

The impact of environmental auditing on the environmental dimension of sustainable development (Applied Research on "Environmental Governmental Institutions in Iraq)

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Abstract - The research aims to find out what is the environmental audit of environmental institutions and the goals and objectives of the environmental dimension of sustainable development, and to link the essential observations in the environmental audit reports of environmental institutions with the goals and objectives of the environmental dimension of sustainable development in order to identify weaknesses and strengths in the activities of these institutions. The research was applied to governmental environmental institutions in Iraq by linking the essential observations with the goals and objectives of the environmental dimension of sustainable development, identifying through this the most important points of deficiency and weakness in performance that could be avoided. The research reached the most important conclusions, namely the weak contribution of sustainable development, as there is a delay in implementing the obligations of international environmental agreements. The research also reached the most important recommendations, which are activating the role of environmental auditing for environmental governmental institutions in achieving the goals of the thirteenth goal of the environmental agreements and of sustainable development, institutions in achieving the goals of the thirteenth goal of the environmental agreements.

Key words: environmental audit, environmental dimension, sustainable development

I. INTRODUCTION

Environmental governmental institutions in most countries of the world seek to preserve the natural resources of their country from the threat of the threat posed by the human element as a result of industrial development or as a result of the depletion of natural resources from their misuse. Danger to natural resources, as well as laws and instructions that improve the preservation of those resources, and the preparation of financial budgets through which projects are created that improve the environmental reality and preserve natural resources, and for the purpose of ensuring the efficiency, effectiveness and economy of those institutions in managing their business, the role of environmental auditing must be activated At the unit level, at the level of responsibility center, and at the level of economic unit, to reach the level of the national economy. In order to achieve the research objectives, the research was divided into four axes (the first axis, the research methodology, the second axis, the theoretical framework for environmental auditing in the environmental dimension of sustainable development, the third axis, the practical aspect of the research, the environmental audit report on environmental institutions to achieve the environmental dimension of sustainable development, the fourth axis, conclusions and recommendations).

The research problem: The research problem is embodied in that the preservation of natural resources is one of the necessities to achieve the goals and objectives of the environmental dimension of sustainable development, and that most governmental environmental institutions in the countries of the world seek to protect the state's natural resources by adhering to environmental agreements, laws and instructions, and that Iraq is among the Those countries that have established environmental governmental institutions aiming to protect their natural resources, have organized laws and instructions, and have joined environmental agreements, and for the purpose of ensuring that environmental governmental institutions carry out their work through which they achieve the goals and objectives of the environmental auditing on these institutions and submitting a specialized monitoring report. It includes linking the essential observations with the goals and objectives of the environmental dimension of sustainable development, showing us the progress made with those goals and objectives.

Importance of research: The importance of the research derives from the importance of environmental auditing in general and environmental auditing of environmental institutions in particular, in the availability of essential observations through which defects and weaknesses in the performance of environmental institutions' activities are identified, and recommendations are made to address the deficiencies in performance through an environmental audit report related to the objectives And the goals of the environmental dimension of sustainable development ensure the protection of the share of current and future generations of natural resources.

Research Objective: The research aims at the following

1-Knowing what is the environmental audit of environmental institutions and the goals and objectives of the environmental dimension of sustainable development .

2-Linking the essential observations in the environmental audit reports of environmental institutions with the goals and objectives of the environmental dimension of sustainable development in order to identify weaknesses and strengths in the activities of these institutions .

Research hypothesis: The research is based on the hypothesis that (the environmental audit of environmental governmental institutions determines the essential observations and effectively contributes to achieving the goals and objectives of the environmental dimension of sustainable development).

II. RESEARCH METHODOLOGY:

The deductive methodology was relied upon by shifting from the generalities of the environmental audit and the environmental dimension to the audit of the research sample, and the inductive approach was also relied on by identifying the particular research problem and turning it into general recommendations that can be used in achieving the objectives And the goals of the environmental dimension of sustainable development.

Spatial and temporal limits of research

Spatial Frontiers: Environmental Institutions in Iraq.

Temporal boundaries: represented in the published performance evaluation reports of the Federal Financial Supervision Bureau, and the statistical reports of the Central Statistical Organization in Iraq for the years (2012, 2013, 2014.

Methods of data collection: For the purpose of carrying out the research, the following sources have been relied on

Arabic and foreign books, academic and professional research and theses, the Internet, financial and statistical data for the research sample).

The concept of environmental auditing

The environmental audit is the systematic, documented, periodic and objective evaluation of the environmental management system of the institution and its environmental performance, and the delivery of the results of the process to the board of directors of the institution, and that evaluation is performed with the aim of (determining the conformity of the environmental management system of the institution with the standards established by the council, evaluating the commitment to the environmental policy and achieving its goals and environmental requirements, Facilitating improvement in environmental performance (Lutfi, 2005: 133) The environmental audit, which is expressed in indicators that measure the effects and secondary outputs of the institution's activities on the environment, focuses on the relationship between the institution and its environment, and includes economic, social, environmental, institutional and other indicators. Whether they are positive or negative. (Mughir, 2015: 9-10) The responsibility of the institution towards the environment is represented in a set of obligations, including: (Al-Makhadama and Al-Issa 2010: 337).

1-Adherence to the provisions of the law regarding causes of air, water, or noise pollution

2-Getting rid of waste in a way that ensures that pollution of the land is minimized and designing operations and products in a way that reduces the amount of waste.

3-Economic use of energy and natural resources, and work to find new alternative sources.

4-Creating a special department or unit for the environment, whose role is to reduce environmental pollution .

5-Fulfilling the requirements of ISO 14000 for environmental safety.

III. OBJECTIVES OF ENVIRONMENTAL AUDITING

Among the most important objectives of the environmental audit are: (Friday, 1998: 198);-

1-Substantive examination of the financial data related to the activities of economic institutions by auditing the procedures followed by the institutions in protecting the environment from the effects of their activities, as well as determining the extent of their impact on business results and the financial position.

2-Substantive examination of the internal control systems and their evaluation and to ensure the correctness of the procedures followed to control the processes and programs designed to protect the environment, in addition to examining the documents, documents and tables that contain environmental laboratory tests and their compliance with environmental laws and instructions.

3-Verification of the performance auditing elements, the efficiency and effectiveness of the programs, activities and means prepared by the Economic Corporation for the. protection and improvement of the environment.

4-Presenting and expressing an impartial technical opinion regarding the fairness of the accounting disclosure of the negative and positive effects of environmental activities in economic institutions .

levels of environmental audits

Environmental auditing takes different levels, starting from the center of responsibility and then the economic unit down to the level of the national economy and according to the following levels: (Al-Karkhi, 2008: 40-41):-

1. Environmental audit at the responsibility center level ;

The environmental audit is carried out by the director of the responsibility center in the economic unit, through the production plan of the responsibility center, as follows

a. Follow up the implementation of the pre-determined plans for the responsibility center, and take the necessary economic decisions to correct the deviations and their causes within the available powers of the responsibility center director.

B. Informing the higher management in the economic unit about the causes of the deviations and providing appropriate solutions to avoid those deviations, as the proposed solutions are outside the powers of the director of the responsibility center.

C. Preparing and submitting periodic reports on the performance of the responsibility center in general by comparing the actual results with the scheme and identifying weaknesses and defects .

d- Preparing and submitting the annual environmental audit report that includes the procedures and standards used in auditing the responsibility center's performance in general.

The researchers believe that environmental audits can be carried out on the basis of the level of the responsibility center concerned with environmental aspects in government institutions, whether those

concerned with the environment or those not concerned with the environment, and it is done by reviewing the plans put in place to preserve the environment from the effects of the activities carried out by government institutions or reviewing the plans of the responsibility centers concerned with preserving Environment and submit a detailed report on that to the Director of the Responsibility Center .

2-Environmental auditing at the level of the economic unit

The environmental audit at the level of the economic unit includes the following ;

a. Study reports that include the performance of the responsibility center, and express an opinion by strengthening the strengths of the responsibility center and avoiding defects and weaknesses in performance through the proposals submitted to address cases of deviation and failure in performance.

B. Preparing and submitting a periodic environmental audit report on the level of the economic unit by relying on the performance reports submitted from the responsibility centers, including all indicators used in environmental auditing, and this report is usually discussed with the board of directors of the economic unit .

C. Preparing and submitting an annual environmental audit report at the level of the economic unit that includes a comprehensive evaluation of all the activities of the economic unit, including tables and indicators used in determining the level of performance during the fiscal year.

The researchers believe: An environmental audit can be carried out on sub-governmental institutions, and this is called a partial environmental audit, i.e. reviewing and auditing the plans of economic units in preserving the environment. In the performance of economic units concerned with the environment and not concerned with the environment.

3-Environmental auditing at the national economy level

Environmental audits are carried out at the level of the national economy by evaluating economic indicators at the national level, in order to determine the level of performance of each sector separately, and to determine what sectors have achieved in terms of return on investment and the amount of resources that have been achieved for the state's public treasury, as well as the use of other indicators such as social indicators. To reach the development of plans to raise the level of future performance at the level of the nationaleconomy.

The researchers believe: Environmental audits can be carried out on governmental environmental institutions at the national level by compiling partial environmental audit reports at the level of economic units, whether specialized in preserving the environment or responsible for preserving the environment from within their activities, and then unifying them with a unified audit monitoring report on the performance of environmental institutions and submitting it to The higher authorities in the state for the purpose of reviewing their plans towards preserving and improving the environment in a manner consistent with the environmental dimension of sustainable development.

Second: - The concept and objectives of the environmental dimension of sustainable development

Before dealing with the concept of the environmental dimension, the concept of sustainable development means meeting the needs of present generations without compromising the ability of future generations to fulfill their needs, aiming to integrate environmental policies with development strategies (Baker, el at, 2005: 3). (Abu Zunt and Ghunaim) also see that sustainable development is a concept that means the process of utilizing natural resources in a fair and rational manner, meaning that it does not lead to exceeding the rates of renewal of natural resources, especially when those natural resources are not renewable. Waste in large quantities that the environment is unable to absorb, transform and represent, given that the future security of the population in any region of the world depends on the safety of the environment in which they live (Abu Zant and Ghonim, 2005: 156). Environmental sustainable development means interest in managing the relationships, interdependencies and coordination between the economic, social and environmental goals of sustainable development (Al-Hiti, et al., 2010: 80-81). (Harris) also believes that the environmental dimension means that the prevailing system in the administration of the governments of countries must be the preservation and stability of the base of natural resources, and avoiding the excessive and wasteful exploitation of renewable resource systems or

the depletion of non-renewable resources, meaning that investment is made in adequate alternatives. This includes conservation of natural resources and biodiversity, atmospheric stability, and other ecosystem functions. (Harris, 2000: 5-7) The report on transforming our world (the 2030 Agenda for Sustainable Development) issued by the United Nations came with seventeen goals, and each goal has a set of goals and according to the dimensions of sustainable development. United Nations, 2015: 17-36). Table (1) goals and objectives of the environmental dimension of sustainable development

NO.	The number and name of the environmental goal of sustainable development	Environmental goal of sustainable development
1	Sixth goal: Ensure availability of healthy water and sanitation services for all and sustainable management	1-All people have equitable access to safe and affordable drinking water 2. All people have access to sanitation and hygiene services 3. Promote and improve water quality by reducing pollution and stopping the dumping of waste and dangerous chemicals into rivers
2	Seventh Goal: Ensure universal access to affordable, reliable and sustainable modern energy services	 1-Enhancing international cooperation to facilitate access to clean energy research and technology 2. Expanding infrastructure and improving the level of technology in order to provide modern and sustainable energy services
3	Twelfth Goal: Ensure sustainable consumption and production patterns	1-Promote sustainable management and efficient use of natural resources, by the year 2030. 2. Reducing the per capita share of local and international food waste
4	Thirteenth Goal: Take urgent action to combat climate change and its impacts on nature	1-Integration of climate change-related measures into policies, strategies and planning at the national and global levels 2. Enhancing education, awareness, human and institutional capacities to mitigate climate change
5	Fourteenth goal: Conserve the oceans, seas andmarine resources and use them in a sustainablemannerfordevelopment	Sustainable management and protection of marine and coastal ecosystems
6	Goal 15: Protect and restore terrestrial ecosystems and promote their sustainable use, manage forests sustainably, combat desertification, halt and reverse land degradation and halt biodiversity loss	Promote the implementation of sustainable management of all types of forests and combat desertification

Source: prepared by researchers based on the United Nations report

Indicators of the environmental dimension of sustainable development

The United Nations Commission on Sustainable Development has prepared indicators for sustainable development with many topics dealing with poverty, governance, health and others, and as far as the environmental dimension is concerned, the indicators can be clarified according (UN, 2007: 11-14)to the following topics

1-The subject of natural hazards, and among its most important indicators: the proportion of the population living in vulnerable areas Percentage of human and economic losses resulting from natural disasters

2-The subject of the atmosphere and its most important indicators: carbon dioxide emissions, consumption of ozone-depleting substances.

3-Land issue and its most important indicators: land degradation, arable land area, use of pesticides in agriculture, percentage of area covered by forests, change of land use, lands affected by desertification, fertilizer use efficiency, percentage of damaged trees .

4-The issue of fresh water and its most important indicators: the total percentage of water used, the percentage of water use according to activities, wastewater treatment.

5-The subject of biological diversity and its most important indicators: the percentage of protected land area, the effectiveness of protected areas management, the change in the state of threat and extinction .

The third axis: the environmental audit report on environmental institutions to achieve the environmental dimension of sustainable development;

3-1 Brief Introduction

Environmental governmental institutions were established in accordance with Article (14 - first) of the Environmental Protection and Improvement Law No. (3) for the year 1997 (amended), after which the Coalition Provisional Authority Order (dissolved) No. (44) for the year 2003 was issued according to which the Council for the Protection and Improvement of the Environment was formed. Environment instead of the Department of Environmental Protection and Improvement, and the law kept environmental institutions in all governorates as departments of the ministry until the Ministry of Environment Law No. (37) for the year / 2008 was issued, which defined the tasks and structure of the Ministry of Environment, and the institutions became affiliated with the Department of Environmental. Protection and Improvement. Article (3) of the Ministry of Environment Law No. (37) for the year 2008 to protect and improve the environment by removing and treating damage in it or that occurs to it, preserving public health, natural resources, biological diversity and cultural and natural heritage in cooperation with the competent authorities in order to ensure environmental development and achieve international cooperation And regional in this area.

3-2 Tasks carried out for the purpose of achieving the objectives

First - Conducting periodic checks on the radioactive sources in the industrial facility

Second - Measuring the radioactivity in the atmosphere and giving the warning in the event of any nuclear emergency

Third - Conduct periodic surveys to find out the radiation background of the governorate through several points distributed in the governorate.

Fourth - Granting licenses for private clinics specialized in medical radiation work.

Fifth - Conducting periodic surveys of the sanitary landfill sites in the governorate.

Sixth - Conducting periodic visits to projects and complexes in the governorate to take samples of drinking water.

a. The audit notes related to the sixth goal of the environmental dimension of sustainable development: ensuring the availability of healthy water and sanitation services for all and sustainable management and its goal, and the most important observations on this are ;

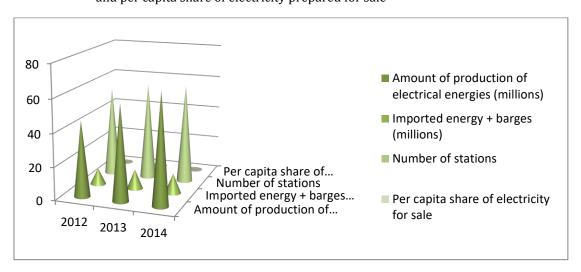
1-The chemical pollutants in the Euphrates and Tigris rivers, which include sulfates (SO2), reach (200 mg / liter) above the permissible limit, and the biological pollutants in the Euphrates and Tigris rivers, among them, the bacterium Qaloun, which reaches (2000) per (100) Mm of river water, and (10,000) per (100) mm of river water for fecal bacteria, which is also according to the permissible limit.

2-The decrease in the percentage of the population served by the sewage networks, as the percentage reaches (23%), and those served in the septic basins (60%), in addition to the pollution of rivers and streams due to the presence of wastewater solvents, which are discharged directly without any treatment.

Constructing and delaying the completion of sanitation projects completely in all Iraqi provinces.

3-Low rate of treatment of liquid waste, as the percentage reaches (2.8%) of the total annual liquid waste due to the lack of treatment of liquid waste in most Iraqi hospitals and meat slaughterhouses, in contradiction to the instructions of environmental determinants in Iraq.

4- Figure (2) below shows a slight increase in the amount of electrical energy production for the year (2014), reaching (67) million MWS, compared to (2012, 2013) years of (46, 58) million MW. Q, respectively, as it is noticed a slight increase in the Iraqi per capita share of electrical energy for the year (2014), reaching (2,3), compared to the Iraqi per capita of electrical energy for the years (2012, 2013) amounting to (1.44, 2) over Straight . Figure (2) Quantities of production of electrical energy and per capita share of electricity prepared for sale



Source: Prepared by researchers based on environmental statistics reports for Iraq.

5-Through the observations mentioned in paragraphs (1, 2, and 3) above, despite the slight increase in the per capita share of electric energy, it is not at the required level that contributes to achieving the seventh goal of sustainable development, which includes: Ensuring that everyone has affordable access to energy services. Modern, reliable and sustainable development, and its aim includes strengthening international cooperation in order to facilitate access to clean energy research and technology 2. Expanding infrastructure and improving the level of technology in order to provide modern and sustainable energy services).

C. Relevant audit observations, thirteenth goal, to take urgent measures to address climate change and its effects on nature and its goal, and the most important observations on this are ;

1-The scarcity of cutting and sterilizing devices for hospitals, which is one of the modern technologies in the world to destroy solid medical waste, and it works by means of heat and high pressure to chop and thicken solid medical waste and convert it into regular service waste, as well as the presence of many hospitals that are not equipped with such devices and are limited at the present time On medical incinerators.

2-It was found that there are many hospitals in the Iraqi governorates that do not have medical incinerators, or there are incinerators that work partially or stop work according to the orders of the Ministry of Health because they are in violation of environmental restrictions due to their location near residential neighborhoods as well as the low height of their chimneys and the end of their operational life.
3) Below is the number of hospitals and incinerators in them;

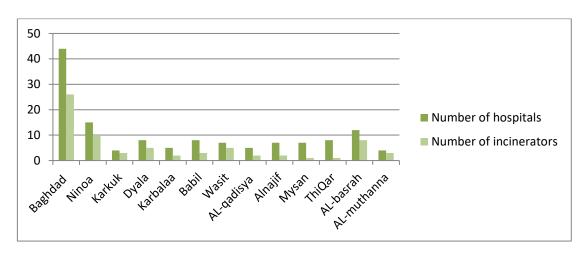


Figure (3) shows the number of hospitals and the number of incinerators in the Iraqi governorates

3. The position of environmental governmental institutions on international environmental agreements;

Ramsar Convention on Wetlands (1975), and among the most important notes are;

First: The national plan for the management of the Iraqi marshes, which was developed by the National Committee for Marshlands and Wetlands for the year 2009, has not been implemented. The plan has been transformed for implementation for subsequent years, but it has not been implemented as well Iraq.

Second: Lack of coordination between environmental governmental institutions and other governmental institutions, the last formation of national committees within each concerned governmental institution, which led to the failure to do what is required of them in implementing Iraq's obligations towards the agreement, as well as the weakness of the environmental media in preserving wetlands .

The Convention on Biological Diversity of 1992 and among the most fundamental notes are

First: Up to the year (2012), no national strategy for biodiversity has been prepared in Iraq, in addition to the failure to prepare the fifth national report of the Convention on Biological Diversity.

Second: There is no clear strategy or plan for preserving endangered organisms, in addition to the lack of legislation regarding the biosafety of genetically modified organisms.

.•The United Nations Framework Convention on Climate Change and the Kyoto Protocol annexed to it in 1992 and among the most important fundamental observations are ;

First: A financial allocation of \$ (2,500,000) dollars (two million five hundred thousand US dollars) was obtained from the Global Environment Facility for investment in setting up adaptation projects in Iraq, but it was not activated effectively in preparing those projects .

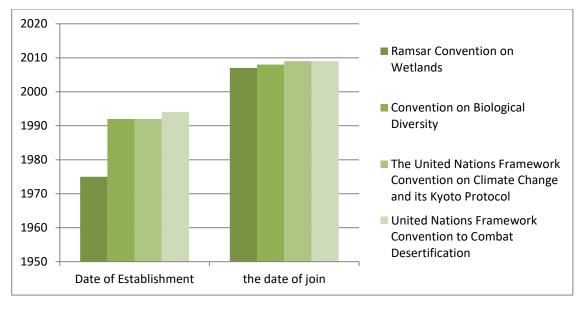
Second: The weakness of the necessary procedures that include preparing the national report as quickly as possible to obtain financial and technical support and implementing environmentally friendly projects, as well as weak inventory and submission procedures for greenhouse gas emissions in Iraq.

•The United Nations Framework Convention to Combat Desertification of 1994 and among the most important fundamental notes are

First: Environmental governmental institutions do not have maps of decertified land areas, as the Arab Center for Studies of Arid Zones and Arid Lands has been provided with estimated information based on field experience and some local sources, and this violates the terms of the agreement .

Second: Iraq's delay in implementing the terms of the agreement as a result of weak financial support, either by the Iraqi government represented by the concerned governmental institutions or by international bodies.

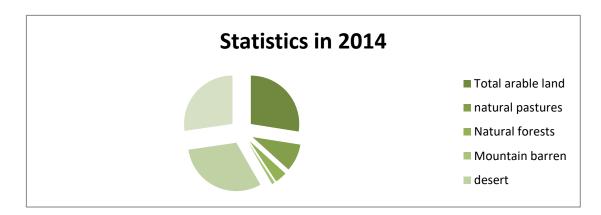
•Figure (4) shows the time difference to the date of establishing the International Environmental Convention and the date of joining it by Iraqi governmental institutions, as the Ramsar Convention on Wetlands clarifies the time difference between its establishment and Iraq's accession to it (32) years, and the Convention on Biological Diversity shows the time difference between its establishment And Iraq's accession to it is (16) years, while the United Nations Framework Convention on Climate Change and the Kyoto Protocol annexed to it in 1992 clarify the time difference between its establishment and Iraq's accession to it (17) years, and the last United Nations Framework Convention to Combat Desertification, the time difference between its establishment and Iraq's accession to it (15) Year. Figure (4) The most important environmental agreements to which Iraq has acceded, the date of its establishment and the date of its accession



2-Through the essential observations contained in paragraphs (1, 2 and 3), it is noted the weakness of environmental governmental institutions in the effective contribution to achieving the thirteenth goal, taking urgent measures to address climate change and its effects on nature, with the aim of integrating climate change measures into policies, strategies and planning at the level National and global. And enhancing education, awareness, and human and institutional capacities to mitigate climate change .

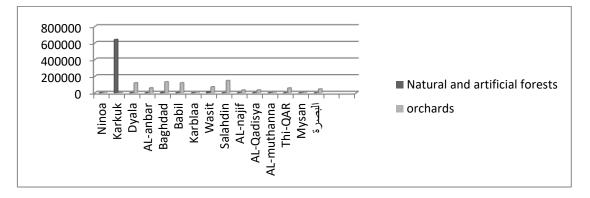
Dr.. The audit notes related to the fifteenth goal: protecting, restoring and promoting sustainable use of terrestrial ecosystems, managing forests in a sustainable manner, combating desertification, stopping and reversing land degradation, stopping the loss of biological diversity, and its goal and the most important observations are. The arable lands for the year (2014) amounted to (27.5%), while the highest percentage was to desert lands, which amounted to (31%). When comparing this with the years (2012, 2013), we find that the percentage of desert lands out of all Iraqi lands is (31%) That is, without progress in combating desertification, as well as the total orchards in Iraq amounting to (1003132) dunums, and the total natural and artificial forests constitute (660,600) dunums of which the governorate of Nineveh constitutes (97%). Consequently, we find an obstacle towards progress in promoting the implementation of sustainable management of all types of forests, combating desertification from the fifteenth goal of the environmental dimension of sustainable development. Figure (5, 6) illustrates this.

Figure (5) shows the statistics of the Iraqi lands for the year (2014)



Orchards and natural and artificial forests according to the governorates, as Figure (6) shows the following

Figure (6) Orchards and natural and artificial forests by governorates



Proof of the research hypothesis: After presenting the essential observations about the environmental governmental institutions and the related governmental institutions, the research hypothesis can be proven according to which ((The environmental audit of the environmental governmental institutions determines the essential observations and contributes effectively to achieving the goals and objectives of the environmental dimension of sustainable development).

IV. CONCLUSIONS

1-The weak contribution of governmental environmental institutions to achieving the goals of the sixth goal of the environmental dimension of sustainable development, as pollutants increase in the Tigris and Euphrates rivers as a result of the decrease in the proportion of the population covered by sanitation.

2-The weak contribution of governmental environmental institutions to achieving the goals of the seventh goal of the environmental dimension of sustainable development, as more power stations have a negative impact on the environment, as well as a decrease in the per capita share of electric energy.

3-The weak contribution of environmental governmental institutions to achieving the goals of the thirteenth goal of the environmental dimension of sustainable development, as there is a delay in implementing the obligations of international environmental agreements.

4-The weak contribution of governmental environmental institutions to achieving the goals of the fifteenth goal of the environmental dimension of sustainable development, as the proportions of desert lands in Iraqi lands are increasing.

V. RECOMMENDATIONS

1-Activating the role of environmental auditing for environmental governmental institution in achieving the goals of the sixth goal of the environmental dimension of sustainable development by intensifying field visits to sanitation institutions in the governorates, identifying points of deficiency and addressing them in order to contribute to the elimination of pollutants in rivers .

2-Activating the role of environmental auditing for environmental institutions in achieving the goals of the seventh goal of the environmental dimension of sustainable development through coordination and cooperation with electric power institutions in the governorates by reducing electrical stations that have an environmental impact that depend on diesel.

3-Activating the role of environmental auditing for environmental institutions in achieving the goals of the thirteenth goal of the environmental dimension of sustainable development, through implementing the obligations of international environmental agreements.

4-Activating the role of environmental auditing for environmental institutions in achieving the goals of the fifteenth goal of the environmental dimension of sustainable development, through coordination and cooperation with agricultural institutions in the country and reducing the proportion of desert lands.

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