sustainable development.
- ❖ Introducing sustainable development indicators.
- ❖ Trying to describe and analyze the reality of sustainable development in Algeria and ways to achieve it.

Among the most important previous studies of the subject, we find:

- **Nasser Morad Study 2009**, This study aims to shed light on the importance and conditions of sustainable development in addition to the obstacles that Algeria faces in achieving sustainable development. The researcher reached the conclusion that Algeria has achieved positive growth rates since 1995, but these rates are not enough to meet the various challenges, as they achieved rentier economic growth controlled by fluctuations in oil prices.

- **Chili ilhem study 2014**, This study aims to analysis the role of a comprehensive quality strategy in achieving sustainable development in Algerian economic institutions, and the problematic of this study revolves around the role of a comprehensive quality strategy in achieving sustainable development within the economic institution, and this study has concluded that there is a role for a comprehensive quality strategy In achieving the economic dimension of

sustainable development and that the reason for this is due to the Foundation's reliance on means and methods in order to improve its performance, even at a small percentage, as it has a role in achieving the social and environmental dimension of sustainable development because of the Foundation's focus on better progress Services to its customers and applying the environmental management system.

The search plan has been divided as follows:

- ❖ **Meaning of sustainable development.**
- ❖ **The dimensions of sustainable development, its goals and indicators to measure it.**
- ❖ **Sustainable development indicators in Algeria.**

2. Meaning of sustainable development:

In 1987, the Norwegian Prime Minister, Mrs. Brundtland, formally proposed the definition of sustainable development as “development which meets the needs of current generations without compromising the ability of future generations to meet their own needs.” This concept emphasizes the following three points: (Jiansu & Chunchui, 2016, p. 25)

① From a management perspective, what is “development”? Sustainable development is different from the society growth. Traditionally, the meaning of “growth” reflects economy, welfare, and other aspects of “expansion,” but the use of the word “development” emphasizes the improvement of the “quality” of these elements. For example, although we live in a more spacious house, the surrounding environment is messy, and we have to drink poor water and breathe contaminated air, which is the “growth,” but cannot be called

“development.” Natural resources and the environment are the basis for the survival of mankind. Sustainable development requires not only the coordinated development of human and external resources and the environment but also the coordinated development of human society and the economy.

② From the perspective of human society, what “demands” should we maintain? Are demands to meet the basic needs of fundamental necessities or to pursue luxury and extravagant waste? Different “needs” mean different consumption patterns, which also may produce a different environmental load, affecting the relationship between human beings and the environment. For example, in winter, we wear sweaters in indoor places that have a high temperature; however, in summer, when the indoor temperature is low, we also wear sweaters, which not only affect human health but also cause a significant amount of wasted energy. Over time, this is likely to exacerbate the degree of energy shortages, affecting the normal needs of future generations.

③ From a technical point of view, how do human beings meet their needs? Human demand is an objective manifestation of human subjective desire, such as houses to meet the housing demand and clothing for defending against the cold and concealing the body. The realization of the object requires a human throughout the production process, processing, manufacturing, and transforming the natural resources into the products or services that have a specific function to satisfy specific human needs. It can be seen that human satisfaction with their needs is the process of the interaction between

human activities and the natural environment, reflecting the relationship between human beings and the environment. In short, we need careful planning and reasonable arrangements to achieve sustainable development. While continually making progress in economy, culture, and technology, we should maintain the desired level of environmental load to achieve coordinated development between mankind and the environment.

The concept of sustainable development can be interpreted in many different ways, but at its core is an approach to development that looks to balance different, and often competing, needs against an awareness of the environmental, social and economic limitations we face as a society.

All too often, development is driven by one particular need, without fully considering the wider or future impacts. We are already seeing the damage this kind of approach can cause, from large-scale financial crises caused by irresponsible banking, to changes in global climate resulting from our dependence on fossil fuel-based energy sources. The longer we pursue unsustainable development, the more frequent and severe its consequences are likely to become, which is why we need to take action now.

This broad definition, does not limit the scope of sustainability. The explanation does, however, touch on the importance of intergenerational equity. This concept of conserving resources for future generations is one of the major features that distinguish sustainable development policy from traditional environmental policy, which also seeks to internalize the externalities of environmental degradation. The overall

goal of sustainable development (SD) is the long-term stability of the economy and environment; this is only achievable through the integration and acknowledgement of economic, environmental, and social concerns throughout the decision-making process.

We also reaffirm the need to achieve sustainable development by: promoting sustained, inclusive and equitable economic growth, creating greater opportunities for all, reducing inequalities, raising basic standards of living; fostering equitable social development and inclusion; and promoting integrated and sustainable management of natural resources and ecosystems that supports inter alia economic, social and human development while facilitating ecosystem conservation, regeneration and restoration and resilience in the face of new and emerging challenges (Jeffrey, 2015, p. 6).

3. The dimensions of sustainable development, its goals and indicators to measure it:

The three dimensions of sustainable development: (O. Ejderyan & R. Tuor, 2019)

3.1 Social solidarity

Equality of opportunities for people, involving welfare, quality of life and sustainable human development – development should liberate individual capacities and fulfil human needs, thus ending poverty and improving individuals' quality of life offering a secure life with full rights and liberties in the long term - and social cohesion.

3.2 Environmental responsibility

the ability to use natural resources without undermining the equilibrium and integrity of ecosystems, reduce burden on the environment.

3.3 Economic efficiency

efficiency of economic and technological activities, foster investment and productivity, economic growth, economic output potential.

4. Analysis of the development of some indicators of sustainable development in Algeria during the period 2008-2018

After presenting the most important concepts related to sustainable development, we tried to evaluate the performance of the Algerian economy through an analysis of the most important indicators of sustainable development.

4.1 economic indicators for sustainable development in Algeria for the period 2008-2018

Through this component, we tried to shed light on the most important economic indicators for sustainable development in Algeria during this period 2008-2018.

4.1.1 Per capita gross domestic product

This indicator is considered one of the most important economic indicators for sustainable development. Depends on it to determine the economic strength of countries. In the case of the Algerian economy, the following has been reached:

Table 1. Evolution of per capita GDP in Algeria for the period 2008-2018

years	Population (one million population)	Gross domestic product GDP (billion dollars)	Per capita gross domestic product (dollars)	The rate of growth in per capita gross domestic product
2008	34,731	171.001	4923,58	-
2009	35,334	137.211	3883,25	-0,211
2010	35,977	161.207	4480,83	0,153
2011	36,661	200.019	5455,90	0,217
2012	37,384	209.059	5592,20	0,0247
2013	38,140	209.755	5499,60	-0,0165
2014	38,924	213.810	5493,01	-0,0012
2015	39,728	165.979	4177,88	-0,2394
2016	40,551	160.130	3948,85	-0,0548
2017	41,389	167.555	4048,29	0,0251
2018	42,228	180.689	4278,89	0,0569

Source: Prepared by the researchers according to the site: (worldbank, 2019)

Through Table No. 01, we notice a fluctuation in per capita GDP, where we notice a decrease in 2009 due to the global financial crisis, and the value of per capita GDP increased from 3883 dollars in 2009 to 5592 dollars in 2012 which is higher Value during the study period, to begin after that decline until it reached its lowest value in 2016 to reach 3948 dollars due to the sharp decline in oil prices, and then return to the increase again in 2018 to 4278 dollars due to the increase in oil prices.

This growth witnessed by the Algerian economy is not due to the improvement of economic conditions in Algeria, but rather due to many considerations, including the oil revenues that Algeria has benefited from due to the high prices of oil and natural gas. Therefore, it can be said that the Algerian economy depends on oil rents.

4.1.2 Analysis of the trade balance of the Algerian economy

Algeria, like other developing countries, is distinguished by its association with the markets of industrialized countries and those of European countries in particular, whether it comes to imports or exports. The countries of the European Union, especially France, are the main supplier and customer to Algeria, and the structure

of the trade balance can be explained in Table No. 02

Table 2. The structure of the Algerian Trade Balance 2008-2018 unit: dollars

years	Hydrocarbons exports	Other goods exports	Total exports	The ratio of oil exports to total exports	Imports	Trade balance
2008	77361	1937	79298	97,55%	39474	398
2009	44128	1066	45194	97,64%	39258	593
2010	55527	1526	57053	97,32%	40999	160
2011	71427	2062	73489	97,19%	47219	262
2012	69804	2062	71866	97,13%	50369	214
2013	63752	2165	65917	96,71%	54909	110
2014	60304	2582	62886	95,89%	58618	426
2015	35724	2063	37787	94,54%	51803	-140
2016	28246	1780	30026	94,07%	47090	-170
2017	33261	1930	35191	94,51%	46053	-108
2018	38338	2830	41168	93,12%	46197	-50

Source: Prepared by the researchers according to the site: (worldbank, 2019)

From Table 03, it is clear that the Algerian trade balance is in a state of instability, and fluctuates from year to year. In 2008, his balance was \$ 39,824 million. Then it goes down to \$ 5938 million in 2009. But the steady decline started in 2014, when it recorded \$ 4268 million compared to \$ 21,497 million in 2012, while the year 2015 recorded a deficit of \$ 14,016 million, and this was the result of the significant drop in oil prices because it represented about 97% of total exports.

The bottom line is that Algeria's trade balance is highly sensitive to changes in oil prices in global markets, necessitating the need to think about export diversification.

4.2 Social indicators for sustainable development in Algeria for the period 2008-2018

The economic reforms in Algeria, especially the restructuring that depends on capital-intensive production methods, have affected the employment level, in addition to adopting liquidation measures for bankrupt institutions and following the privatization policy that seeks to raise the degree of economic efficiency of enterprises. Also, the devaluation of the Algerian dinar and the decrease in government subsidies for consumer goods

have led to a decrease in the purchasing power of the individual, which further worsens the individual's standard of living. After the period of reforms, Algeria adopted a set of development programs in an attempt to improve the standard of living of the individual, develop human resources and enhance the potential for sustainable development. Here are some social indicators in Algeria.

4.2.1. Employment and unemployment rates in Algeria

Unemployment is a key economic indicator because it signals the (in)ability of workers to readily obtain gainful work to contribute to the productive output of the economy. More unemployed workers mean less total economic production will take place than might have otherwise. Also, increasing unemployment in society threatens social stability, The following table shows the development of the unemployment rate in Algeria.

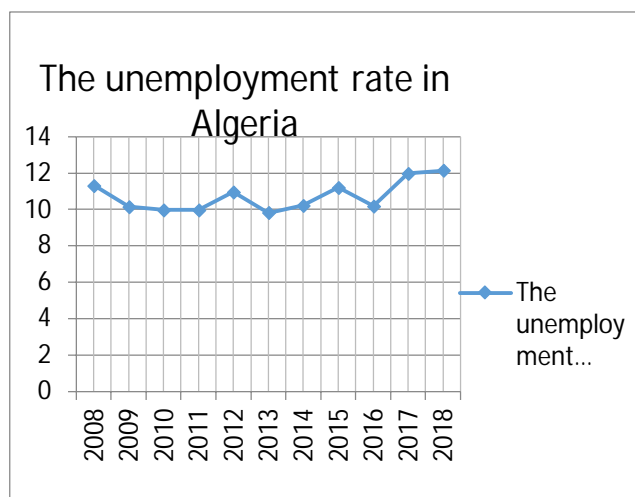
Table 3. The development of the unemployment rate in Algeria.

years	Unemployment rate %
2008	11.33
2009	10.16
2010	9.96
2011	9.96
2012	10.97
2013	9.82
2014	10.21
2015	11.21
2016	10.2
2017	12
2018	12.15

Source. Prepared by the researcher according to the site: (worldbank, 2019)

The above data can be represented in the following figure:

Fig.1 : Unemployment rates in Algeria



Source: Prepared by the researchers

The statistical data shown in the previous item clearly indicate the high unemployment rates in Algeria, due to the high rates of demographic growth, where the average exceeds 2,8 per year, in addition to weak investment and the low role of the state due to the clear situation deficit in the Trade balance. The main problem of unemployment in Algeria is government policy, where we note the almost complete absence of jobs compared to the large offer of young graduates from university. The state was no longer able to provide jobs, so it had to reformulate a policy to address this problem.

4.2.2. Health indicators in Algeria:

Improving the health status of citizens means the state's interest in providing them with health services, and thus improving the standard of living and the spread of welfare. The following table shows the evolution of some health indicators in Algeria:

Table 4. The development of some health indicators in Algeria for the period 2008-2018

years	Life expectancy at birth, total (years)	Mortality rate, neonatal (per 1,000 live births)	Prevalence of undernourishment (% of population)	Mortality rate, under-5 (per 1,000 live births)
2008	69,899	23,5	12,6	55,6
2009	70,246	22,8	12,3	53,2
2010	70,556	22,1	11,8	51,3
2011	70,884	21,4	11,6	49,00
2012	71,172	20,8	11,3	47,10
2013	71,462	20,2	11,1	45,40
2014	71,742	19,6	10,8	43,80
2015	71,948	19,1	10,6	42,40
2016	72,383	18,6	10,7	41,10
2017	72,383	18,2	10,8	39,80
2018	72,383	17,7	10,9	38,60

Source: Prepared by the researcher according to the site: (worldbank, 2019)

From Table 4, it is clear that:

- As for the average life expectancy at birth, which is an indication of the state's concern for the health of its citizens, because it reflects the degree of improvement in the standard of living of the population, Algeria has achieved high values in this field so that it can compete with the developed countries, and therefore the life expectancy at birth has increased from 69,899 Year in 2008 to 71,742 in 2014 to 72,383 in 2018, an increase of more than 3 years during the period 2008-2018.
- With regard to the neonatal mortality rate, it decreased during the study period. There were 23,5 deaths per 1000 newborns in 2008, down to 17,7 deaths in 2018, but these numbers are still weak despite all the efforts made by the public authorities in facing this phenomenon and imposing protection on mother and child, and the child mortality rate is less than 5 years in Algeria, still high.
- As for the prevalence of malnutrition, it witnessed improvement during the study period, as it fell 12% in 2008 to 10% in 2018, because Algeria is country rich in natural resources and has different sources of food, and therefore the proportion is high compared to the large size of Algeria.

What can be said about the health sector in Algeria is that it is a rich sector that faces only a set of regulatory problems, not financial resources, in addition to the weak distribution of health institutions throughout the national territory.

4.3 Environmental indicators for sustainable development in Algeria for the period 2008-2018

The economic system pressed the environment and created many problems, and led to serious crises that led to the deterioration of the environment, and thus became a threat to human life. Therefore, attention should be paid to this aspect, which is one of the pillars of sustainable development.

4.3.1. Electric Power Consumption (kwh per capita)

The rate of electrical energy consumption per Algerian person will be studied as follows:

Table 5. The development rate of electrical energy consumption per Algerian person for the period 2008-2016

Year	Fossil CO2 Emissions (tons)	CO2 emissions change	CO2 emissions per capita
2016	156,220,560	0.17%	3.85
2015	155,948,780	7.90%	3.93
2014	144,537,060	8.35%	3.71
2013	133,401,050	2.80%	3.50
2012	129,767,450	8.10%	3.47
2011	120,043,440	4.56%	3.27
2010	114,809,610	2.19%	3.19
2009	112,345,470	3.69%	3.18
2008	108,351,370	4.35%	3.12

Source: Prepared by the researcher according to the site: (worldometers, 2019)

With regard to carbon dioxide emissions, Table 5 data show that it is in constant volatility, rising to 8% in 2012 and then falling to 2% in the following year, then

rising again due to oil fields. Algeria is among the countries with the most greenhouse gas emissions, compared to industrialized countries.

4.3.2. Access to electricity (% of population)

This percentage reflects the extent to which people benefit from electricity and thus the standard of living in Algeria. The percentage in the table is as follows:

Table 6. The development Access to electricity (% of population) for the period 2008-2018

years	(% of population)
2008	82.191
2009	82.722
2010	83.251
2011	82.142
2012	84.809
2013	85.113
2014	85.588
2015	86.779
2016	87.977
2017	88.849
2018	88.900

Source: Prepared by the researcher according to the site: (worldbank, 2019)

We note from Table 6 that the rate of access to electricity in Algeria is constantly increasing, and this is normal, given that Algeria is country rich in natural resources compared to its small population, reaching 82% in 2008, increasing to 89% in 2018, an increase of 7%, But this increase is still small because it was supposed to be 100%.

4.3.3. Arable land (% of land area)

This percentage represents arable land compared to the total land area, in addition to the per capita cultivated land in Algeria during the period 2008-2017, as shown in the following table:

Table 7. Arable land (% of land area) and the per capita cultivated land in Algeria during the period 2008-2017

years	Arable land (% of land area)	Per capita agricultural land (Ha per person)
2008	10.81	0.25
2009	10.77	0.23
2010	10.74	0.21
2011	10.80	0.20
2012	10.87	0.20
2013	10.89	0.20
2014	10.96	0.19
2015	11.03	-
2016	11.06	-
2017	11.06	-

Source: Prepared by the researcher according to the site: (worldbank, 2019)

Through this table, we note that the average per capita agricultural land decreased during the study period, due to the small size of agricultural land in Algeria, where in 2008 it reached 10.81 percent, while it increased to 11.06 in 2017, which means an increase of 0.5 in The cent in 9 years, which is a very small percentage, as the decrease in per capita agricultural land is due to population growth, the dependence of Algerian agriculture on rainwater, in addition to poor agricultural investment.

In general, this indicator is declining and Algeria will find it difficult to provide agricultural production that meets the requirements of providing food to the population.

5. CONCLUSION

It is clear from studying the progress made in some indicators of sustainable development in Algeria, it has become clear that economic development and thus sustainable development is shrouded in mystery and lack of vision in uniting efforts and using available resources for optimal

use, which created a gap in the concept of sustainable economic development, as Algeria entered the field Achievements without monitoring the extent of this achievement and its impact on the standard of living of individuals to ensure a better life for future generations. Algeria still faces a problem in applying the principles of sustainable development, as this is illustrated by the results reached in the following component.

6. Study Results:

Sustainable development includes achieving a balance between the three dimensions, the economic dimension, the social dimension, and the environmental dimension. All indicators were analyzed in Algeria during the decade 2008-2018 and the following results were reached:

6.1. The results of economic indicators:

- The increase in oil exports led to an improvement in the trade balance. Thus, the latter is affected by fluctuations in oil prices, which was evident in the study, which requires the Algerian state to diversify exports in order to reduce the risk of price fluctuations.
- Algeria's exports account for more than 93 percent of oil, so the country still faces the risk of price volatility and cannot plan in the long run due to funding restrictions linked to oil rents.

6.2. The results of social indicators:

- Through the study, it became clear that social services in Algeria did not reach the level necessary to provide the appropriate environment for sustainable economic growth. In the health field, the indicators are still below the level, as evidenced by the high rates of infant mortality in particular, as well as the lack of sanitation facilities.

- The unemployment rates in Algeria witnessed a noticeable decrease in the beginning of the study period due to the financial boom caused by the high oil collection linked to oil prices and positive growth in the balance of payments and government programs and their interference in the labor market, but starting in 2015, the unemployment rate began to rise and the state of the Algerian economy was exacerbated by a decrease in oil prices, and therefore all indicators are related to each other. When oil revenues drop, the Algerian economy is shaken.

6.3. The results of environment indicators:

- The results of the study indicate that Algeria pays attention to the environmental aspect, as the CO₂ emissions index decreased from 15,620 tons in 2008 to 11,245 tons in 2018, a decrease of more than 28 percent, so Algeria is one of the countries seeking to conserve the environment.

- As for arable land, Algeria has a small percentage compared to the vast area. Therefore, she had to prepare a program for land reclamation and distribution as she did in the 1970s in what is known as the Agricultural Revolution. Agriculture contributes to diversification of the economy, reduces risks and contributes to economic stability.

From the results achieved from the study, we can say the following:

- Indicators indicate that there is no clear policy implemented by Algeria to move towards achieving sustainable

development, which corresponds to the first hypothesis of the study.

- Algeria has the necessary components to implement sustainable development, but it is far from being achieved, which confirms the validity of the second hypothesis of the study.

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