

Environmental economics and sustainable development: a conceptual approach

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Abstract:

the research reveals two basic dimensions that resulted in administrative economic literature: the environmental economics and sustainable development, and in this paper, we tried to define the most important milestones of the environmental economy by touching on the relationship between economics and environment, where it is considered a milestone or a broad window in the philosophy of economic thought.

We also pointed to the economic costs of environmental problems and the requirements of the transformation of the green economy by reviewing government policies and paying more attention to rural development and other requirements. Then we discussed the effects of efforts to ensure the environment on economic growth, but in the end, we touched on environmental management systems and their role in sustainable development. Finally, we concluded the most important findings and recommendations.

Keywords: environmental economics, green economy, environmental management systems.

Jel classification codes: XN1, XN2.

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1. INTRODUCTION

Since the beginning of the modern administrative renaissance in the post-industrial era, many studies have been based on the idea of studying environmental economics, especially its implications at the macro level.

Today, many statistics and data have become clear that the environment problem is one of the most important issues on the international scene, whether the causes and effects of pollution are raised at the macro level of countries, or at the individual level of each country separately.

1.1 The problem of the study:

The research is based on a real problem that stipulates that the requirements for the transition to a green economy have many conditions and controls in order to be achieved on the ground, and the most important challenges facing countries and organizations must be presented to reach the highest level of development that takes into account the protection of the environment.

The main research problem shows us: "What is the relationship of environmental economics to sustainable development?"

1.2 Objectives of the study:

- This study aims to find out the true relationship between the economy and the environment, and the level of study of environmental economics in whole or in part.
- Knowing the total economic costs of environmental problems;
- Determine the most important requirements for the transition to a green economy.

1.3 Methodology of the study:

The research relied on two approaches:

- Deductive approach: based on logical reasoning and linking causes to outcomes;
- Inductive approach: by collecting data and information and analyzing it.

1.4 Structure search:

The research is divided into the following axes:

- INTRODUCTION
- What is the environment.
- the economic costs of environmental problems and the requirements of the transformation of the green economy:
- the effects of efforts to ensure the environment on economic growth.
- environmental management systems and their role in sustainable development.

2. What is the environment

2.1 the definition of environmental economics (green economy)

2.1.1 Definition of the environment:

The environment is defined as the total external conditions that affect the life, growth and survival of the organism. It is known that the natural environment depends on three main elements: air, water and the ground, and it is considered one of the essentials of life, and the ecosystem is characterized by a balance between its elements and the ecosystem can maintain this balance, but within certain limits that are affected.

The industrial revolution was accompanied by developments in various areas of life, the use of machinery, and the manufacture of chemicals as a result of increased human activity, all of which led to an imbalance in the environmental balance, which resulted in the emergence of many environmental damages (Atard Khalil, Shaimaa Farid, 2003, p. 2.) Environmental damage is an unexpected or planned event exit To him, by external action, that is, it is assumed that there is a direct cause that caused the damage. In economic terms, negative changes related to the natural environment are expressed as a result of human activity, whether it occurs directly or indirectly (Marcellin Slimba Ngabi, 2006, p18). By defining the concept of damage, its importance appears within the environment economy, because it helps in determining the monetary measurement of environmental damage, in the sense that it is possible to calculate the financial cost resulting from such damage.

2.1.2 The concept of environmental economics:

The concept of environmental economics is defined as the effect of the economy and the importance of the environment to the economy and the appropriate way to manage economic activity in a way that achieves a balance between environmental and economic goals and other social goals. Work, development economics, international finance, money economics, environmental economics ... This field includes incorporating concepts from other branches of economics (public finance for example) and applying them to environmental problems (Moussa Abdel Nasser & al, 2015, p. 4.)

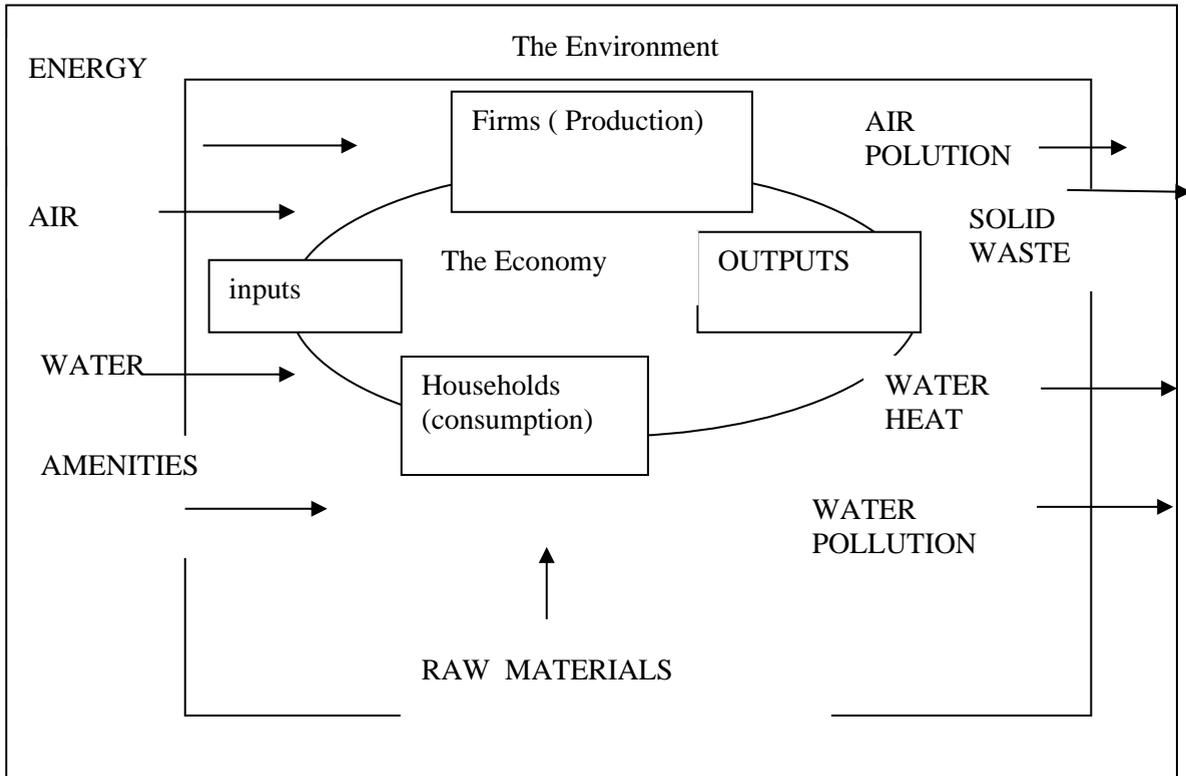
Environmental economics is defined as: "A science that measures various environmental scales, theoretical, analytical and accounting aspects of economic life, and aims to preserve environmental balances that guarantee sustainable growth. It is also called a green economy" (Ibrahim Atari, June 6-7, 2006.)

Environmental economics views economic growth as an increase in the material dimensions of the economy, and production must be seen as the transformation of materials using energy and other factors such as capital and labor with waste as a byproduct that cannot be avoided (Donato Romano, 2003, p. 79)

2.2. Economy and environment relationship

The environment is seen in economics as the property that provides a set of services, it is a very special asset as it provides life systems that guarantee our survival not alive, and the environment provides the economy with raw materials that turn into consumer products through the production process and the energy that feeds the process the shift. In general, these raw materials and energy are returned to the environment in the form of waste (Donato Romano, 2003, p. 45)

Fig.1. The overlap between the economy and the environment



Source: (Donato Romano, 2003, p. 45)

2.3 Environmental economics study levels

Environmental economics is characterized by two levels: (Moussa Abdel Nasser & al, 2015, p. 4.)

Partial level: It relates to the sectors of institutions and families, i.e. the producer and the consumer, and the environmental economy is characterized according to this level as:

Part of the institution's economy and is concerned with analyzing the corporation's relationship with the natural environment and the qualitative development of the surrounding environment, as well as the impact of environmental policies on the corporation. Socializing in an enterprise means making it a special cost.

As for whatever micro-environmental economics is at this level, it can be summarized in:

- Study and analyze environmental protection measures on the institution and its goals;
- Contribute to directing production as required by environmental directives, instructions and regulations;
- Study of environmental investments that reduce pollution risks;
- Giving information about environmental protection costs and investment expenditures, the impact of environmental protection on profit and loss accounts and environmental feasibility analysis of projects.

- **Macro level:** addresses the problems of the environment at the level of the economy as a whole, and one of its goals is to reach higher levels of sustainable social welfare, which takes into account the preservation of the quality of the environment at the highest levels.

Issues addressed by the macroeconomic environment:

- Physical and monetary evaluation of environmental damage, as well as an evaluation of environmental improvement resulting from environmental policy in government and private activities;
- To define and study the link between the environment and macroeconomic goals, as well as the links between economic and environmental policies;
- Determining and studying the existing relationships between the state's fiscal policy and the environmental policy.

3. the economic costs of environmental problems and the requirements of the transformation of the green economy

3.1 The economic costs of environmental problems and their types

3.1.1 The concept of environmental costs:

Defined by the Environmental Protection Agency in the United States of America as the monetary and moral effects caused by the institution as a result of activities that directly affect the environment, and these expenses include both traditional (explicit) costs and potential implicit costs, and less tangible costs " (Usepa , 2000,p3.)

It also means expenses and cash obligations spent on all that would lead to the preservation of the ecosystem of equipment and others, and what proves

the institutions' commitment to standards for environmental protection and improvement (Asmaa Abdel Qader Taher, 2010, p. 58.)

3.1.2. Types of environmental costs:

The causes are primarily due to excessive environmental damage due to two main reasons, one related to market failure, and the other related to policy failure, and this failure reflects the occurrence of excessive consumption or excessive consumption of environmental assets, which creates a potential serious threat to the ability of local or even global ecosystems to continue. These environmental problems are exacerbated by the enormous environmental costs, which we summarize in the following manifestations:(Talaat Al-Demerdash, 2006, p. 398).

- Costs of degradation of the quality of the environment: they appear through a marked decrease in the productivity of agricultural lands, the inability to absorb waste from human activities, and the excessive use of resources.
- The costs of environmental imbalance: It appears through the decrease in numbers of local organisms and the extinction of some of them, as it leads to an imbalance between the environmental footprint and the available biological capacity, and the relationship between the two concepts, can be observed through the following relationship.

Ecological footprint - biological capacity = environmental deficit.

whereas:

Biological capacity = area x biological production capacity.

And

Ecological footprint = number of people x consumption per person
x density of resources and waste

In the natural case, the biological capacity must be equal to the environmental footprint in order to maintain balance, and in the case of increasing the environmental footprint over the available biological capacity, there is a deficiency in the natural resources of this country.

- **Environmental pollution costs:**

By investing huge funds in pollution control equipment, or by making economic sacrifices such as reducing the level of economic activities in order to maintain a very low level of pollution. As for the costs incurred by the government, they are the costs of constructing water purification and treatment plants, and the overheads for implementing environmental laws through environmental monitoring and conservation agencies.

3.2 Requirements for the transition to a green economy

There has become a distinction in theories of economic development between development that takes into account environmental aspects and is known as green, continuous or sustainable development, and between pure economic development that does not take into account the environmental dimension and which has become the subject of criticism from all circles and global economic institutions¹ As the concept of green economy is considered a modern concept that has appeared on the scene during the past few years, this idea was discussed in the context of sustainable development and poverty reduction, and it is defined as the economy in which there is a small percentage of carbon and resources are used efficiently. Also, growth in income and employment comes Through public and private investments that reduce carbon emissions and pollution, while enhancing resource and energy efficiency, and preventing biodiversity loss, this can only be achieved through reform of policies and legislation regulating this(Muhammad Abd Rabbo, 2000, p. 62)

3.2.1 The transition to a green economy:

The transition to green development is not an immediate event that can be decided by a single decision that can be taken at a high level, but rather a long and arduous process, directed by a political view from the top to the base and public participation from the base to the top, this approach gives a

shift in the political and social legitimacy required to ensure the mobilization of efforts on Large scale to make this transformation a reality.

A comprehensive shift to a green economy would achieve a higher per capita income compared to its counterpart under current economic models while reducing the footprint by approximately 5.0 percent during the year 2050, compared to the usual business approach (Nagwa Gamal El-Din, 2017, p. 3.)

3.2.2 Requirements for the transition to a green economy:

- reviewing and redesigning government policies to stimulate shifts in production, consumption and investment patterns;
- Paying attention to rural development in order to reduce rural poverty while increasing resources;
- Pay attention to the water sector, control its use and rationalization, and prevent pollution;
- Work on sustainable energy investments and energy efficiency measures;
- Developing low-carbon strategies for industrial development and adopting more efficient production technologies in new factories;
- Support to the mass transit sector.
- Adopting mixed-use land classification and development systems and adopting environmental standards in construction;
- Address the problem of municipal solid waste and invest it in what is beneficial and environmentally friendly.

3.3. Challenges of transformation and transition

- They can be summarized as follows:
- Lack of tight planning in the area of development policies;
- The spread of unemployment among many segments, particularly the youth, and the shifting of jobs from other sectors, "an increase in jobs in certain sectors, offset by a decrease in the number of jobs in other sectors, especially in the transitional period;
- The possibility of green protectionism and additional technical barriers to trade.

- Poverty still affects nearly 70 million people in the Arab world, including the lack of more than forty-five Arab minimum health services and clean water and the lack of efficient use of fresh water and energy sources and investment in the Green Economy Organization and its technologies and management.
- a costly option that may not result in spontaneous and equal winning at the economic and environmental levels, and this may be at the expense of achieving other development goals;
- The high cost of environmental degradation in the Arab countries, which amounts to ninety-five billion dollars annually, equivalent to five percent of the total GDP for the year 2010 (Ayed Radhi Khanfar, 2014, p. 55)

4. the effects of efforts to ensure the environment on economic growth

The problem of the environment and its lack of protection are among the reasons that limit future economic growth, through its negative impact on the productivity of agricultural lands, on human health, and raising health costs and destroying infrastructure under pain of natural disasters. In the future, or what is called sustainable development, the process of protecting the environment also requires large financial resources, especially if the degree of sustainable development and the permanent standard of living of the population are raised. Finally, at the limits of economic growth, the vicious circle is completed and the process of protecting the environment faltered again.

- The situation of developing countries with a lack of financial resources clearly shows the state of the dialectic between the environmental and growth requirements. That is why, since the beginning of the international community's interest in the issue of the environment, the United Nations issued a resolution in December 1968, in which the developed countries were taken to Assist developing countries to solve their environmental problems. At the first United Nations Environmental Conference in Stockholm in 1972, developing countries emphasized the following :(Ayed Radhi Khanfar, 2014, p. 55)

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- A. priority of development in view of the economic situation of developing countries;
- B. Caring for the environment should not be at the expense of development from the point of view of expenditures
- C. The developed countries should contribute the largest share of the costs of environmental protection, due to the fact that they cause a lot of environmental damage due to industrial processes and the negative effects of technology;

On the basis of this basis, little by little has grown the belief that the relationship between the environment and economic growth is that the efforts to protect the environment must not be costly and at the expense of the requirements of economic growth conditions and development that are the primary goal of developing countries in particular in order to achieve the economic and social welfare of their people.

From this point of view, it can be said, especially in the case of developing countries, that there are negative economic repercussions to achieve the requirements of environmental protection, which can be achieved as follows:

- Threatening the level of economic growth: The protection of the environment permanently and comprehensively obliges countries to be careful in the use of natural resources in production processes, especially in industry, and may stop the use of some of them in order to avoid damage to the environment or depletion of their resources. Also, the implementation of environmental protection policies requires significant and permanent financial spending that developing countries may lack or at the expense of the necessary economic and social investments for these countries. In both cases, the suppression of natural and financial resources leads to a decrease in production and consequently a decrease in economic growth rates.
- High production cost: Efforts to protect and develop the environment, raise awareness of environmental affairs, carry out studies on environmental issues as well as introduce new technological means to mitigate the harmful effects of the environment leads to inflating the

- production cost of production companies, which causes them an additional financial burden, and may result in avoiding investment investors In some areas that may be strategic to the national economy such as investment in the construction and strategic industries sectors.
- High level of unemployment: due to the conditions placed on the exploitation of natural resources, as well as increased spending on environmental protection at the expense of economic investments, the volume of production achieved and consequently economic growth rates shrinks, which increases unemployment rates at the levels used before spending on environmental protection. From it, the countries that suffer from the heroine, including the developing countries, may face a major challenge represented in the apparent contradiction between the priority of growth, job creation and development as an economic and social priority on the one hand and the goal of protecting the environment that represents the living environment of the population and a source of their natural and food resources on the other hand.
 - Impact on exports: The decrease in production and the increase in the cost of those due to the high volume of spending on the environment at the expense of economic growth may lead to a decrease in the volume of exports and damage to the trade balance due to the decrease in production achieved on the one hand and the high cost of final products on the other hand.

5. environmental management systems and their role in sustainable development

Specialists deliberate several definitions of environmental management, aiming in the outcome to what the environmental management aims that are: "Organized efforts by organizations to approach the achievement of environmental purposes as an essential part of their policy, as they are concerned with the required amendments in the systems of enterprises and different organizations, so that Attention to the environment is an effective and effective area in it, and this is evident in the job structure of the facilities in terms of responsibilities and tasks, implementation of plans and review of environmental plans, with the aim of improving the

performance of the facility and reducing or preventing its environmental impacts altogether.

6. CONCLUSION

It appeared to us through our treatment of the topic of environmental economics and sustainable development, that there is a strong and close relationship that combines environmental economics on the one hand and sustainable development on the other hand, and that there is a strong correlation between all causes leading to environmental problems and economic activities as a result of the irrational use of various environmental resources.

The implementation of strategies to protect the environment within the framework of sustainable development resulted in the implementation of many plans that enable the framing of a special approach through which it aims to find solutions to environmental problems at various levels, and to find alternatives to reduce their repercussions in various fields.

7.Recommendations:

- The necessity for the economic units to design and implement a system to protect the environment, provided that it includes environmental policies, goals and programs in addition to the imperative of an environmental management system that aims to provide the data and information necessary to assess the environmental performance.
- Establishing environmental culture by incorporating environmental awareness into education and training at all levels and in all fields, be it the written, audio and visual media;
- The need to diagnose and account for existing environmental problems, so that radical solutions can be found for them;

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