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Article about the negative impact of Environmental Pollution on the Economic Institution (Prospects for the year 2035)

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ABSTRACT:

Regardless of their nature of operations, Economic institutions, strive for economic growth with the aim of maximizing their profits. However, in the process of conducting their activities, various negative effects on the environment occur, such as pollution and resource depletion. In order to integrate the environmental and social dimensions into the economic institution's strategy, governments have taken a series of measures and actions that align with the institution's activities and the achievement of sustainable development based on three fundamental principles: economic growth, social justice, and environmental protection. The external environmental assessment of the institution contributes to the effectiveness of its management, indicating the extent to which the institution is achieving its objectives by aligning its resources. This assessment allows for the identification of opportunities to exploit and threats or risks that can be faced or mitigated.

Keywords: Economic institution, sustainable development, environment.

INTRODUCTION:

The problem of environmental pollution has arisen as a result of human indifference in dealing with their environment, population explosion, depletion of natural resources, agricultural and industrial inflation, a decline in regional planning, and inadequate and proper methods in dealing with pollution sources, among other factors.

Certainly, individuals often ask themselves about the nature and definition of pollution. The simple definition is that it encompasses all the harm and health problems caused to humans, living organisms, and the entire world. However, if we look at the concept of pollution in a more scientific and precise manner, it can be defined as the alteration of the environment surrounding living organisms due to human activities in their daily lives. This leads to the emergence of resources that do not harmonize with the habitat of the living beings and disrupts it. Humans play a fundamental role in making these pollutants either beneficial resources or harmful ones. For example, the biological waste of animals can be a beneficial resource when used as fertilizers for agricultural soil. However, if it is disposed of in water drains, it can lead

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to the spread of diseases and epidemics. Humans are the main cause of environmental pollution and the emergence of various types of pollutants.[1]

Bearing in mind what has been said, the problem can be posed as follows: To what extent do economic institution activities contribute to pollution, and how can this phenomenon be combated and waste reduced?

First: General Concepts about Environmental Pollution

As per the Jordanian Environmental Law of 1995, pollution is defined as follows: "The presence of any foreign substance or substances in any component of the environment that renders it unfit for use or limits its use. The term 'pollution' means the addition of any substances to the elements of the environment or an increase in their content, along with any changes in the natural environmental composition that threaten the life of living organisms, including plants, animals, and humans."(1)

Humans are the ones who invent,
Humans manufacture, use,
Humans are the basic components of populations.
When the proportions of atmospheric gases vary or when moisture levels exceed certain limits, with the concentration of some gases increasing at the expense of others, this is referred to as air pollution. If radiation or any other source of pollution leaks into rivers and seas, causing health risks to humans, animals, and plants, this is called water pollution. When the land is polluted with waste and harmful substances, it is referred to as land pollution. Pollution can also be classified in another way into biological pollution, where pollution is caused by microorganisms, and non-biological pollution, where the environment is polluted by substances such as metals or energy emissions, i.e., non-living materials.[2]

1/Concept of Pollution:

There is another definition of environmental pollution, which views it as the existing condition in the environment resulting from induced changes that cause annoyance, harm, diseases, or even death to humans, or through the disruption of ecological systems.

2/ Causes and Methods of Pollution and Pollutants:

1-Natural Factors: It appears that natural factors have existed since ancient times. Scientists estimate that about 65 million years ago, a rock from space, with a width of 10 to 14 km, impacted the Earth, causing an explosion with a force of 100 million megatons, which is about 10,000 times more powerful than all the nuclear weapons in the world. Scientists believe that cooling was also prevalent in the short term due to the massive dust clouds thrown into the air primarily. In the long term, carbon dioxide, water vapor, and other gases entered the upper atmosphere, reinforcing the greenhouse effect, and raising temperatures by approximately 20 degrees Fahrenheit. As a result of this climatic destruction, dinosaurs and half of the other

[1] Rateb Al-Saud: ***Man and the Environment***, Dar Al-Hamid for Publishing and Distribution, 2004, p. 52. [2] Ayman Suleiman Mazhra. D: Ali Faleh Al-Shawabkeh: ***Environment and Society***, Dar Al-Shorouk for Publishing and Distribution First Arabic edition, first issue, pp. 104 and 105.

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species on Earth went extinct. Scientists estimate that there are about 2,000 asteroids and 100 comets near Earth's vicinity, and experts say that approximately a quarter of these will strike our planet at some point (once every 100,000 years). The problem is that only 150 of these bodies have been identified. This is in addition to the destructive and disruptive effects caused by natural factors like lightning, thunderstorms, floods, rains, earthquakes, and volcanoes. In light of all this, believers should accept and submit to what the Creator does, as it is His wise action. It's not as polluting as reformist.

2- Human Factors: Throughout its long history, humanity has progressively harmed the environment. It began by depleting natural resources capable of absorbing pollutants, which multiplied due to its intensive industries. This led to the emergence of pollution and pollutants in the following ways:

- Environmental resource depletion, excavation, drilling, cement structures, and the phenomenon of desertification, caused by both natural and human factors[2]

Second: Types of Environmental Pollution

Environmental pollution is divided into two categories: physical pollution and non-physical pollution.

A- Physical Pollution: It refers to pollution that affects one of the main environmental elements (air, water, soil, and food), with its effects directly and tangibly impacting humans. Physical pollution includes four main types: air pollution, water pollution, soil pollution, and food pollution.[3]

1- Air Pollution: If humans want to maintain their health, they must control air pollution because air is the oxygen of life that we breathe. Air pollutants cause the deaths of approximately 50,000 people annually, representing about 2% of the total mortality causes. Air pollution is a phenomenon dating back to ancient civilizations and began when humans discovered fire, approximately 50,000 years ago. However, the extent of pollution back then was limited and did not extend beyond the first human caves. The issue of air pollution became more evident during the medieval ages due to increased urbanization and industrialization. (1)

2-A: Water Pollution

Water is considered the source of life for all living beings on our planet, including plants and animals. Its pollution began when humans started using clean water sources and turned them into contaminated water with sewage, waste, and filth. Billions of gallons of drinkable water have been transformed into polluted water. Water pollution also occurs from the atmosphere, where it mixes with radioactive substances, dust, factory gases, clouds, and rain, turning into acidic rain that affects all living organisms.

[2] Fathi Dardar: ***The desert environment in the face of pollution*:** joint publication: the author, Dar Al-Amal, pp. 87, 88.
[3] Alia Hatoug - Boran - Muhammad Hamdan Odia: ***Environmental Science***, Dar Al-Shorouk for Publishing and Distribution Second Arabic edition. Fourth edition, pp. 232, 233.

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Water exists in various forms on the Earth's surface, covering about two-thirds of the planet's surface (70%) of it , in the form of oceans, seas, rivers, springs, groundwater, ice caps, and polar regions. It can be either pure, like rainwater before it picks up some salts from the soil and gases from the air, or freshwater (such as river, lake water and groundwater), or saline (like seawater and oceans). [4]

A - Sources of Water Pollution

Sources of water pollution can be divided into two categories:[5]

- Specific Sources of Pollution: These sources involve discharging pollutants into water bodies through specific outlets at known locations. It is easier to address this type of pollution as it allows for the measurement of the quantity of waste flowing from these sources and the determination of their chemical, biological, and physical characteristics. Consequently, the level of pollution resulting from these sources can be assessed. These pollutants also include waste from sewage and industrial discharge.
- Non-Specific Sources of Pollution: These sources involve the flow of pollutants generated from dispersed sources that are challenging to control directly. These sources include waste resulting from agricultural activities, or those carried by surface runoff into water bodies. An excellent example of such pollutants is incidents involving oil tankers and pipelines transporting hazardous liquids, leading to the leakage of pollutants and their entry into water bodies.

Here's a summarized version of the elements that cause freshwater and marine environmental pollution:

Causes of FreshwaterPollution:

- Neglected cleaning of water tanks in upper floors when water supply is insufficient.
- Inadequate sewage services and waste disposal.
- Improper disposal of untreated industrial waste, sometimes with partial treatment. Freshwater pollution leads to several health issues, including cholera, typhoid, hepatitis A, dysentery, malaria, schistosomiasis, liver diseases, and cases of poisoning.

Causes of Marine EnvironmentalPollution :

- Ship and tanker accidents leading to oil spills.
- Sewage and industrialdischarge.

Marine pollution has severe consequences, such as hepatitis, cholera, gastrointestinal infections, skin inflammations, and detrimental effects on marine life, including:

- Damage to fish populations
- Migration patterns of many beneficial bird species,

[4] Adel Sheikh Hussein: ***The Environment: Problems and Solutions***, Dar Al-Yazouri Scientific Publishing and Distribution, p. 99.
Either fresh (water from rivers, lakes, and groundwater) or salty (water from seas and oceans).
[5] Wael Ibrahim Faouri, Muhammad Atwa Al-Harout: ***The environment, its protection and preservation***. Dar Al-Minhaj Publishing and Distribution, first edition 2003, p. 72

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- Harm to coral reefs, which, in turn, affects tourism and fisheries where many fish species use these coral reefs as their habitat and environment."

Additionally, water pollution also affects groundwater due to waste disposal within the Earth and excessive use of pesticides, insecticides, fertilizers, and the burial of industrial and radioactive waste deep within the Earth. This leads to contamination of the upper layers that produce drinking water.

Types of water pollution include:[6]

- Biological pollution
- Industrial pollution (factories, hospitals, etc.)
- Radioactive pollution (nuclear)
- Chemical pollution (fertilizers and pesticides)
- Thermal pollution.

Water Pollution Control:

- Treatment of householdwastewater.
- Treatment of deposited industrial wastewater.
- International collective pollution control.
- Economic aspects of pollution control. **Thesemethodsinclude:**

- Government assistance.
- Financial agency intervention in watersheds - revenues.

These methods are used to combat water pollution and protect the environment.

3-C:Soil Pollution

Soil, which is a source of prosperity and fruitfulness, is one of the elements that humans misuse in this environment. It is a vital source of basic food. [7] **Sources of Soil Pollution:**

- Over-irrigation and poor sanitation practices can harm the soil.
- Excessive use of pesticides and chemicals can negatively affect soil fertility, as many nitrogen-based fertilizers impact soil acidity.
- Disposal of household and industrial waste.
- Acid rain.
- Heavy metals.
- Pollution fromindustrialcleaners.
- Pollution fromorganic compounds.
- Pollution fromchemicalweapons.

[6] Ayman Suleiman Mazhra, Ali Faleh Al-Shawabkeh , p140

[7] Hussein Ali Al-Saadi: ***Basics of environmental science and pollution***, Al-Yazouri Scientific Publishing and Distribution House Arabic 2006, pp. 370-374

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- Pollution fromindustrial accidents.
- Agricultural land pollution.
- Nuclear pollution.

Consequences of SoilDegradation:

- Nutrient deficiency for human growth and development.
- Extinction of plant and animal species.
- Harm to other living organisms.
- Damage to fish populations.
- Migration of beneficial bird species.
- Damage to coralreefs.

Given the soil's importance, as it hosts plant roots that form the basis of the food chain for animals and humans, it's crucial to preserve clean and healthy soil to sustain life for all living beings.

4-D: Food Pollution

Food is a collection of substances (of animal, plant, or chemical origin) consumed by humans, ensuring their body functions healthily and properly. Food pollution refers to the process of turning a nutritious substance into a harmful one for humans (spoiled or toxic food).[8]

Sources of Food Pollution:

- The impact of living organisms in food, such as bacteria, fungi, parasite eggs, and single-celled organisms.
- The interaction of food with cooking utensils or storage containers (e.g., certain types of aluminum and plastic).
- The addition of food colorants, especially those with chemical compositions.
- The addition of food preservatives.
- The influence of radioactive substances due to fallout from nuclear experiments on plants and agricultural soil or as a result of air and water pollution from nuclear testing.
- The influence of chemical substances such as pesticides and chemicals.

Food pollution is also associated with drug pollution, resulting from addictive and hallucinogenic substances, including smoking, alcohol, and narcotics.

Antibiotics: This category includes chemical substances used in medicine to eliminate disease-causing microorganisms.

Drug Interactions and Side Effects: These refer to the negative effects of drug interactions on human health and the occurrence of side effects.

Second: Non-Material (Moral) Pollution

[8] Ratib Al-Saud: ***Man and the Environment***, Dar Hamed for Publishing and Distribution 2004, pp. 103-105.

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A- Electromagnetic Pollution: This refers to all forms of harm, annoyance, and damage caused by electromagnetic waves to humans and animals. [9] **Sources of ElectromagneticPollution:**

- Radio and television stations.
- High-voltage power grids used for long-distance electricity transmission.
- Microwave networks used in telephone communications.
- Computers.
- Color mobile phones.
- Radar devices.
- Electronicdoors.

Based on the results of these studies and others, researchers have recommended that the level of exposure to waves in factories, military bases, or any place should not exceed ten thousand microwatts per square meter per year.

B- Acoustic Pollution (Noise): Acoustic pollution, or noise pollution, is closely associated with urban and industrial areas. As societies, especially advanced ones, expand the use of machines and modern technology, noise pollution has become more pronounced.

Sounds are an integral part of our daily lives and offer benefits, such as providing enjoyment through music or the sounds of birds. However, in modern communities, sounds have become a source of annoyance that we don't want to hear, falling under the category of "noise."[10]

Types of Noise Pollution:[12]

- **Transportation Noise**: Noise generated by vehicles and transportation systems.
- **Social Noise**: Noise created by human activities and social gatherings.
- **Industrial Noise**: Noise produced by factories and industrial processes.
- **Water Noise**: Noise related to water sources and activities, such as water pumps and waterfalls.
- **Construction Equipment Noise**: Noise from construction and building equipment.
- **Residential, Office, and Commercial Noise**: Noise occurring in residential areas, offices, and commercial establishments.

Effects of Noise Pollution:[11]

- HearingLoss
- Nervous Tension
- Feeling of Distress
- Headaches and Chest Pains
- Loss of Appetite
- Decreased Concentration, especially in mental tasks

[9] Ratib Al-Saud , P106
[10] Ratib Al-Saud, P107-110 [12]
Ratib Al-Saud, P116
[11] Fathi Dardar: ***The environment in the face of pollution***, co-published by: the author and Dar Al-Amal, p. 97

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- Increased Secretion of Certain Glands in the Body
- Insomnia
- Reduced Ability to Focus, Pay Attention, Learn, and Absorb Information
- Communication Impairments
- Reduced Blood Circulation Speed
- VariousHealth Impacts

Effective Solutions to Avoid Noise Events :

- Imposing Fines and Penalties
- Confiscating Equipment Generating High Noise Levels
- Developing Noise-Absorbing Asphalt in Some Countries to Reduce Traffic Noise by Approximately 5 Decibels

Pollution Control : Prevention and Treatment Methods [12]:

- Preserve the fundamental components of the global environment.
- Combat water pollution in refineries.
- Address oil spills that pollute the seas and oceans.
- Combat sulfur dioxide emissions from burning natural gas.
- Combat industrialpollutants.
- Control lead pollution in the air.
- Addressacidrain pollution.
- Combat food pollution.
- Manage waste.
- Address radioactive waste.
- Clean technologies and their potential use :
- Convertcarbondioxideintovaluablechains.
- Bioremediation.
- Establish monitoring stations and networks to track pollution.
- Biogastechnology (BIOGAZ).
- Utilize agricultural waste and animal manure.
- Use bacterial strains to combat pollution.
- Harnesssolarenergy.
- Other examples of clean technologies.
- Environmentallegislation and planning :
- Recommendations from the Stockholm Conference in 1972.
- Key achievements from the Rio de Janeiro Conference in 1992.
- Significant measures for combating food pollution.
- Programs to ensure environmental health and conservation from pollution.
- The factors that determine the level of pollution in an establishment include:

[12] Fathi Dardar: ***The environment in the face of pollution***, co-published by: the author and Dar Al-Amal, p. 97

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  The size of the factory and its productive lifespan:
- Largerfactories tend to cause more environmental pollution.
- The age of the factory and the extent of technological updates can influence the level of pollution.
- The technologies used in industrial processes:
- Using advanced technologies in production processes can reduce pollution levels.
- The quality of raw materials and fuels used:
- The quality of raw materials used affects environmental pollution levels.
- The type of fuel used can either increase or decrease pollution.
- The presence of pollution control methods and their efficiency:
- Utilizing pollution control methods in industrial processes can contribute to pollution reduction.
- Methods of industrial waste disposal:
- Unsafe and environmentally harmful waste disposal methods can increase pollution.
- The presence of environmental management within the organizational structure:
- Having environmental management within a company can improve its environmental performance.
- These factors work together to determine the impact of an establishment on the environment and the extent of its efforts to mitigate pollution and protect the environment.

1-3-2-2 The factors that determine the level of pollution in an establishment are :

The industries, whether they are food and beverage, industries or commodity and service industries, generate waste, including emissions in the form of gases, vapors, dust, as well as liquid or solid waste, and pollutants such as noise, vibrations, and heat. The quantity and quality of pollutants vary from one industry to another due to several factors. Some industries have more environmental harm than economic benefits, as evident when studying environmental feasibility. Thesefactorsinclude[13]

- Factory size and productive lifespan:
- Larger factories tend to cause more environmental pollution when they have the same conditions and factors, differing mainly in size.
- Technologies used in industrial processes:
- The use of advanced technologies in production processes can reduce pollution levels compared to industries using less advanced techniques under similar production conditions.
- Quality of raw materials and fuels used:
- The type of raw materials used in the industry affects the level of environmental pollution.
  The type of fuel used has a direct relationship with the amount of environmental pollution. For example, using coal in trains has been proven to cause greater

[13] ***The role of commercial companies in preserving the environment*** :www.shcbacss.com /docsscipass00109.pdf

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- environmental pollution than using gasoline, while using electricity reduces pollution to a greater extent.
- The presence and efficiency of pollution control measures:
- Various pollution control measures are available, but they often come with high costs. Therefore, many factories may not implement them, as they would increase production costs and, consequently, product prices. This can lead to reduced profits, necessitating government intervention to support environmental pollution control measures resulting from industrial waste.
- Methods of industrial waste disposal:
- The methods commonly used for industrial waste disposal, such as discharging waste into sewers and sanitary channels or disposing of waste with regular garbage, are often unsafe and environmentally unsound. These methods can lead to environmental disasters in the short, medium, and long term.
- The presence of environmental management within the organizational structure:
- Studies and research have shown that factories with environmental management within their organizational structure tend to have a lesser environmental impact compared to industries that lack environmental management. These factors collectively determine the environmental impact of an establishment and the extent of its efforts to reduce pollution and protect the environment.

The second branch: the new national strategy for comprehensive waste management perspectives : **(SNGID HORIZON 2035)**

As part of its efforts to improve the living environment for individuals and conserve national resources, Algeria has developed a national strategy for comprehensive waste management, which is planned to be evaluated by the year 2035 (SNGID HORIZON 2035). Several sectors have contributed to shaping and formulating this strategy, including government ministries, local municipalities, the private sector, civil society, media, and representatives from the United Nations system. This project, funded in collaboration with the European Union and the Ministry of Environment and Renewable Energies, aims to develop a national strategy to enhance the economic potential of waste management, particularly through sorting, recycling, and waste recovery.

The new national strategy for comprehensive waste management in 2035 aims to achieve a set of goals and outcomes, as outlined by the Ministry of Environment and Renewable Energies:[14]

- The first goal is to prevent waste.
- The second goal is to promote selective sorting.
- The third goal is to reduce health and environmental risks associated with final waste.
- The fourth goal is to implement the "polluter pays" principle.
  The fifth goal is to enhance the role of the private sector.

The expected outcomes by 2035 include:

[14] ***Ministry of Environment and Renewable Energies***: https://www.me.gov.dz/ 12-03-2023

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- Reducing waste generation by 10%, particularly household waste and similar waste.
- Valorizing waste, contributing to the national economy with an amount of 80 billions Algerian dinars.
- Eliminating open landfill sites by 2024.
- Increasing private sector participation with potential partnerships between the public and private sectors, valued at 54 billions Algerian dinars (DZD).
- Creating 100,000 job opportunities, including (30,000 direct jobs and 70,000 indirect jobs).
- Achieving environmental gains by reducing net greenhouse gas emissions by 45 million tons per year, equivalent to 150 billion Algerian Dinars (DZD).

Conclusion:

To conclude, adopting social responsibility, environmental management, and resource efficiency within the economic institution is a manifestation of sustainable development. The negative impact of an economic institution's activities on the environment is environmental pollution, which has economic, environmental, and social repercussions. Industrial waste is a primary source of environmental pollution from economic activities. Therefore, proper management of industrial waste and control methods are essential for achieving sustainable development.

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