Environmental taxation, between economic growth and environmental security الجباية البيئية، بين تنمية اقتصادية و أمن بيئي

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abstract:

To be sustainable, development must be concerned with the economic dimension without forgetting the environmental dimension, so it must treat the environment in a way as to guarantee its security and preservation of renewable resources without exhausting non-renewable ones.

In order to give protection to the environment, legislations have agreed on the necessity to create environmental tax to be a means of pressure and incentive to achieve economic growth for the present and future generations.

Keywords: Development, Economy, Environment, Protection, Environmental tax.

Résumé:

Pour que le développement soit durable, il doit se préoccuper de la dimension économique sans négliger la dimension environnementale, car il doit traiter l'environnement de manière à garantir sa sécurité et la préservation des ressources renouvelables sans épuiser celles non renouvelables.

Afin de protéger l'environnement, les législations se sont mis d'accord sur la nécessité de créer une fiscalité environnementale pour être un moyen de répression et d'incitation pour réaliser une croissance économique au profit des présentes et futures générations.

Mots clés: Développement; économie; environnement; sécurité; fiscalité environnementale.

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Introduction:

Economic establishments, regardless of the nature of their activities, seek to achieve economic performance aimed at maximizing their profits, but this result in a set of negative effects on the environment in terms of pollution and depletion of natural resources.

In light of the changes occurring in global concerns and the vision of policy makers and managers on how to achieve growth and launch economies, and with the human awareness of the need to guarantee the conditions of a healthy life, the protection of the environment has become a major concern.

And among the economic tools put in place to protect the environment against the damage of classified establishments, there is the environmental taxation that protects it on the one hand and supports economic development on the other, and all of this contributes to sustainable development that focuses on economic and environmental dimensions.

So how could environmental taxation contribute to environmental protection along with its economic role?

To address this issue, the following points will be addressed:

What is sustainable development?

What is an environmental tax?

Among other things, we will look at the economic and environmental dimensions and priorities.

I. Economic and environmental priority for the sustainable development.

Sustainable development has its roots in many areas such as the economy, the environment, technology, culture and social affairs.

I-1. The concept of sustainable development.

The problem is not the lack of a definition of sustainable development, but rather the multiplicity and diversity of definitions and its broad, multidimensional concept.

I-1.1. Definition of sustainable development.

It is a true development with the ability to continue and communicate from the point of view of its use of natural resources, which can take place through a strategy taking the environmental balance as a regularization axis in a social and environmental framework, aimed at improving the lives of individuals through political systems, economic, social and cultural considerations that maintain the integrity of the environmental framework¹. In the report of the International Committee on environment and development for 1987 known as the "Brundtland" report, where it defined sustainable development as one that meets the needs of the current generation without undermining the ability of future generations to meet their needs².

The report on natural resources said that development to be sustainable must not ignore environmental pressures, and does not lead to the destruction and depletion of natural resources, encouraging changes in the current industrial and technological base³.

The United Nations Development and Environment Programme defines sustainable development as: Development that meets the needs and requirements of current generations without compromising the ability of future generations to meet their needs⁴.

It can also be defined according to different criteria and dimensions, namely the environmental and economic plan:

✓ On the economic front: the sustainable development of industrialized countries means a reduction in energy consumption and natural resources. As for developing countries, this means optimal use of available resources to raise living standards, reduce poverty and underdevelopment⁵.

 \checkmark On the environmental level: it means giving importance to natural resources and their optimal use to increase production and protect the environment from pollution from economic activities.

Sustainable development has several characteristics:

- Sustainable development differs from development in that it is more intrusive and complicated, particularly as regards all natural and social aspects of development.

- The elements of sustainable development cannot be separated from each other because of the strong relationship between its dimensions and the quantitative and qualitative elements⁶.

- Time factor is the basis of sustainable development, a long term dependent on a potential of the present to predict the longest possible future period.

- Its priority is to meet the basic and necessary needs of individuals in terms of food, clothing, education and health services, and all that concerns the improvement of the quality of human life, materially and socially.

- Maintain the biosphere in the natural environment, including basic elements such as air, water and soil, and do not deplete natural resources.

-Integrated development based on coordination between the disadvantages of resource use and investment trends and technological choices, and make them all work in harmony within the environmental system in a way that preserves them and achieves continuous development at best⁷.

I-1.2.The economic and environmental dimensions of sustainable development.

Sustainable development has several dimensions, it is based on the environmental, economic, social and technological side, these dimensions are linked to each other and cannot be treated separately when they are in an interactive setting, organized and streamlined for the same purpose.

It should be noted that the most important of these dimensions are the economy and the environment on which all development is based.

a- The economic dimension: Sustainability takes care of continuity by generating a high income that allows a portion of it to be reinvested to allow for the replacement, renewal and maintenance of resources, as well as the production of goods and services on an ongoing basis and maintains a certain level of balance that includes the following: sustainable economic growth, capital efficiency, economic justice, and meeting basic needs.

The most important elements taken into account in the economic dimension can be summarized as follows:⁸

- The share of individual consumption of natural resources.

- Equity in the allocation of resources.
- The non-waste of primary resources and their rational and efficient use.
- reducing the dependence of countries.

- reducing income disparities and combating poverty.

The economic dimension therefore revolves around the achievement of growth and efficiency in the exploitation of resources. Growth leads to an improvement in the standard of living. As for efficiency, it aims to make good use of available resources by achieving the greatest production with least cost.

b- The environmental dimension: The environment must be treated in such a way as to ensure its safety and the preservation of renewable resources without depleting non-renewable resources. Environmental balance is a control axis of natural resources aimed at raising the standard of living in all its aspects and organizing environmental resources so that they are an essential part of any development activity so that they influence development trends and the choice of its activities and project sites to ensure the preservation of environmental safety. We cite the most important elements of the environmental dimension:

- Take an interest in environmental issues, and among the interesting issues at present, the problem of pollution in its various forms, desertification,... etc.

- Protecting nature by adopting appropriate practices and technologies.

- Mitigate global warming; avoid imbalances that would destroy the earth.

- Preserving biodiversity, the wealth of land for future generations.

- Rationalize the consumption and exploitation of non-renewable natural resources and seek to ensure the availability of renewable resources.⁹

I-2.Priorities of sustainable development.

I-2.1. The idea of environmental and economic priority.

It is believed that the living world must be sustainable, where techniques and growth that harm the environment must be avoided, economists call for more attention to environmental and ethical aspects. Several theories have emerged in this regard, including:

- GAYA theory: Nature has a priority more than man, which is only a part of it, so nature was created to preserve itself and not to meet the needs of present generations, and ecological standards are the only ones that manage the relationship between the environment and society without taking economic and social aspects into account.¹⁰ What is wrong with this theory is its absolute focus on nature as opposed to the disregard of other aspects, in particular the human being and his economic activity.

- Theory of the rights of inhuman beings: This theory, like its predecessor, assumes the priority of nature over man, Aldiolopold and some Anglo-Saxon movements have promoted this principle and made it more popular in the United States and Germany.¹¹ It has the same thing that affected the previous theory, because it exaggerated interest in nature to the detriment of man and his vital and economic activities.

- The American conservative movement: according to the doctrines of this movement, economic growth is surrounded by a set of unavoidable natural constraints even with technological advances and the rapid acceleration of the use of non-renewable natural resources is a major threat to the rights of future generations.¹² This theory was the closest to the logic of optimal exploitation, taking into account all rights and the safety of the environment.

- Theory of the limits of the growth of the Rom club: This theory is based on the following elements:

- While current trends in population growth, food production, industrialization and the depletion of non-renewable natural resources remain unchanged, maximum growth limits on the planet will be reached in the next 100 years.

- This dangerous result can be avoided by finding an environmental balance and economic stability, so planning for an overall balance must be launched as soon as possible. - Countries need to replace the growth objective that fascinates them with that of balance in the use of natural resources, in particular exhaustible resources, and this will only be achieved by setting "growth limits".¹³

Environmental economists have drawn the attention of traditional economists to the value of preserving environmental assets. In this regard, several theories have emerged:

- The theory of market change: There are certain external factors in the market which may affect in some way the performance of economic operators, and thus the "external economy". And from there, it is imperative to consider natural resources in the economic process and treat them as strong factors, which requires market change.¹⁴ The environment is the origin of primary resources for development, depleting or damaging them imposes important figures in the equation of sustainable development.

- Exhaustible Resource Theory: Hotelling makes a theoretical model based on how to efficiently use exhaustible natural resources and maximize their long-term profit. He was the first to point out the characteristics of exhaustible resources and the need to take them into account when determining their prices.¹⁵ So, non-renewable natural resources mustn't be exhausted as well as the rational use of renewable resources

- The theory of total economic value: The exploitation of the environment is carried out by assessing damage using methods of financial evaluation of the resulting effects, where changes and damage in natural areas are observed, For example, the cost of crop yield regression due to soil erosion nutrient degradation is calculated.¹⁶ Economists can calculate and assess the damage resulting from low crop yields caused by certain factors such as air pollution.

I-2.2. Economic growth and environmental degradation.

The weaker for the economic situation, the more neglected for the environmental situation of a society. The more society improves, the more its consumption increases and, consequently, the over-consumption of resources, resulting in an increase in the volume of discharges and waste and the depletion of natural resources.

The deterioration of the environmental situation imposes additional burdens on the economy in a proportionately increasing manner, as the cost of treating pollution increases with its duration.

a- The classical economy (without environment's dimension): In the concept of classical economy, the production process is limited to selling goods and services, and then redistributing income over production elements, without taking into account indirect factors.¹⁷

The extraction of raw materials from their source means a reduction of all the economic capacities, in addition to the fact that the extraction process itself can be accompanied by problems such as environmental pollution.

Gross national product is considered to be an indicator for measuring the performance of therefore does not take into account the environmental pollution that accompanies the production process which can adversely affect the level of production and the health of individuals, whereas the costs of pollution control and health cover for the cases concerned are positive contributions to the gross national product. Because these costs are positive inputs for all activities of its health or service units.¹⁸

b- The environmental economy: Environmental economics is a branch of the economy that deals with the optimal distribution of natural resources provided by the environment to the human development process.

Most human economic activities are related to the environment, which provides all kinds of resources and also acts as a landfill where all our waste is dumped. To achieve economic growth, it is necessary to value the importance of the products and services that environmental systems provide us to maintain the sustainability of resources and energy without affecting the balance of the natural environment¹⁹.

In parallel with purely economic indicators, the environmental economy addresses two problems, the first is the external environmental impacts and the second is the good management of natural resources, that is, the optimal distribution of non-renewable resources among generations. Environmental capital is characterized by its permanent disappearance in case of its destruction, unlike artificial capital, which can be restored after its destruction. One of the challenges for decision-makers is to understand how to use resources more efficiently in order to achieve desired goals and also to take into account issues such as conservation and valuation of natural resources, pollution control, waste management, emission standards, etc.²⁰

Finally, it can be said that the economic dimension and the environmental dimension are strongly linked, they are complementary and use each other and are shared in the service of sustainable development. The trend in countries' economies has recently shifted from a profit-only approach to an association with an environmental dimension. In addition to maximizing profit, it must meet other criteria like environmental protection.

II. Environmental taxation as an environmental protection tool against classified establishments.

II-1.The concept of environmental taxation.

The first economic studies of the concept of the environmental tax come from the economist Arthur Cecil Pigou in his book «The Economy of Welfare», in which he deals with the external influence of production or consumption.²¹

The environmental tax system was first applied in the U.S.A in 1967 under the name "Tax Expenditure". This system aims to partially or completely exempt the payment of environmental taxes if the polluting establishments comply with the measures related to the fight against pollution²².

In Algeria, ecological taxation went through two phases, the first in 1992, when the first tax was imposed on polluting or dangerous activities on the environment. As for the second phase, returns to the 2002 finance law which has undergone a severe regime to impose these taxes.²³

It is defined as all tax measures that have an impact on the environment, and these measures include taxes²⁴.

The definition of environmental taxation is based on three approaches:

- **Objective approach**: Taxation is considered to be environmental if it includes any procedure by which the legislator aims to improve the environmental situation, provided that this procedure is set out in legal texts.

- **Behavioural approach**: Each tax procedure generates an economic incentive to improve the environment and reduce pollution, is considered an environmental tax procedure.

- The product-based or pollution-based approach targets through the procedure: Under this approach, any tax procedure whose basis has an impact on the environment is considered an environmental tax procedure.

II-1.1. The legal basis for environmental taxation.

Environmental taxation is based on two important principles: the polluter pays principle and the purifier principle.

a-The polluter pays principle: The polluter pays principle is regarded as one of the economic mechanisms for protecting the environment against damage caused by activities, in particular those of an industrial nature, and more particularly those carried out by classified establishments witch presents more serious dangers.

This concept was first incorporated in 1972 by the Organisation for Economic Co-operation and Development O.C.D.E, according to which the polluter must bear the cost of implementing the monitoring and control procedures laid down by the public authorities for an acceptable environment.²⁵ The polluter pays principle is a principle that lies behind legal provisions, and that the costs incurred to prevent, reduce or clean up or other are the responsibility of all responsible.

In 2003, the polluter pays principle was introduced into Algerian law N°03-10 on the protection of the environment in the context of sustainable development²⁶, it's 03^{rd} Article defines it in the seventh paragraph as: "that any person whose activities cause or are likely to cause harm to the environment shall bear the costs of all pollution prevention, pollution reduction or restoration of the premises and their environment".

b-The purifier principle: Anyone who complies with environmental rules will have benefits such as exemption or financial premiums, according to Land Use Planning and Sustainable Development Law N°01-20²⁷, and especially art. 57 which states:

In order to ensure the development of spaces, territories and environments to be promoted, in accordance with the approved land use planning instruments, incentives are defined in the framework of the finance laws. In addition, under the legal provisions in force, financial aid and subsidies may be granted:

- Support for integrated development programmes.

- The promotion of public and private development initiatives.

- The creation, extension and conversion of activities.

- The hosting of delocalized activities.

- The promotion of development engineering.

II-1.2. Elements and objectives of environmental taxation.

a- The elements of environmental taxation: Environmental taxation includes the various taxes the state imposes on polluting natural and legal persons. In addition, environmental taxation may include various tax exemptions and incentives for legal and natural persons who use green technologies in their economic activities.

- Taxes: aggregate, taxes imposed on polluters that cause environmental damage through their various economic activities resulting from their polluted or polluting products, and their use of production technologies harmful to the environment.

The rate of these taxes shall be determined on the basis of an estimate of the quantity and degree of danger of harmful emissions to the environment. This tax is named after the economist Pigou (Pigouvian taxes).²⁸

- Fees: Taking into account the special services provided by the State in which disinfection and environmental safety techniques are used, they impose special charges on beneficiaries which only appear when they benefit directly from its services (disinfection or cleaning taxes, drinking water use taxes,..).

- Incentives and exemptions: The tax system is not only taxes, but instead there are tax incentives and exemptions that can have a positive impact on

the adoption of environmentally friendly industries and economic activities.²⁹ Exemptions and incentives take the following forms:³⁰

- Permanent exemption: applies to taxes and levies on various economic activities and this is to distinguish between polluting and proenvironmental economic activities.

- Temporary exemption: for a limited period, starting, for example, from the establishment's first five years of activity, to motivate and compensate it in order to acquire expensive technologies. In addition to help it to produce services those are more competitive with the polluting technologies.

- Tax incentives: imported pro-environmental equipment and equipment are exempt from taxes, customs duties and various other taxes in order to motivate the establishment to import pro-environmental technologies. This can help broaden the circle of these activities.

b- The objectives of environmental taxation: Environmental taxation has a set of objectives:³¹

- Contribute to the elimination of pollution through environmental taxation through its deterrents including taxes, fines and incentives.

- Correct market failures.

- Finding new financial sources to eliminate waste and reduce pollution.

- Ensuring a healthy environment for all people, this is in various legislations.

- Instilling a culture of environmental protection in society.

- To achieve environmental and economic efficiency, since high pollution taxes lead the taxpayer to a tendency to reduce pollution and thus to a reduction in product costs, which in the medium term leads to lower prices.

- Motivate and encourage people not to store hazardous industrial waste.

- Reduce environmentally harmful and polluting activities, as this has become very expensive for the state budget, and this is because of the exorbitant expenses paid to reduce the harmful effects of these activities.

- To encourage technological development and scientific research as regards the mechanisms and means of reducing pollution, particularly in the most polluting industrial enterprises (classified establishments).

- Contributing to the concept of sustainable development, some experts consider environmental taxes as «sustainable development taxation».

In order to protect environment, many taxes and fees are fixed by the legislator in many laws like the executive decree N° 09-336 of 20.10.2009 relating to the tax on activities polluting or dangerous for the environment³², finance law and direct tax law.

There are many taxes and fees in different sector to protect environment, we can cite:³³

- Tax on polluting or dangerous activities for the environment TAPD.
- Climate pollution tax.
 - Petroleum product tax.
 - Fuel tax.
 - Rubber tire tax.
 - Oil tax and grease preparation.
 - Special tax on plastic bags.
- Encouraging tax for the non-storage of waste.
 - Tax for non-storage of industrial waste.
 - Tax for the non-storage of waste related to treatment activities in hospitals and medical clinics.
- Additional taxes.
 - Additional tax for industrial wastewater.
 - Additional tax on industrial air pollution.

Doctor Mesdour says that taxes are divided into two parts:³⁴

- Output tax: It is a value or quality tax, imposed on production units that pollute the environment and cause social damage, knowing that the objective of this tax is to reduce the level of pollutants to socially accepted minimum levels.
- Emission tax: It imposes itself on the rejections of the productive activity of economic units, it also plays the role of market price for the cost of the results of pollution, and therefore it targets the negative effects resulting from projects which pollute the environment.

II-2. Environmental taxation of classified establishments:

In order to clarify the situation, it was considered useful to give some figures. The following tables cite examples in Algeria.

Taxation's apparent function is to generate revenue for public treasury, create richness.

Tax	Price				
		Assignment			
	The tax amount is				
-		determine the coefficients as a			
pollution of an		function of the emission rate			
industrial nature	(TAPD)	exceeding the maximum limits (the			
Item: 205	Multiplier from 1	polluter pays principle).			
	to 5	Income is distributed:			
	For quantities	10% for municipalities.			
	issued which	15% for the public treasury.			
	exceed the limited	75% for FEDEP			
	values.				
Tax on polluting	01 da / L of	. Finance Law of 2002.			
fuel		Gradual promotion of unleaded			
Item: 38	leaded petrol	petrol.			
	-	Income is distributed:			
		50% for the National Roads and			
		Motorways Fund.			
		50% to the National Environment			
		Fund.			
Additional tax	calculated in the	- Finance Law of 2003			
		Les revenus sont répartis:			
wastewater	•	30% pour les municipalités.			
		20% pour le budget de l'État.			
		50% pour le Fonds National.			
	pollution	pour l'Environnement			
	Politicion	Pour i Environnement			

Table 1. Industrial activity taxes and fuel tax.

Source: Katoosh Ashour, Azouz Ali, Effectiveness of fiscal instruments to reduce the problems of environmental pollution, fifth National Forum entitled: Environmental economics and sustainable development, Faculty of economics, trade and sciences management, University of Skikda, October21-22, 2008, edition01, 2010, p194.

It is clear that the revenues from industrial activity taxes and fuel taxes contribute significantly to the revenues of the environment funds and at the same time support the state and municipal budgets with variable proportions of 10 % to 20%, which means that these taxes have a positive impact on the environmental by a real protection against pollution and other risks, and economic level by a considerable growth.

II-2.1. Taxes on classified establishments.

Classified establishments are the most concerned by taxes to protect environment.

Table 2. Amounts	of the annual	tax on	nolluting activ	vities
Labie 2. Amounts	of the annual	tax un	ponuting acti	vittes.

Classification	Class. establishments employing < 02	Class. establishments employing > 02
Establishments subject to authorization by the Environment Minister		120000
Establishments subject to the authorization of the territorially competent	18000	90000
Establishments subject to the authorization of the of the competent P/A.P.C		20000
Establishments subject to declaration	2000	9000

Source: Katoosh Ashour, Azouz Ali, op-cit, p.192.

Classified establishments are considered a source of permanent environmental risk, but the legislator has subjected them to a number of economic prevention mechanisms, by imposing taxes on their activities which vary according to the levels of authorization or class, reaching up to 120,000 dinars for classified establishments which hire more than two people and are subject to the authorization of the Minister. With the number of establishments classified in Algeria, and with this significant amount, significant sums can be collected for the benefit of the public treasury and making the environment more secure by preventives methods and ovoiding problems or repairing methods.

Year	Tax base
2010	35917000
2011	56943000
2012	42707000
2013	38854000
2014	29917000

Table 3. Tax on polluting or dangerous activities of M'sila.

Source: Said Zenat, the role of environmental taxes in the orientation of environmental behavior of the economic establishment in Algeria, magister thesis in management sciences, University of Mohamed Boudiaf, M'sila, 2016, p130.

Environmental taxation is very important, here is a table which shows the tax base linked only to polluting or dangerous activities for a single wilaya which is M'sila, we note that the base only for this tax reached the amount of 56 943 000 dinars in 2011.

II-2.2. Environmental taxation to reduce costs.

Certainly, taxation is an important income thanks to the taxes and levies collected, but it should not be missed that environmental taxation avoids wasting money to repair the damage resulting from the violation of environmental standards.

Below, the table shows the amount paid to repair the environmental damage and to rehabilitate what was damaged in a simple example.

Table 4. The cost of treatment in the Algiers region.(Unit : millionDA)

Operation	2005	2006	2007	Cost
Littoral preparation program		1200	900	2100
Combating industrial pollution for Wadi El Harrach	350	1000	1000	2350
Elimination of Askarels transformers			680	680
Eliminate stocks of obsolete pesticides			200	200
Eliminate stocks of expired pharmaceutical product			350	350
Dispose of special waste containing cyanuric salt			70	70
Rehabilitation of the Wad Samar landfill	400	400	400	1200
Exploit the Agueilli Island Nature Reserve		07	03	10
Determination of the Dal Al Qadus hills		06	04	10
Install a network for monitoring important species		06	02	08
and the erosion of the coasts				
Cleaning and restoration of the valleys			200	200
Reforestation, creation of nurseries, fencing,	40	230	230	500
The development of the port of djemila (Algiers)	900			900
Establishment of environmental observation network	-	15	05	20
Beach developing		600	400	1000
TOTAL	1690	3464	4444	9598

Source: Salmi Rashid, The impact of environmental pollution on economic development in Algeria, thesis submitted under the conditions for obtaining a doctorate in economic sciences, University of Algeria, 2006, p.230.

By a simple reading of the data in the table, we note the significant expenditures for environmental reform, which harm the economy, both micro and macro, where we note costs amounting to 9598 million DA, a very important. In addition, the problem is two-fold, environmental and economic, which confirms the interdependence of the environmental and economic dimensions.

Conclusion:

We conclude that there can be no sustainable development without economic growth in the context of real environmental protection, and that development is based on the interrelation between the environment and the economy.

In order to achieve global sustainable development, it is necessary to reconcile the economic and environmental dimension, through environmental taxation which has largely succeeded in reducing the severity of pollution on the one hand and supporting the public budget. on the other hand, either as a punitive or incentive for the benefit of the classified establishments concerned.

This makes it an effective tool in sustainable development, to the point where it is considered the taxation of sustainable development.

Among recommendations, we can mention:

- Activate environmental taxation according to real political will.

- Reassess taxes and reach them to their highest level to protect the environment and the economy.

- Control environmental funds.

- Enlarge the scope of environmental taxation to include any activity, as small as possible.

- More importance should be agreed to incentive taxation.

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