

Review Paper

Environmental Audit to Limit the Expansion of Desertification in different Regions of Iraq

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ABSTRACT

This paper deals the cognitive foundations of environmental auditing, in addition to explaining the impact of environmental audit procedures on the development and improvement of forests to overcome the problem of receding herbal cover and the expansion of desertification phenomenon. The aim is to clarify the cognitive bases of environmental auditing and environmental audit procedures to reduce the phenomenon of desertification, which contributes to stopping environmental deterioration. The research relied on the descriptive analytical method to track and examine its material, in addition to the statistical method and analysis of the time period (2006-2020). The proposal of the audit matrix and the identification of risks from three criteria for the purpose of evaluating the risks facing the sustainable management of forests in the Republic of Iraq and through the results of the risk evaluation according to the standards three requires working to avoid the frequent reality of these risks in accordance to these criteria in applying environmental audit of its negative impact within the investment budget. In addition to this matter, the development of the necessary plans for the tasks to complete the implementation of green belts projects, which can become environmental audit based on the necessary allocations to complete and sustain green belts.

HIGHLIGHTS

- ① Work to reduce desertified lands.
- ① Making green fenders to reduce the process of desertification because of its economic effects.
- ① Planting trees to expand the forest area.
- ① Improving forests to overcome the problem of declining grass cover to reduce economic impacts.

Keywords: Environmental audit, desertification, reducing costs, assessment, environmental policies

Environmental auditing and control plays a vital role in improving the environmental performance of economic units and protecting the environment from the various damages they are exposed to or the negative effects that result from carrying out their activities. Stabilizing sand dunes and preventing their encroachment into agricultural lands as well as meeting various human needs, therefore, accounting has to play an important role in this field as a result of the increased demand for financial and economic data on the environment and natural resources. In view of the continuous relationship between accounting and auditing in

that any accounting process must be accompanied by an audit to ascertain it and give an impartial opinion about it, we must establish several research attempts in determining the professional manner through which the financial statements related to environmental performance can be audited. After the events of 2003, all forest projects in Baghdad and the provinces were destroyed and sabotaged due to the environmental ignorance of the citizen.

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For several years, the Forestry and Combating Desertification Department worked to rehabilitate forest projects in Baghdad and the rest of the provinces to reduce these The phenomenon, as the area of desertified lands amounted to (27,220) thousand dunams and the lands threatened by desertification (94294) thousand dunams of the total area of Iraq amounting to (174673) one thousand dunams, which led to the decline of the vegetation cover and the humiliation of Iraqi cities and the expansion of the environment. This is why the idea of the current research came to clarify the environmental audit procedures to reduce the phenomenon of desertification and the decline of vegetation cover and its impact on the environment, the health of citizens and development in general.

The current research aims to study the cognitive bases of environmental auditing, in addition to clarifying the mechanisms and procedures for environmental auditing to reduce the phenomenon of desertification and the decline of vegetation cover, which contributes to stopping environmental degradation.

The importance of the research stems from the importance of environmental auditing, as environmental audit procedures are an important tool for the state to correct health and environmental conditions, and thus stop at the weaknesses of the environmental policy and study it in depth to find out the reasons for its weakness and address these reasons, as it is a very important issue in order to find effective ways that can be It is used by decision makers to improve the environmental and health situation.

The research was built on a basic premise that: (Environmental audit procedures can reduce the phenomenon of declining grass cover and the expansion of desertification, and preserve the environment, natural pastures, and biological and biological diversity).

Environmental Audit Conditions

Desertification Problem

Determining the problem in the fact that there is a reluctance in the implementation of forest projects, belts and green pastures, and the same policy that prevailed during the past period cannot continue, because this leads to negative effects

on the environment and the health of citizens, so appropriate methods must be followed, the most important of which is environmental auditing and a statement of its procedures and therefore. The research problem can be formulated through the following question: (Can the environmental audit mechanisms and procedures reduce the phenomenon of desertification and the decline of vegetation cover?).

In order to identify the main causes of the problem, its sub-problems have been identified, which are listed below:

1. The deterioration of the reality of projects related to the development of forests and the cultivation of eucalyptus trees and green belts.
2. The lack of natural pastures and desert oases.
3. Weak water well drilling activity.
4. Weak coordination between the Ministry of Agriculture and related departments.
5. Failure to activate laws and regulations.

Environmental Audit Theoretical Review

The relationship between organizations and the environment can be viewed as two-way, organizations have the ability to influence the environment and vice versa, and public pressure on environmental issues has created restrictions on the industry and there has been a growing recognition of the importance of the environment by politicians that environmental performance needs a group Principles and procedures for improving the industry and the business resulting from it.

Environmental audit has been defined, by the International Chamber of Commerce (ICC), as a management tool that includes a methodology, reliability, periodicity and objectivity to assess the quality of the actions taken by the environmental management with the aim of helping to protect the environment (Sharifi, O. & Brahimi, L. 2017).

Auditing began in the USA in the 1970s as a tool of internal control, helping companies to ensure that they were meeting regulatory requirements, and was developed internationally during the 1980s and 1990s to address issues broader than mere compliance and legal compliance, for example, identifying improvements, savings opportunities,

reducing costs and assuring The effectiveness of environmental management systems and identification of areas that should be addressed through comprehensive environmental management (Sheate, 2014).

The Concept of Environmental Auditing and its Importance

Environmental auditing is defined by (ISO) as a systematic documented investigation process to obtain audit evidence and evaluate it in an objective manner; to determine if the organization's environmental management system meets the environmental management system audit criterion, and to inform clients of the results.

An environmental audit is an independent assessment procedure to ensure that companies and organizations comply with environmental policies, as it examines the amount of damage or risk of injury they may cause (SBEAP, 2019).

It is a documented and systematic verification process by a business organization or by an independent legal authority, conducted objectively by obtaining evidence, and evaluating it in order to verify whether there are environmental breaches related to activities that affect the environment. A critical, periodic, structured, documented, and objective examination of production processes, and the associated sub-activities to determine their impact on the environment and its variables. (Assoul, 2020; Alkarawy *et al.* 2021). Its definition Das (2017) is the examination of the activities and procedures carried out by the organization, which help in:

1. Monitoring and evaluating the company's activities.
2. Evaluate the company's policies and their compliance with environmental requirements.

It was defined by Abdul Salam and Ahmed (2015) as a management tool that includes a systematic, reliable, periodic and objective assessment of the quality of management systems performance with the aim of:

- ♦ Reducing waste and preventing its spread.
- ♦ Evaluation of management procedures in compliance with the requirements of preserving the environment.

- ♦ Facilitating the monitoring of environmental practices.

Types of Environmental Audit

As with all environmental related audits, forest audits may examine financial and compliance issues as well as performance issues. Forests cover about 30 percent of the world's land area, yet their continued rate of decline is worrisome. According to the World Bank, the world has lost between 1990 and 2016 only about 1.3 million square kilometers of forest (TICO, 2019). Its approach is not different from that of audit commonly practiced by all Supreme Audit Institutions and covers all types of audit. However, in the specific context of forest management, it can be devoted Particular attention to aspects such as disclosure of forest assets and liabilities, compliance with legislation and agreements (both national and international), and evaluation of measures applied by the audited entity to enhance economic efficiency and effectiveness (Al-Bakou, & Al-Sayegh, 2016).

The following table gives an indication of the types of forest audits that Supreme Audit Institutions perform around the world.

From the table above, studies carried out by the Supreme Audit Institutions - each related to specific risks faced by forests, are examples taken from all over the world. Where these examples include information about the objectives, scope, conclusions and recommendations of the audit; Studies cover the following topics:

- ♦ illegal land use;
- ♦ loss of biodiversity and ecosystem;
- ♦ Forest fires;
- ♦ deforestation and forest degradation;
- ♦ climate change;
- ♦ decrease in profit;
- ♦ social problems;
- ♦ scarcity of raw materials for industry;
- ♦ Water management.

Depending on the types of these standards and the focus of the audit, there are different types of environmental audits available and they can be categorized into the following categories (Arora, 2017):

Table 1: Forest audits conducted by the Supreme Audit Institutions for some countries of the world

No	Country	Title
1	Mexico	Review of performance of measures implemented to manage forest resources.
2	Costa Rica	Implementation of policies and regulations in the forestry sector.
3	Russia	Review of the effective use of land and forest resources in the Forest Management Office of the Moscow Region
4	Estonia	Protecting valuable forest habitats in red nature areas
5	Indonesia	Auditing forest firefighting system
6	Chile	Audit of the Sustainable Management of Local Forests Project
7	Australia	Forest Industry Development Programs Aid Tasmania
8	Japan	Forest Environment Conservation Project
9	Poland	Use of public resources allocated for afforestation of agricultural land
10	Italy	Prevention and control of forest fires
11	Malaysia	Department of Recreational Forestry
12	Iceland	Reforestation: The Legal Framework for the Icelandic Forest Service and Regional Reforestation Projects
13	Brazil	Audit of the Federal Program: Sustainable Amazon
14	Iran	Audit boreal forest conservation program

Source: INTOSAI Working Group on Environmental Audit. [online] Disponibilidad en: www.environmental-auditing.org

Internal environmental audit

It is carried out by persons working within the institution, provided that they are independent and impartial about the subject and activities of the audit.

The internal audit covers the following cases:

- ♦ Compliance review: This is the verification of compliance with the environmental performance within the institution, with objective policies, laws, legislation and regulations specific to the requirements of environmental performance.
- ♦ Reviewing the environmental management system: in order to find out how the environmental management system works for the economic institution.
- ♦ Reviewing the environmental accounting process: This is to verify the soundness of measurement and disclosure of the effects resulting from environmental practices and their repercussions on the financial statements (Goyal, Bansal, 2019).

External Environmental Audit

This process is carried out by individuals from outside the institution, legal professionals, engineers, accountants, others who are specialized and have a relationship with environmental auditing. The

external environmental audit is carried out as the normal audit process, which aims to express a neutral technical opinion on the financial statements, and for this the external auditor must be aware of environmental considerations. To review the assets and liabilities, he must specify:

- ♦ Whether the financial statements reflect the obligations of the economic institution (Goswami, Pati, 2008).
- ♦ Ensure that the disclosure of the effects of environmental considerations is appropriate and that it complies with the disclosure requirements that define accounting standards.

Objectives of environmental audit

1. A properly designed and implemented environmental audit program can enhance industry and environmental performance.
2. Monitoring the optimum use of resources and evaluating the company at the national and international levels.
3. Suggesting the use of alternative energy to conserve energy sources (Manika, 2016).
4. Evaluate the quality of wastewater and determine its characteristics and impact on the living system.

5. Classification of hazardous solid waste categories, sources, quantities and characteristics.
6. Introduce and apply time saving techniques in production.
7. Maintains work/occupational health and medicine.
8. Correct documentation of the state of environmental compliance.
9. Help reduce waste through cleaner, modern technologies.
10. Regular environmental auditing once a year helps produce personal, environmentally literate and technically sound methods (Ingole, 2012).

METHODS

The search process

A forest sector audit uses several techniques commonly used in most audits, such as data analysis and evaluation, field observations, interviews, sampling, and evaluation of the internal control system. However, in the forest audit, it is worth noting that this is the percentage of land cover, not simple numerical data like those found in other types of audits. We have to choose the most vulnerable area. Therefore, auditors need to be equipped with the most appropriate tools and techniques to achieve the objectives of the audit. The research relied on the descriptive analytical method in tracking and auditing its material, in addition to the statistical method based on the analysis of the time period (2006-2020), and some statistical methods were conducted on it in order to extract Results.

According to the study of Sakhr and Hamad (2019), the role of environmental auditing in achieving sustainable development goals - (a proposed model) Environmental auditing and the research came out with a set of conclusions and recommendations, the most important of which is that sustainable environmental development is linked to environmental resources and methods of employing them and that continuing development requires efficient use and recruitment of resources and not to waste or misuse them, that one of the most important roles of environmental audit is its

contribution to the evaluation of initiatives to prevent and mitigate And dealing with environmental damage or dealing with and preserving resources, which is the basis for sustainable environmental development.

The role of green internal audit in making cities and human settlements inclusive, safe, resilient and sustainable (Barzan, & Khalil, 2021) is to demonstrate the role of green internal audit in achieving the sustainable development goal of making cities and human settlements inclusive, safe, resilient and sustainable. The Internal Audit Department worked on the financial audit and the inspection visits to the stores without covering the various aspects of the unit's activities, as it was found that the department did not carry out many of the tasks that fall under its responsibility.

Ingole (2012) also dealt with clarifying the environmental audit procedures in India in terms of the reliability of internal controls and their compatibility with the general policies of the state, collecting appropriate information that helps in evaluating the desired environmental results and proposing measures to improve the production of companies and other industries (Ingole, 2012).

Rongbing (2011) laid the foundations for identifying the procedures and methods used to achieve environmental audits that help preserve financial resources and reduce costs in China (Rongbing, 2011).

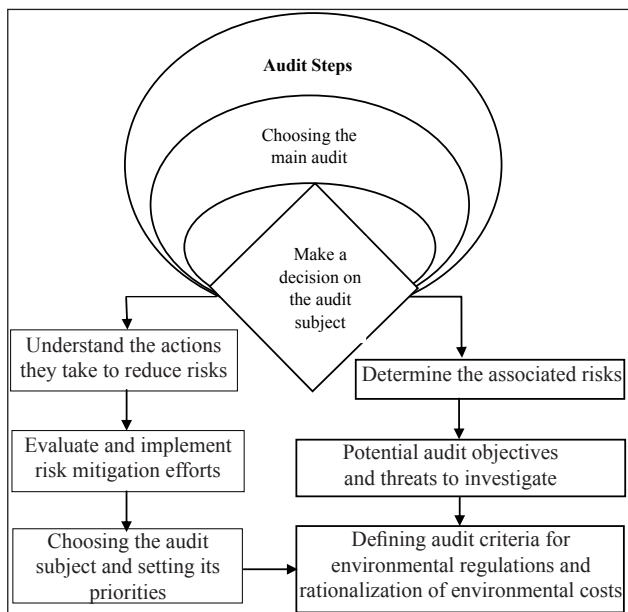
Search model

Accordingly, we suggest the audit design matrix, which in turn as a tool to help the auditor design an audit program, the auditor may follow the following steps in the work (Fig.1).

Suggested matrix by main topic for a brief statement of the audit and oversight mission or purpose. Once confirmed, sub-topics should be broken down to facilitate audit planning, including risk analysis, internal controls, and the roles of each business unit of the SAI in the audit. A list of selected subtopics is provided.

After deciding on the subject and sub-topics, the SAI must begin to identify the risks (related risks) with the possibility of influencing the direction and objectives of both the audit and the work of each of the business units concerned, the sub-topics ,

the identified risks are likely to become Part of the final results of the audit. A list of potential risks and threats related to each sub-topic is displayed. We can use Environmental Impact Assessment (EIA) as a source of information for identifying forest risks.



Source: Prepared by researchers.

Fig. 1: Audit matrix and risk identification

The identification of risks enables the Supreme Audit Institutions (SAI) to develop a clearer view of the audit direction and potential outcomes. This helps the Supreme Audit Institutions (SAI) to formulate the main objective of the audit. Once the potential audit objective has been formulated, the next step is to develop research or lines of inquiry that are most likely to guide the investigation toward achieving that objective that are comprehensive enough to allow the auditors to achieve the audit’s potential objective.

RESULTS AND DISCUSSION

Through Article (3) of the Ministry of Agriculture Law No. (10) of 2013, the Ministry of Agriculture in the Republic of Iraq sought to set an agricultural policy directed to its various activities according to the foundations decided by the state, prepare integrated agricultural plans, follow up their implementation through its departments and bodies, and coordinate with the rest Ministries, including the Department of Forestry, Combating Desertification, and Environmental Directorates in the governorates of Iraq, working on the supervisory

role to reduce expenditures, taking into account the economic crises here, field follow-up of the reality of green belts and forests, identifying problems and coordinating with the concerned departments, which in turn helped analyze the submitted and obtained data according to the data of the Federal Financial Supervision Bureau in the Republic of Iraq As shown in Table 2.

Table 2: Desertified lands and threatened by desertification

Governorates	Desertified lands / dunams	Lands threatened by desertification / dunams
Muthanna	6515160	13796000
Najaf	666568	10287900
Qadisiyah	338226	1300360
Maysan	1439960	2423940
Anbar	7467920	45804400
Babylon	26992	317202
Baghdad	87974	414612
Salahaddin	929360	4982240
Basra	3348780	2920310
Dhi Qar	1459660	1759030
Diyala	657476	1737990
Wasit	1106680	2093360
Karbala	428932	1094530
Kirkuk	11726	661980
Ninawaa	2293220	4137640
Kurdistan	441798	563086
Region		
Total	27220362	94294400
Percentage	16%	54%

Source: Prepared by researchers based on the reports of the Office of Financial Supervision

From the above table it can be seen:

1. The percentage of desertified lands reached 16%.
2. The percentage of lands threatened by desertification reached 54%, and this percentage is large.

This requires treatments to limit the increase in land in the second paragraph.

Search processors

Forests represent one of the most important renewable natural resources and help preserve

biological and environmental diversity and contribute to stabilizing the soil and maintaining its fertility, stopping desert encroachment, stabilizing sand dunes and preventing their encroachment into agricultural lands. For several years, the Forestry and Combating Desertification Department worked to rehabilitate forest projects in Baghdad and the governorates as shown in Table 3.

From the above table it is clear:

- ♦ The failure to complete most of the projects listed in the investment budget, as the completion percentage ranged (100%) only for 3 projects out of the total projects and between (35-80%) for the remaining projects until 2021.
- ♦ The completion of some projects was halted due to the transfer of powers to the governorates.

- ♦ The trees in the forests are not sustainable due to the lack of financial allocations and cash flow to complete the projects.
- ♦ The large number of transgressions and cutting down of trees by the people and razing and turning the forests into agricultural lands.

Rehabilitation Operations

Forest rehabilitation: the deterioration of forest projects in Baghdad and the governorates for several reasons, and below is a table showing the total areas, the wooded areas, the remaining without afforestation, and the number of trees.

From the above table it is clear that:

- ♦ The large number of encroachments on forest lands by the people adjacent to their homes

Table 3: Forest construction projects

Project name	Governorate	Project completion plan	Total cost/ million	Amounts disbursed / million	Percentage %		Project state
					% Material achievement	% Financial achievement	
Development and improvement of forests and tree planting	Baghdad; Wasit; Anbar; Nineveh	2021	14450	13434	67	93	Unfinished
Forest Development	Karbala	2019	1000	9195	80	92	Lack of financial allocations stopped
Forest Development	Najaf	2021	2500	2306	80	92	Unfinished
Forest Development	Babylon	2021	675	561	70	83	Suspended due to transfer of powers
Forest Development	Wasit	2018	1000	875	80	86	Unfinished
Forest Development	Double	2019	2812	1550	53	58	Unfinished
Forest Development	Diyala	2019	937	721	100	77	Accomplishment
Forest Development	Basra	2018	3675	1217	35	33	Unfinished
Forest Development	Qadisiyah	2021	1580	0	0	0	Lack of financial allocations stopped
Forest Development	Anbar	2017	3253	2734	30	84	Accomplishment
Forest Development	Ninawaa	2021	1250	978	50	78	Unfinished
Forest Development	Salahaddin	2017	1000	844	30	78	Accomplishment

Source: Prepared by researchers based on the reports of the Office of Financial Supervision.

Table 4: Wooded areas and number of trees

No	Project's name	Total area / acres	Wooded area / acres	The remaining area without afforestation / acres	The number of trees
1	Al-Nahrawan forests	5580	1330	4250	416290
2	Al-Rashid forests	1955	1103	852	35250
3	Kasiba Forest	35	12	23	158071
4	Basra Al-Sharsh forests	6000	2000	4000	520300

Source: Prepared by researchers based on the reports of the Office of Financial Supervision.

Table 5: Green belts

No	Governorate	Project details	Causes of sluggishness
1	Baghdad	Establishment of the green belt project in the area (Al-Dahna, Al-Shula) with an area of (1039) acres	Lack of financial allocations and problems in the acquisition of land
2	Maysan	Construction of the Green Belt project with an area of (170) acres	Unavailability of funds
3	Wasit	The project is located adjacent to the Hawally Road, and the length of the project is (27) km.	Work on the project stopped at the beginning of 2014 for legal and technical reasons and the lack of allocations
4	Dhi Qar	The project is located on the northwestern side, with an area of (1507) acres	Studies have been prepared and not implemented due to lack of financial allocations
5	Diyala	Construction of the green belt on the Baghdad-Baquba road, with a length of (15) km.	Unavailability of funds
6	Anbar	Work to create green belts	Unavailability of funds
7	Nineveh	A. The project of the Directorate of Agriculture of Basra, north of the province, with a length of (23) km. B. Umm Qasr Municipality Project Length (40) km.	The project was not implemented due to lack of financial allocations
8	Basra	Establishing a green belt with a length of (10) km and a width of (50) m.	The stages (fourth and fifth) were not completed due to the lack of financial allocations

Source: Prepared by researchers based on the reports of the Office of Financial Supervision.

and the lack of deterrent and firm executive procedures by the administrative authorities in which the project is located.

- ♦ Lack of environmental awareness of the importance of forest trees as windbreaks, preserving the soil from erosion and stopping the encroachment of sand into cities.
- ♦ Lack of technical staff with experience in maintaining forests (trained forest workers).
- ♦ The continuous power outage and the lack of fuel, especially kerosene, which affected the operation of watering pumps that run on electricity or diesel engines.
- ♦ The high costs of delivering water to remote afforestation places or using drip irrigation systems.

Green belts: Green belts are considered a botanical barrier consisting of types of trees that are resistant to drought, heat and salinity, such as (palm trees, quinocepers, eucalyptus, olives, sidra) that deal with winds before they reach cities and agricultural lands to reduce their impact on health, soil, plants and agricultural crops. Table 5 shows details Green belt projects and the reasons for not completing them.

Through the above table, it was found that there are many things for the green belts that prevented them from continuing to work on them, including:

- ♦ There is a clear reluctance to implement green belt projects due to the lack of prior planning.
- ♦ Lack of financial allocations to complete these projects.
- ♦ There are problems in the acquisition of land allocated for the establishment of projects.

Natural pasture stations and desert oases

1. The total number of natural pasture stations that have been established is (28) stations only from 2006 - 2020 for all governorates of Iraq for the purpose of developing vegetation cover and developing natural pastures, a very small number compared to the areas of existing natural pastures.
2. The large number of encroachments on the lands allocated for natural pastures through the control of some farmers over it, its plowing and cultivation, or the change of the land's sex through the establishment of brick and cement factories on it, as well as overgrazing and uprooting of pasture shrubs for fuel purposes.
3. There are no fences for pasture stations, except for urban areas with an area of 100 dunums and fences in the Western Badia. These fences have been subjected to deterioration and overrun after the events of 2003. Attempts to re-work in these fences have stumbled due to logistical and security difficulties and the lack of specialized workers.
4. The absence of proper agricultural planning, as the areas planted with fodder crops still constitute a low percentage of the crops of the arable areas, which led to the animal breeders resorting to pressure on the natural pastures to compensate for the fodder crops.

Water well drilling

The completed wells for the years (2009-2020) related to the Green Belt project implemented by the General Authority for Groundwater of the Ministry of Water Resources were limited to the governorates of Karbala; Najaf; Maysan and Basra, which led to a decrease in the number of implemented wells in the rest of the governorates, as shown in Table 6.

Table 6: The wells of the Green Belt Project

Governorate	Project's name	Executed wells
Karbala	Green belt project	65
Najaf	Green belt project	24
Maysan	Green belt project	20
Basra	Green belt project	9

Source: Prepared by researchers based on the reports of the Office of Financial Supervision.

Decrease in the number of water wells implemented on the forest improvement project for the years 2009-2020, and they were limited to Karbala and Najaf governorates only, without including other governorates for achieving the project's goals in building a green belt by improving forests in the governorates and table (7) shows the number of implemented water wells.

Table 7: Water wells for forest improvement

Governorate	Project's name	Executed wells
Karbala	Forest Improvement Project	4
Najaf	Forest Improvement Project	2

Source: Prepared by researchers based on the reports of the Office of Financial Supervision.

The low number of water wells implemented on the project to combat desertification for the years (2009-2020) and the limited work implemented in the two governorates of Karbala and Anbar only, as shown in Table 8.

Table 8: Water wells implemented to combat desertification

Governorate	Project's name	Executed wells
Karbala	Anti-desertification project	3
Anbar	Anti-desertification project	21

Source: Prepared by researchers based on the reports of the Office of Financial Supervision.

Through what was addressed above, we conducted audits for the purpose of assessing the risks facing sustainable forest management in the Republic of Iraq. These audits focused, in particular, on the main topics addressed in the previous parts and divided into three main parts: policy and legislation; management of forests for multiple uses; And the social, economic, financial and environmental aspects as in Table 9.

Through the results of the risk assessment (13) it was found that these risks are distributed unevenly according to the three criteria, which requires work to avoid the recurring reality in these risks, and they must be focused on in the annual audits and reviews, and they are evaluated for the compliance of the forest management with the requirements

Table 9: Evaluation of review topics for risks to the forest sector to get rid desertification

Topics / Subparts	Risks												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Politics and legislation													
1.1 Afforestation Policy			+		+		+						
1.2 Protecting biodiversity	+						+			+		+	
1.3 Soil and water protection	+						+	+	+			+	
2. Afforestation policy													
2.1 layout	+		+		+								
2.2 Protection	+	+			+	+	+						+
2.3 Legal Agreements	+	+			+		+					+	
2.4 Monitoring and investigation	+	+			+		+				+		+
3. Socio-economic, financial and environmental aspects													
3.1 Relationship with the local population	+	+		+			+			+			
3.2 Lack of financial allocations and payment of taxes		+	+	+			+			+			+

Source: Prepared by researchers based on the reports of the Office of Financial Supervision

Notes. 1-Loss of biodiversity and ecosystem. 2- Loss of income. 3- Changing the sex of the Earth. 4- Loss of livelihood. 5- Illegal logging. 6- Social problems. 7- Illegal use of land. 8- Natural disasters. 9- Low water quality. 10 - Conflict. 11- Scarcity of raw materials for industry. 12 - Overtaking on forests and green belts. 13- Delayed completion of forest construction and rehabilitation projects.

specified in the criteria mentioned in Table 9, a period is given to remove possible inconsistencies and you need to pay more attention to these topics.

Through the above results, we find that there is a weakness in the application of environmental audit procedures represented in continuous follow-up and field visits by the General Directorate of Forests and Combating Desertification and its supporting authorities to combat desertification and the decline of grass cover and thus can accept the research hypothesis (environmental audit procedures can reduce the phenomenon of cover decline vegetation, the expansion of desertification, the preservation of the environment, natural pastures, and biological and biological diversity).

CONCLUSION

Weak environmental audit procedures and the absence of field visits and continuous follow-up of forests, green belts, water wells and pasture stations, which made them vulnerable to destruction, encroachment and deterioration.

The failure to complete most of the forest development projects implemented by the departments and directorates of agriculture within the investment budget for the years (2011-2021) helped as the percentage of material implementation

ranged between (35-80%) and these projects were attached according to the ministerial order (344) on February 16 2016 in the governorates after granting them administrative, financial and legal powers, and they stopped working due to the lack of financial allocations for the following years, which was reflected in the reluctance to implement some green belt projects in Baghdad and the governorates to complete these projects and the lack of prior planning for the availability of financial allocations within the operational budgets to manage these projects.

Absence of proper agricultural planning, as the areas planted with fodder crops are still poor due to the lack of coordination of the Ministry of Agriculture with the Ministry of Water Resources regarding the wells in order to save water and address the phenomenon of desertification, given the old and damaged drilling rigs and their number.

Therefore, environmental audit procedures must be activated, field visits and continuous follow-up of forest projects, green belts, water wells and grazing stations, and the need to prepare the necessary plans to complete the implementation of green belt projects in Baghdad and the governorates, and strive to provide the necessary allocations to complete and maintain green belts, which indicates

the effectiveness of the risk assessment process according to the main topics and the subsidiary that was adopted in the paper helped the Ministry of Agriculture, relying on the data and reports of the Iraqi Federal Financial Supervision Bureau, in detecting risks to limit the decline of grass cover and the expansion of the phenomenon of desertification through the specific topics developed for this purpose to conduct environmental audit and control.

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REFERENCES

- Abdul Salam, D.A. and Ahmed, B. 2015. Environmental Auditing. *Int. J. Scientific Res. in Sci., Engine. and Techno.*, 1(5): 299-305.
- Ahmed, D.A. 2015. Environmental Auditing. *Dirasat J. Administrative Sci.*, 40(2).
- Al-Bakou', F. and Al-Sayegh, A. 2016. A proposed model for developing internal control over the costs of environmental pollution. *J. Al-Rafidain Dev.*, 37(97): 157-181.
- Alkarawy, H., Alaallah, A., Al-Sultani, M. and Ostrovskaia, O. 2021. Optimizing the cost of accounting work and financial rules within the framework of outsourcing. *Accounting*, 7(6): 1293-1304.
- Arora, B. 2017. Environmental audit – Need of the hour. *Int. J. Adv. Res. in Engine. & Manag.*, 3(4): 25-3.
- Assoul, R. 2020. The role of environmental auditing in enhancing the contribution of economic institutions to achieving sustainable development, Master's thesis, Algeria.
- Barar, M. 2016. Environment Auditing: A Future Requirement. *Int. J. Chem. Con.*, 2(2): 76-81.
- Barzan, S. and Khalil, M. 2021. The Role of Green Internal Audit in Making Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable. *Al-Kut J. Econ. and Administrative Sci.*, 13(42): 161.
- Das, P.K. 2017. An Introduction to the Concept of Environmental Audit: Indian Context. *Int. J. Humanities and Soc. Sci.*, 11(9): 2227-2234.
- De-Weerd, H. 2013. Environmental auditing and environmental management systems. *In Environ. Manage. in Practice*, 1: 289-305.
- Federal Financial Supervision Bureau, 2020. Performance evaluation reports. *The policy of the Ministry of Agriculture In the development and improvement of forests and the cultivation of eucalyptus trees*. [Published reports] <https://www.fbsa.gov.iq/ar/reports/view/3078>
- Goswami, S. and Pati, P. 2008. Environmental Auditing and its Countenance. *Everyman's Sci.*, 43(1): 27-35.
- Goyal, N. and Bansal, C.N. 2019. Environmental Auditing in India: Practices and Principles. *Int. J. Adv. Res. in Comm., Manage. & Soc. Sci.*, 2(3): 47-52.
- Ingole, S. 2012. Environmental auditing: its benefits and counterance. *Int. J. Sci. Innova. and Discoveries*, 2(5): 152-156.
- Rongbing, H. 2011. Environmental Auditing: An Informationized Regulatory Tool of Carbon Emission Reduction. *Energy Procedia.*, 5: 6-14.
- Sakhr, N.H. and Hamad, M.K. 2019. The Role of Environmental Auditing in Achieving Sustainable Development Goals. *AL-Anbar University J. Econ. and Administration Sci.*, 11(27): 474-494.
- SBEAP, 2019. Small Business Assistance Program. State of New Jersey-Department of Environmental Protection. [Air Quality, Energy and Sustainability]. Governor Phil Murphy. <https://www.state.nj.us/dep/aqes/sbap/>
- Sharifi, O. and Brahimi, L. 2017. The role of environmental auditing in achieving sustainable development goals. *J. Dev. Res. and Stud.*, 4(2): 107-124.
- Sheate, W. 2014. Environmental Auditing and Environmental Management Systems. [Centre for Development, Environment and Policy] University of London. <https://www.soas.ac.uk/cedep/ipa/file68625.pdf>. Last Accessed on 18th December, 2022.
- The Islamic Cooperation Organization, 2019. Report about the environment. *Center for Statistical, Economic and Social Research and Training for Islamic Countries* <https://sesricdiag.blob.core.windows.net/sesric-site-blob/files/article/676.pdf>

