

INFLUENCE OF ECONOMIC AND INDUSTRIAL POLICY ON THE ENVIRONMENTAL SITUATION IN ALGERIA

Hocine BOUMARAF

University of Science and Technology Houari Boumediene Algeria Faculty of Earth Sciences,
Geography and Land Use Planning
hocineboumaraf@yahoo.fr

Faiza DAHMOUCHE

University of Biskra Algeria, Faculty of Law and Economic Sciences
Dahmouche@univ-biskra.dz

Louiza AMIRECHE

Territorial Structure, Infrastructure and Transport In and Around the Agglomeration Laboratory.
University of Science and Technology Houari Boumediene Algeria
amirechelouisa@gmail.com

Abstract

The main objective of our work is to determine whether the Algerian economic policy adopted since independence can claim sustainable development from an economic point of view, and how this could be accomplished in harmony with environmental protection. In order to achieve the objective of this study, we used an approach that consists of examining the main causes of the ecological problems in relation to the economic policy implemented by the Algerian state. The analysis of the results obtained led us to identify the link between economic and industrial policies and the modification of the environmental situation in Algeria.

Keywords: Ecological problems; environmental situation; economic policy; industrial policy; sustainable development.

DOI: <https://doi.org/10.24818/beman/2022.12.1-03>

1. INTRODUCTION

In 2001, the report on the state and future of the environment in Algeria highlighted the fact that the country is facing an unprecedented ecological crisis (Alier, 2012). Problems such as deforestation, degradation of biodiversity, loss of soil fertility, proliferation of waste, depletion of scarce resources, etc. have directly affected economic activity and efficiency, but also the health and quality of the living environment of the population. Thus, the degradation of forests, soils and biodiversity affects agricultural

productivity and the quality of ecosystems. The pollution of water resources is the cause of water-borne diseases and is at the origin of the degradation of aquatic ecosystems, which has repercussions on fishery resources. Air pollution caused by industrial activities and transport has significant repercussions on public health (respiratory diseases, allergies, etc.). Air pollution also has other economic impacts such as the drop in tourism income resulting from the degradation of flora and fauna (Djelal, 2009; Ronneau, 2004; Leguay, 1999; Bugge, 1976). In 1998, the costs of ecological damage induced by the industrial sector estimated at nearly a third of the total cost of environmental damage. From the 2000s, the State therefore decided to react and invest in sustainable development in order to try to put an end to the process of environmental degradation. This desire is also a consequence of the commitments made by Algeria to the international community, which notably requires translating into its national legislation the binding provisions of international conventions and protocols to which the country has acceded. This intention first realized through the adoption of the National Environmental Strategy (Ouchichi, 2011). The two main tools of this strategy are the law on environmental protection and sustainable development promulgated in 2001 and the national action plan for the environment and sustainable development (Bouteiller, 2012). It is only recently that the protection of the environment has become one of the concerns of the Algerian state. Approaches involving a new, more effective economic policy and reflecting the will to tackle these problems have multiplied. These problems have attracted the attention of specialists in ecological management of the urban environment, and it is up to them to understand and interpret how they work. Then, and with the support of scientists from other disciplines, the information collected can be analyzed in a multidisciplinary approach in order to develop concepts for optimal management which will have to take into account environmental factors and risks to human health.

2. CURRENT SITUATION OF ALGERIA IN TERMS OF ENVIRONMENTAL MANAGEMENT

Algeria is located in the north of Africa. It is a middle-income country with, in 2016, an annual per capita income of \$ 4,300 (World Bank, 2017). In terms of the Human Development Index (HDI), Algeria ranked 83rd out of 188 countries in the 2018 United Nations Development Program report. Its HDI fell from 0.70 in 2010 to 0.73 in 2011 to reach 0.75 in 2014 (Depraz, 2016). Its increase was almost 28% between 1997 and 2014 be explained in particular by an improvement in life expectancy at birth. Another characteristic of Algeria is its large surface area makes it the largest country in the Maghreb and on the African continent. The country stretches over a vast territory with great contrast from an economic, demographic and climatic point of view. However, the geographical configuration and the physical and natural characteristics of the territory strongly condition the development skills of the different regions. Algeria's 1541 municipalities cover 2.4 million km². Most of them, nearly 65%, are located in the north and have a population of 19

million people concentrated on 4.3% of the territory, while the desert regions (83% of the territory) are only populated. By about 9% of the national population (Ministry of Social Action and National Solidarity, 2001). This unequal spatial distribution of the Algerian population leads to disparities in economic and geographic conditions. The geography of northern Algeria generates the best natural and climatic conditions in the whole country, endowing it with the richest agricultural land, significant water resources as well as good forestry and coastal potential. This region therefore offers the best location conditions for economic and human activities (infrastructure, city networks, and training facilities). This territorial unit is however far from being homogeneous. The coastal zone alone brings together nearly 44% of the population of the north of the country and nearly half of the urban population, most of which is located in the metropolitan areas of Algiers, Oran and Annaba (Ministry of Social Action and National Solidarity, 2001). Apart from the large coastal agglomerations or those located in the plains, the rest of the region suffers from isolation and a lag in terms of economic development. The Highlands region, inserted between two large mountain ranges, characterized by an arid climate and low rainfall (200 to 300 mm / year). In 1999, the population of the Highlands estimated at 7.7 million. This region particularly threatened by desertification. Agro-pastoral activity is dominant there and is the main cause of desertification due to overgrazing. A herd estimated at 8,800,000 head of sheep spread over 20 million hectares of grazing land causes the total disappearance of vegetation and makes the soils sensitive to erosion (Ministry of Social Action and National Solidarity, 2002). Finally, the region located to the south of the Saharan Atlas extends over a vast territory of 1,975,744 km² made up of low plateaus, ergs and very high mountainous reliefs. It occupies 85% of the national territory, includes almost all of the country's oil and gas reserves and has less than 9% of its national population. The scarcity of water resources, the aridity of the climate, and the low amount of precipitation (10 to 100 mm / year) as well as the large distances between cities constitute major constraints for the development of human activities. Indeed, the mode of settlement there completely shaped by natural conditions such as the availability of water, the relief and the climate. Logically, most of the population is concentrated where water resources are the most important, which leads to a strong tendency to agglomeration of populations. This geographical distribution of the population, and hence of economic activities, reveals a worrying imbalance between the North and the South of the country, which can be an explanatory factor for ecological degradation.

3. THE STRATEGY OF INDUSTRIES IN ALGERIA

In the context of post-1962 economic disorganization and destructuring as well as the questioning of the capitalist system for the benefit of the socialist economy, the strategy led by the Algerian state was the building of an industrial base. (Zegaoula, 2014; Mira, 2015). The objective sought was twofold. The first

was to meet the needs of the population (health, education, etc.). The second aimed at building an economy capable of autonomously expanding its productive capacities and solving the problem of poverty and employment (Mezali, 2001). The Algerian state then set about building an industrial base on the model of "industrializing industries" (De Bernis, 1971) which consists of a development strategy with priority given to heavy industry. This model linked to that of unbalanced growth (Rostow, W, 1958) advocating the concentration of investment efforts in a well-targeted sector in order to create growth poles capable of boosting the entire economy. In Algeria, it involved developing activities upstream of the production process (metallurgy, iron and steel, energy production). These were supposed to pull up the rest of the economy (agriculture, tourism, etc.) and allow the creation of a real industrial fabric. As the sectors of activity linked to each other, they carry out exchanges through their inputs and outputs (De Bernis, 1971). From the 1970s, the nationalization of hydrocarbons and the implementation of large projects of industrial complexes and production units will take place, which will allow the development of the country's main economic activity zones. Factories that would later prove to be highly polluting built: zinc electrolysis in Ghazaouet, tanneries in Batna, paper complexes in Mostaganem and Souk-Ahras, sugar refinery-refinery in Guelma, phosphate fertilizers in Annaba, etc. Between 1963 and 1984, industrial investment was particularly important (Chignier, 2009). It reached 57.3% of GDP during the first four-year plan (1970-1973) to reach 61.1% during the 1974-1977 plan (Ouchichi, 2011). The maximum, 62.1%, reached in 1978-1979 before falling to 40.1% during the period 1980-1984 (Dumont, 1981). During these two decades, most of the investments allocated to the productive sector according to the belief that they would create an economic dynamic and thus make it possible to meet the needs of the Algerian population. Throughout the period, the country achieved the highest growth rates in all of Africa. It recorded an annual average growth of 7.2%, an improvement in household purchasing power of 4% per year as well as a substantial reduction in the unemployment rate (- 33% in 1966 and - 22% in 1977) (Rebah,1999). The income differential between the city and the rural areas and between the North and the South will trigger a vast migratory movement from the deprived South to the North. The urbanization rate, which stood at 31% in 1966, rose to 40% in 1977, then to 50% in 1993 before peaking at almost 60% in 2000 (Mezali, 2003). The availability of road, rail and port infrastructures located in the North has favored the establishment and development of productive activities and a high concentration of inhabitants (Benachenhou, 2005). Currently, the coastal area is home to 91% of the steel and mechanical industries, 90% of the construction materials industries, 85% of the chemical industries, 65% of the leather industries and 56% of the textile industries (Mira, 2015). The strong urbanization is explained as much by the rural exodus towards the industrial and administrative poles of the North as by the differences in living conditions between the countryside and the city as well as the devaluation of

agricultural work. The phenomenon of rural poverty in Algeria finds, in large part, its origins in the weakness of the regional planning policy. While the State has not failed to develop infrastructure (roads, electricity network, water distribution, etc.), these have had a low impact on rural development due to their lack of integration into a scheme. Of spatial planning, that been considered beforehand (Benachenhou, 2005). The massification of poverty is also due to the low wages practiced in the public agricultural sector or on private farms. This will result strong tensions on the demand for food products due to the combination of the decline in agricultural production and the increase in demand resulting from the increase in distributed income (wages, subsidies, etc.). After Independence, it recognized that underdevelopment was the consequence of the non-diffusion of technological progress and that developing countries would be able to bridge the gap with developed countries by skipping steps through massive technological transfer. (Rostow, 1963). Today, we know that the country innovates always enjoys an advantage as long as it is not copied and the technological gap does not narrow (Hugon, 2005). In addition, development is a long-term cumulative phenomenon (Hugon, 2005). In Western countries, it has been the result of centuries of research and investment that cannot fulfilled or lead to the same results overnight. Algeria's strategic choice based on the industrialization of the country on the principle that industrial development will gradually resolve the issue of underdevelopment insofar as this is only an economic delay mainly caused by underdevelopment. Industrialization (Lewis, 1954; Rostow, 1963). The construction of a strong industrial base becomes the central objective of Algerian development policy. It materializes by the establishment of a heavy industry characterized by rapid capital accumulation and a spillover effect. At the same time, the role of the state will be decisive and exclusive since it will gradually become the central actor and the sole agent of economic development (Fabriès, 1998). From now on, it will steer, supervise and stimulate industrial production, the quantified objectives of which will be set in the development plans.

4. ECOLOGICAL ASSESSMENT IN ALGERIA

Between direct and indirect, positive and negative consequences, the strategy pursued in Algeria results in a negative ecological balance. Today, the country faces problems of industrial pollution. As the industrialization process ignored ecological imperatives for several decades, Algeria now has an old, dilapidated and, frequently, inefficient and polluting industrial park. Pollution caused by the discharge of untreated industrial water, polluting atmospheric emissions and the production of special waste that are inappropriately managed threaten the quality of ecosystems (Hugon, 2005). This section of the contribution aims to highlight the environmental consequences of the continued achievement of an

independent and prosperous economy by Algerian officials since the country's independence. To do this, we can start from Algeria's Environmental Performance Index (EPI).

5. ALGERIA ENVIRONMENTAL EFFICIENCY INDICATORS

Indicator estimated every two years by researchers at Yale University, provides a measure of the effectiveness of a country's environmental policies. To do this, it measures two major indicators, namely the health of the environment and the vitality of the ecosystem. The index calculated from 20 indicators, divided into 9 categories and taking into account many criteria (Benachenhou, 2015). In 2015, with a score of 70.28, Algeria was ranked 83rd in the world out of 180 countries in terms of Environmental Performance Index (Benachenhou, 2015). This explained, in particular, by weaknesses in air quality, the agricultural sector, water sanitation and biodiversity (Jarrige, 2017). It is in the field of air quality that Algeria achieves the best performance with a score of 89.04 placing it in 48th place out of 180. On the other hand, agriculture is severely deficient with a score of 76.34 and a 105th place worldwide. The result is even worse in terms of wastewater treatment (111th place and score of 72.11) and biodiversity (137th place and score of 61.62). Compared to 2018, Algeria fell in the rankings and achieved a poor performance due in particular to faulty environmental governance, fragmented regulatory mechanisms, poorly coordinated actions at the territorial level and poor resources for exercise of public power (Rebah, 2005).

6. COASTALIZATION OF ACTIVITIES

The coastalization of activities has not been without consequences for the degradation of the environment. According to a study by the National Council, "The coastal area is home to 91% of the steel, mechanical, metallurgical and electronic industries (ISMME), 90% of the construction materials industries, 85% of the chemical industries, 65% of the leather industries, and 56% of the textile industries" (CNES, 1998). In addition, out of a sample of 70 industrial establishments, more than 41% present a risk of explosion, 45% a risk of fire and 31% of toxic risks (National Insurance Council, 2019). This inventory alone sums up a most worrying situation in terms of industrial risks which led, in 2004, to an accident causing 23 deaths and 74 injuries at the Skikda liquefied natural gas complex. The industrialization process therefore also seems to have taken place under conditions, which did not take into account the issue of risk. The economic logic of industrial operators favors sites that are easy to develop, close to labor reservoirs and the facilities necessary for the operation of projects (water, electricity, raw materials). In addition, the priority given to industrialization took place in the absence of impact studies. This followed the "consumption" of large tracts of prime agricultural land and exploitation of the resources without any

integrated long-term planning. Finally, when choosing technological processes, few industrial units were equipped with security perimeters and emergency plans adapted to the urbanization situation existing near the facilities. In other words, the precautionary principle inherent in sustainable development never been taken into account (Boiral, 2004).

7. AIR POLLUTION AND NOISE IN LARGE CITIES

The air in large cities polluted as much by automobile traffic as by industrial air emissions. Since 1985, the number of motor vehicles has increased by around 5% (Boiral, 2004). In addition, the motorization rate in urban concentrations amounts to two vehicles for 18 people on average (Boutillier, 20112). The pollution generated by these vehicles results from the significant degree of obsolescence of the Algerian car fleet. The average age of vehicles was around 17.71 years at the start of the 2000s (Boiral, 2004), which implies high fuel consumption and high greenhouse gas emissions (Boiral, 2004). The strong emission of greenhouse gases is the consequence of poor vehicle fueling and other atmospheric emissions result, among other things, from the use of leaded fuel (Madani, 2015). This pollution explains the prevalence of respiratory diseases in large cities. However, there is no concrete and lasting action to prevent and fight against this pollution, with the exception of air quality control thanks to five measurement points in Algiers ("Pure Sky" project of the environmental services). Even the awareness-raising and legal action carried out by the association for the prevention and fight against pollution in Annaba against the FERTIAL complex did not lead to concrete action (Zegaoula and Khellaf, 2014). No practical measures to control noise in the city implemented by the authorities. However, the sources of noise in urban areas clearly identified road traffic, bandstands, and leisure activities such as open-air concerts. More particularly, the untimely use of audible alarms is becoming a real public health problem in all the cities and towns of the country (Rebah, 2005). Raising the population's awareness of the effects of noise on their health and their living environment would easily compensate for the underestimation of the consequences of noise pollution in urban areas.

8. FOREST RESOURCES AND DESERTIFICATION

Forest resources cover 4.1 million hectares, or 18.1% of the national territory. They are unevenly distributed between the north of the country (16.4%) and the arid regions (1.7%) (Mezali, 2003). Fires, parasitic diseases, environmental fragility and special socio-economic conditions (Ministry of Social Action and National Solidarity, 2001), threaten forests. The rampant desertification is swallowing up hundreds of hectares every year. Between 1955 and 1997, the area destroyed was 1,030,000 hectares, an average of 24,000 ha/year. In 42 years, the deforestation rate reached 21%. By 1997, 972,000 ha been replanted.

However, these reforestation efforts have not made it possible to compensate for all the damage (Benachenhou, 2005). There are many factors contributing to deforestation. Between 1985 and 1994, fires ha of forest cover destroyed 920,000. Overgrazing in the forest of 9,600,000 cattle, 600,000 goats and 4.2 million sheep is another cause of forest cover decline. Finally, direct clearing for cultivation of land has also contributed to reducing the total area of Algerian forest (Benachenhou, 2005). The consequences of deforestation estimated in 1998 at around 0.05% of GDP due to production losses of timber and other forest products (Prieto, 2009). The ecological losses associated with the loss of forests could not be assessed. However, it should be noted that in addition to its ecological interest, the forest represents the support of important economic activities and generates income following the exploitation and marketing of wood, cork, etc.

9. OTHER ENVIRONMENTAL PROBLEMS

Algeria's water resources are limited, vulnerable and unevenly distributed. In 80% of cases, domestic or industrial wastewater not treated before it discharged into the sea or into the wadis. Wastewater is of domestic origin for nearly 60% of total pollutant discharges, collective for 30% and industrial for 10% (Benachenhou, 2002). Moreover, industries hardly recycle the water consumed. In addition, they discharge their effluents directly into the natural environment, whether gaseous, liquid or solid. These releases are the source of triple chemical pollution of air, soil and both surface and groundwater (Benisad, 1979; Benachenhou, 1980; Barré, 1982; Ollivier, 1981; Desaignes, 1998). Algeria also has to deal with a proliferation of household waste (Benachenhou, 2005). However, their care is inadequate due to an inadequate collection system to which is added poor management of landfills. The latter are the source of numerous nuisances such as various annoyances and inconveniences, even dangers affecting the quality of life of the population and serious public health problems (Benachenhou, 2005). Biodiversity is also under severe pressure despite its initial richness. Soil resources are increasingly threatened. Despite a very large territory, Algeria has only 40 million ha that can support crops or plant cover. In addition, the useful agricultural area (UAA) which represented, at the beginning of the 1960s, 0.82 ha / inhabitant increased to 0.18 ha in 2010 (Benachenhou, 2005). According to forecasters, it is likely to decrease further to represent only 0.13 ha / inhabitant in 2025. This new reduction would be the consequence of the increase in urbanization, erosion, desertification and degradation of the plant cover (Ministry of Social Action and National Solidarity, 2001) combined with population growth. . Indeed, although the UAA increased slightly between 2007 and 2011, going from 8,424,760 to 8,445,490 ha (National Statistics Office, 2011), the UAA / population ratio remains low given the demographic growth. Fragile and limited in size, arable land is constantly degrading. Water erosion mainly affects the north of the country and

threatens 12 million hectares in mountainous areas, while wind erosion mainly affects arid and semi-arid areas. Nearly 500,000 hectares of arable land in steppe zones are in the process of total desertification and more than 7 million hectares directly threatened by the same phenomenon. Added to this are degradations resulting from human activity: inappropriate cultivation practices, urbanization of agricultural land and the use of archaic mining and quarrying techniques. These ecological problems have direct negative impacts, not only on activity and economic efficiency, but also on the health and quality of life of the population (Laidi, 2010).

10. THE SOLUTIONS

Despite the existence and persistence of environmental problems, we cannot ignore the efforts made in recent years, particularly in terms of building a legal framework that should make it possible to deal with all the problems. After the long slump in terms of ecological culture, the Algerian State initiated and then intensified its actions in the field of environmental protection and sustainable development, gradually giving more importance to ecological aspects in its economic choices. Thus, several specialized institutions created, including the High Council for the Environment and Sustainable Development, in 1994, and the Ministry of Regional Planning and the Environment, in 2000. The Law on Environmental Protection and Sustainable Development supplementing the 1983 Law promulgated in 2001. The National Action Plan for the Environment and Sustainable Development (PNAE), adopted in 2001, set the country's environmental objectives for the decade 2001-2010. Finally, several bodies been created to support objectives: the National Waste Agency in 2002, the National Center for the Development of Biological Resources in 2003, the National Center for Cleaner Production Technologies in 2002, the National Climate Change Agency in 2005 and the Energy Management Council in 2005. In addition, the objectives and policies now supported by a new ecological taxation based on the principle of the polluter pays. Elle s'est traduite au travers d'une revalorisation de la taxe sur les activités polluantes, de l'institution d'une taxe additive sur la pollution atmosphérique et de l'application de taxes incitatives pour le déstockage des déchets spéciaux et des déchets liés aux activités hospitalières (Djelal, 2012). L'ensemble de ces mesures et actions montre que l'État algérien souhaite accorder une place plus importante que par le passé aux aspects sociaux et écologiques lors de ses choix économiques. Il semble vouloir rompre avec la politique d'inaction qui a été de mise jusqu'à il y a peu. Les actions qu'il entend mener touchent différents domaines : Éducation et sensibilisation environnementales ; Conservation et économie de l'eau ; Conservation des sols et des forêts ; Préservation des écosystèmes sensibles (littoral, Sahara) ; Développement rural ; Amélioration du cadre de vie des citoyens ; Dépollution industrielle ; Protection du patrimoine archéologique, historique et culturel (Zegaoula, 2014).

11. CONCLUSION

From the foregoing analysis, it emerges that the nature and extent of the ecological problems show that the degradation of the Algerian environment has reached a worrying level of seriousness. The Algerian environmental crisis cannot be reduced to an economic crisis or to a conflict between economic growth and preservation of the environment in its primitive state. It is a crisis of the entire socio-economic and political texture of the country. The scale of the ecological problems closely linked to the process of industrial development in Algeria since its independence. Environmental problems seem to have their source in a complex set of the needs of the population, economic pressures, technical choices and political interests. As a result, we come to the conclusion that only an integrated approach to the management of natural capital could achieve maximum socio-economic and ecological benefits across time and space. In other words, the current model of economic development can no longer be continued without a price being taken into account of the risks it poses to the environment and to human beings. Development and the environment can no longer be seen as two antagonistic elements, but as complementary and inseparable from each other. Without development, Algeria will not be able to end poverty. However, development is doomed to failure if it is not based on solid environmental foundations (good use of scarce resources, clean technologies, etc.). Car, même si l'altération de l'environnement ne menaçait pas la vie de la génération actuelle, elle ne manquerait pas de porter atteinte à la qualité du cadre de vie et à la survie des générations futures par les pressions générées sur l'environnement et les stocks de ressources naturelles non renouvelables. Because, even if the alteration of the environment did not threaten the life of the current generation, it would undermine the quality of the living environment and the survival of future generations by the pressures generated on the environment. In addition, stocks of non-renewable natural resources. Scientific literature teaches us economic development is no longer thought of, today, independently of the environment and vice versa. Environment and development are two sides of the same coin. The environment is where people live and development is what humans do with their environment to improve their daily lives. The two are inseparable. There can be no preserved environment without economic development and no economic development without preservation of the environment. In other words, protecting the environment is saving money in the end run. Pursuing another path could prove to be risky. When the environment reaches a critical point, the entire economy could be thrown into this dynamic that sustainable development introduces the idea that development is inseparable from the preservation of the environment and that the development / environment pairing is not given, but must be built. Threatened. To do this, (Sachs, 1981) proposes the implementation of a strategy of harmonization of development and the environment would lead to the search for the right balance between the commercial aspect and the humanitarian aspect of development. Achieving this objective requires an intensification

of human training and research underpinned by the contribution of international cooperation. There is thus a need to promote the awakening of ecological awareness at all levels within the entire population. Ultimately, we believe that the objectives of environmental preservation and sustainable development in Algeria must be part of a process of economic reforms, with ecological transition accompanying economic transition. Even if the reforms undertaken by the State over the past ten years have gone in the right direction (institutional, legal, economic, social and technical arrangements for the management of natural resources), there is still some way to go. The task of anchoring the issue of sustainable development in behavior, at all levels of society must be continued, especially as other problems are looming on the horizon (risk of economic crisis, volatility in hydrocarbon prices , etc.) which can constitute as many obstacles to its realization.

REFERENCES

- Alier, J. M, N'B. Guerchouche, M. Baroudi and C.Tafforeau, (2012). The ecology of the poor, twenty years later: India, Mexico and Peru, *Ecology & politics*. 45(2): 93-116
- Barré, R. and Godet, M. (1982). Third World and the environment: mortgaged development, *Revue Tiers Monde*, 91: 507-515.DOI: 10.3406/third.1982.4140
- Benachenhou, A. (1980). *Planning and economic development in Algeria 1962-1980*, Ed. Commercial Printing, Algiers.
- Benachenhou, A. (2005). *The price of the future: sustainable development in Algeria*, Ed. Thotm, Paris.
- Benisad, M.E. (1979). *Economics of development in Algeria 1962-1978*, Ed. Office des Publications Universitaires, Algiers.
- Boiral, O., (2004). Environment and economy: an equivocal relationship, *VertigO — the electronic journal in environmental sciences*, 5(2): 30-46
- Bouteiller, J. and M. Fouquin. (2001). *The economic development of East Asia*, Ed. La Découverte, Paris.
- Boutillier, S. and D. Uzunidis. (2012). Schumpeter, Marx and Walras. Entrepreneur and the future of capitalism, *Revue Interventions économique* 46(3): 12-24
- Bugge, H.C. (1976). Industrial pollution : legal and administrative problems, Ed. PUF, Paris, 301p.
- Chignier, A. (2009). The industrial policies of contemporary Algeria, the bankrupt development of relations between the State and the apparatus of production in a developing economy. National Economy of the Arab World Seminar. University Lyon 2, Institute of Political Studies of Lyon, 87 p.
- De Bernis, G. D., (1971). Industrializing industries and Algerian options, *Revue Tiers Monde*, 12 (47): 545-563.
- Djelal, N. and L. Sidimoussa. (2009). Environmental and landscape dimension and Algerian spatial planning system, *Landscape Projects*, 2: 1-16. [Online] URL: http://www.projetsdepaysage.fr/fr/dimension_environnement_et_paysagere_et_systeme_de_pla_nification_spatial_algerien.
- Depraz, S., U. Cornec and U. Grabski-Kieron. (2016). Social acceptance and territorial development, ENS Éditions, Coll. "Societies, spaces, time", Lyon, 270 p. DOI: 10.4000/books.enseditions.5624

- Desaigues, B. and F. Bonnieux. (1998). *Economics and environmental policies*, Ed. Dalloz, Paris.
- Dumont, R. and M. F. Mottin. (1981). *Ill-development in Latin America — Mexico, Colombia, Brazil*, Ed. Threshold, Paris.
- Hugon, Ph. (2005). Environment and economic development: the challenges posed by sustainable development, *International and Strategic Review*, 60: 113-126. DOI: 10.3917/ris.060.0113
- Jarrige, F. and Th. Le Roux. (2017). *Contamination of the world. A history of pollution in the industrial age*, Ed. Seuil, Paris.
- Gérard, J., 1992, African leaders faced with the ecological crisis, *Revue Les Réalités de l'écologie*, 37 : 16-17.
- Laidi, A. (2010). *Western globalism has its limits in "L'Atlas des Mondialisations"*, Ed. La Vie/Le Monde, Special Edition, 4: 68-70.
- Leguay, J.P. (1999). *Pollution in the middle Ages*, Ed. Paperback, Paris, 127 p.
- Lewis, A., (1954). Economic Development with Unlimited Supplies of Labour, *Manchester School of Economic and Social Studies*, 23: 139-191.
- Madani, A. (2015). The social acceptance of mining projects in Algeria: Case of Ain Defla and Bejaia, *European Scientific Journal*, (11)3: 326-341.
- Mira, R. (2015). Institutions and political order in the Algerian model, Article presented at the 2015 Regulation Colloquium, Workshop: AT19 — The autonomy of politics put to the test by the analysis of capitalisms, University Paris 13, Working document N° 2017-11 CEPN Center in Economics from the University of Paris Nord (CEPN), CNRS UMR n° 7234.
- Ollivier, M. (1981). Industry in Algeria's development strategy, Review of the period 1967-1979. Perspectives du Plan 1980-1984, Directory of North Africa, National Center for Scientific Research; Center for Research and Studies on Mediterranean Societies (CRESM), Ed. of the CNRS, Paris, 459-487. [Online] URL: http://aan.mmsch.univ-aix.fr/volumes/1981/Pages/AAN-1981-20_57.aspx.
- Ouchichi, M. (2011). *The political obstacle to economic reforms in Algeria*, Doctoral thesis in Political Science, University Lumière Lyon 2.
- Prieto, M. and A. Slim. (2009). Valuation of environmental assets: what prices for what values? *Revue Management & Avenir*, 28(18).
- Rebah, M. (1999). *Forgotten ecology: environmental problems in Algeria on the eve of the year 2000*, Ed. Marinoor, Algiers.
- Rebah, M. (2005). *Ecological risks in Algeria*, Ed. APIC, Algiers.
- Ronneau, C. (2004). *Energy, air pollution and sustainable development*. Ed. Louvain University press, Louvain-La-Neuve
- Rostow, W.W. (1963). *The stages of economic growth*, Ed. Threshold, Paris.
- Sachs, I. (1981). *Eco-development strategies*, Ed. Economy and Humanism, Ed Ouvrières, Paris, 1980.
- Zegaoula W. and N. Khellaf. (2014). Assessment of the degree of pollution of liquid and atmospheric discharges from the FERTIAL Annaba complex (Algeria), *Larhyss*, 18(1): 77-91.