

The effectiveness of applying the environmental law on industrial facilities and its impact on the environmental review in the city.

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Abstract

This research highlights the role and importance of environmental auditing in industrial establishments, as this aspect is one of the most important contemporary issues facing them today, as well as its relationship to environmental law and its implications for the development and continuity of institutions. environmental.

Keywords: environmental review, urban sustainability, sustainable development, environmental law

Introduction

Industry is the primary pillar of development on which the progress and development of countries depends. It is necessary to pay attention to this sector when planning cities in which industrial facilities are located. By activating the principle of urban sustainability, it has become the immediate and future direction of industry by integrating the manufacturing process (production and product) with the city's basic plan in industrial signature. As the industrial activity is considered one of the most dangerous activities that can be located within the city, due to the pollution it causes and the loss of environmental assets, which reduces its ability to provide a safe and healthy life for the community. Several factors such as (type of industry - size of the factory - duration of emission - maintenance - work mechanism - quality and quantity of production - technologies used in industrial operations - quality of fuel - raw materials used - the presence of on-site treatments to reduce the emission of pollutants and the extent of their work efficiency). Despite the global efforts and trends to reduce industrial pollution, the state of the environment is deteriorating further due to the steady growth in the amount of consumption of raw materials and their outputs to the environment, which forms several forms according to the city's dealings with it, such as the application of environmental safety measures.

1. The problem

Weakness in the application of environmental law to industrial facilities (brick factories) in Wasit Governorate.

1.2 Hypothesis:

Activating the role of environmental auditing according to the principle of prohibitive sustainability to reduce the production of pollutants resulting from industrial facilities.

1.3 Objective:

Define the concept of environmental review and its role in achieving urban sustainability.

A statement of the effectiveness of applying environmental law to industrial establishments within the city limits.

1.4: Data Collection Method

The research relies on several sources to obtain the necessary data for the research, as follows:

A: Theoretical side Reliance was made on books, research, studies, periodicals and the Internet, as well as interviews with academic professors specialized in the field of research.

B: The applied side: where a set of paragraphs were relied upon, namely:

- 1) Interviews with specialists in the professional field in the Environmental Department. -
- 2) Questionnaire: The questionnaire was formulated according to a five-point Likert scale

1.5 Research Society & Sample

The research sample was selected from academics and specialists

2. The concept of environmental review

The term “environmental review” is a common term in many industries, especially in industries that have impacts on the environment. However, interest in environmental auditing has greatly increased and grown over the past few years, since the emergence of the terms environmental management and environmental auditing in 1993 (Welford,2002).

The British Standards Institute (BSI) defines environmental review as a systematic assessment to determine the compatibility of the environmental management system of the facility with the planned environmental programs and to evaluate the effectiveness and suitability of that system to achieve the environmental policy of the facility. It was defined by the Confederation of British Industry (CBI). Environmental review is “a process of regular examination of the interactions resulting from emissions and environmental damage represented in air, land and water pollution (Betianu,2008) and the Council of the European Union defined environmental review as one of the tools on which the management of the establishment relies on a regular and accurate basis, as well as the European Commission defined it as (European Commission EC)) as a process of evaluating and examining the environmental management system in the facilities to ensure the extent of compliance with the environmental policies, plans and programs of the facilities in assessing environmental performance objectively and regularly (Todea,2011).

The environmental performance review is multiple and varied. Given the desire of the stakeholders and decision makers to obtain assurances of the soundness of their environmental position in order to preserve the safety of the facility and to avoid any financial costs as a result of violations or to remove the damage that they may cause to the environment, the facilities seek to verify the extent of compliance of the facilities with environmental regulations, policies, laws and regulations. (Chaudhary,2011).

2.1 The importance of environmental review: Business organizations should pay attention to environmental review and prohibitive sustainability, due to the advantages it provides to the beneficiaries of the stakeholders represented in the following:

- 1- Provide regular reports to consumers on the environmental performance of industrial facilities.
- 2- It helps investors from stakeholders to identify establishments that invest in environmental aspects.
- 3- Pushing facilities towards compliance with environmental laws and regulations.
- 4- Activating green investments that preserve the environment and are less exposed to risks (Muhammad,2020).

2.2 Objectives of the environmental review: The environmental audit aims to achieve a set of objectives represented in the following:

- 1- Achieving the best investment of economic resources and improving the performance of industrial facilities.
- 2- Review the risks and measure the potential for pollution from industrial operations and propose environmental treatment programs to reduce environmental risks in the city.
- 3- Identifying urban sustainability strategies that will contribute to reducing emissions and ensuring that the facility monitors environmental activities.
- 4- Ensure compliance with the requirements of legislation and instructions in environmental law and internal administrative policies related to the protection and management of the urban environment. (El-Gend,2018)

The need for environmental review: Social, economic and cultural changes created a new concept towards the environment and its protection. As a result, concepts changed towards a strict concern for the environment, which increased the demand for environmental review work and services from multiple and different parties.

3.2 Entities concerned with the results of the environmental review work, including:

- 1- Consumers who are looking for green products, which creates a strong impact for the products of institutions that care about environmental performance in the consumer market, and some of them adopt the green marketing approach.
- 2- Shareholders and investors who are stakeholders who seek to find economic institutions that fulfill their obligations towards the environment and its sustainability. This puts great pressure on these institutions to provide reliable information on their environmental performance.
- 3- Borrowers that may request some environmental information before granting credit, as granting credit or not depends on the result of reviewing this environmental information by a third party, and therefore some requests may be rejected due to the environmental risks that surround them.

4- Environmental protection laws and legislation issued by many countries in order to protect and preserve the environment, which requires economic institutions to abide by these laws and legislation in order to protect and sustain the environment.

5- Environmental pressure groups, which have become increasing pressure on economic institutions in order to protect the environment and rationalize the use of scarce environmental resources, which has increased the demand for environmental review services.

6- The environmental economy that emerged after the spread of the concept of sustainable development, which combined economic and social development with environmental care. This requires the introduction of environmental indicators in measuring growth and economic yield (Al-Matarneh,2008).

3. Urban sustainability

It is a state of balance and reformulation of the environmental, economic, social, and even political and institutional determinants and objectives of the city, which enable or provide a greater opportunity to achieve sustainable urban development. Thus, urban sustainability combines, in fact, the sustainability of natural resources and the technical, financial and societal sustainability of that city under the shadows of sustainable urban development. And that sustainability Urban in social terms means: the practical application of community planning to ensure urban systems that enjoy a longer viability, a better quality of life, and sustainable self-sufficiency, so that development processes that exceed the limits of the absorptive capacity and the ability to renew the resources of the natural system society (Al-Anbari,2016).

4. Sustainable development:

The ability to meet the needs of the environmental dimension without negatively affecting the ability of future generations to meet their needs, and also defined it as an interactive process between three systems: the environmental system, the social system, and the economic system, while the United Nations defined sustainable development as the ability Meeting the needs of those present and compromising the needs of future generations (Damas,2020)

4.1 Dimensions of sustainable development

4.1.1 The environmental dimension is one of the dimensions of sustainable development

1) Sustainable use of land: the main effects of land degradation are represented by soil pollution of agricultural land and removal of vegetation cover as a result of erosion and salinization factors, degradation of pastoral lands, decreasing forests and increasing desertification, which leads to economic pressures, so it is recommended to reconsider agricultural policies in order to reach use its sustainable.

2) Sustainable use of water resources: The unsustainable use of water resources is one of the biggest environmental problems facing the world, and for this reason it is recommended to reconsider the policies that cause the depletion of these resources and reach the optimal use of them and put an end to wasteful uses and improve the efficiency of water networks. Pumping groundwater at unsustainable rates, in addition to dumping industrial, agricultural and human waste that pollutes surface and groundwater.

3) Protecting the climate from global warming: Industrialization processes and the heavy use of fuels contributed to

The continuous doubling in the volume of polluting gases and vapors in the air, with it increased risks and major changes in the global environment, perhaps the most important of which is the rise in temperatures, the increase in the speed of water dissolving and the increase in sea level, which was accompanied by a change in precipitation patterns and vegetation cover and the impact on the ozone layer and the increase in ultraviolet radiation. In principle, sustainable development is to prevent destabilization of the climate, physical and biological geographic systems, or the destruction of the earth's protective ozone layer, in order to protect current generations and preserve opportunities for future generations (Hamida,2012).

5. The Law:

It is a set of regulatory materials issued by the higher authorities responsible for the management of society, which determines the relationship between individuals and their surrounding environment through regulatory provisions.

5.1 Components of environmental law:

The environmental law consists of several chapters, starting with the introductory chapter, which includes the definitions that will be included in it, then the chapters follow, which include chapters. In other words, it continues from the first article to the last article. Environmental law is divided into several names, which are environmental legislation, regulations, and environmental instructions, in addition to standards and determinants. environmental standards (water, air, soil, noise, and other details) as well as the case for the environmental system, and the environmental instructions deal with the details of what is permitted and prohibited from projects and their locations and building specifications for them, with the classification of facilities in terms of the degree of their pollution of the environment from hazardous to non-polluting or limited impact and on the basis thereof. The environmental impact of the projects is evaluated before they are signed and established. As for the environmental determinants, they are the criteria that include the permissible concentrations of pollutants in the natural environment (water, air, soil, etc.) It is issued either with the law or the system, or it is issued on its own with an appendix after amending, updating or adding to it (Al-Rikabi,2005) applied side

6.1 The study area is the brick factory complexes located in Wasit Governorate

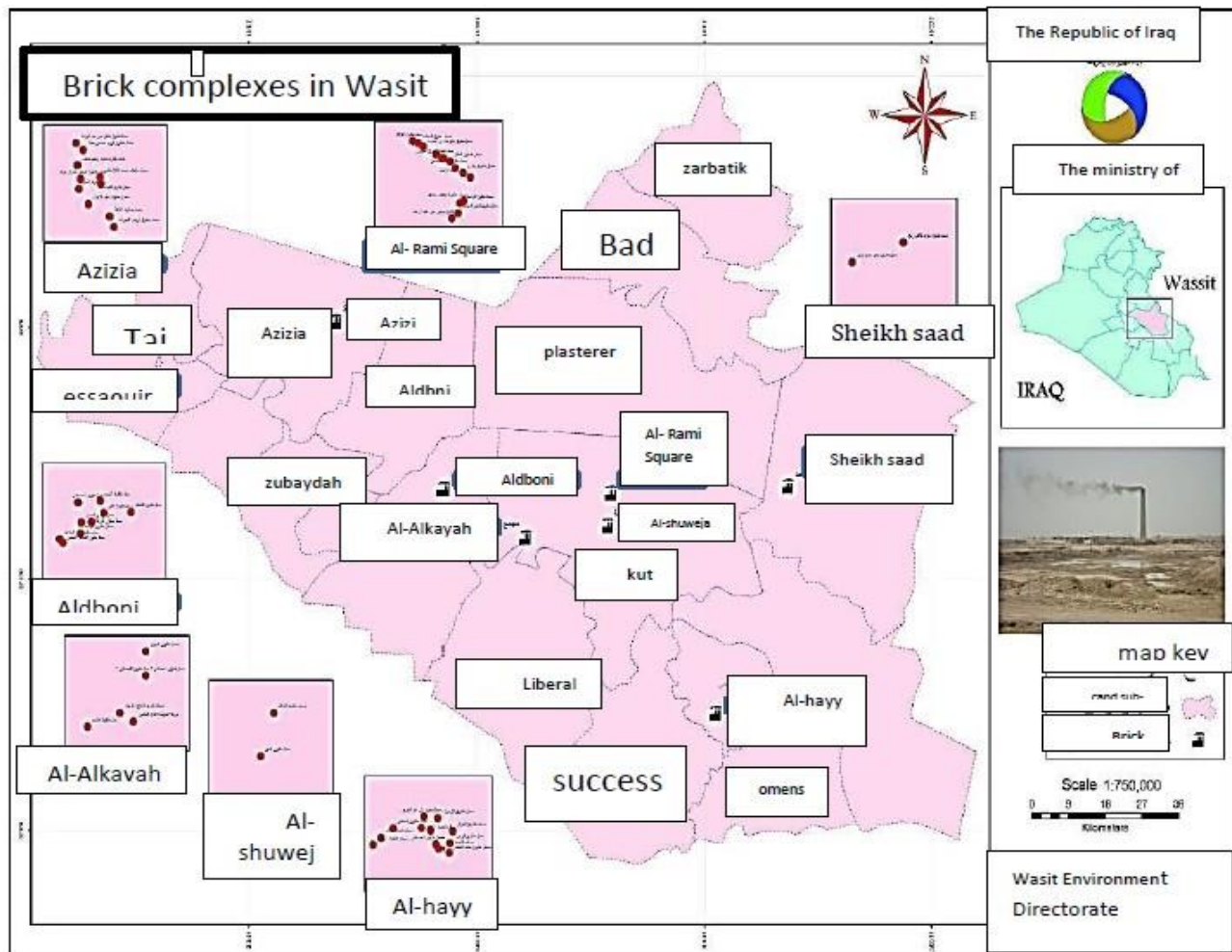
The province of Wasit and its center is the city of Kut, between latitudes (1 32 30 33) north and longitude (30 44 20 46) east. At the two branches of the Al-Gharraf and Dujail rivers from the Tigris River, in terms of spatial location and its relationship with the neighboring regions, the city of Al-Kut is linked to Baghdad, as it is about (180) km away from it. The geographical importance of the site lies in the fact that it is located within a wide agricultural region (Al-Saadoun,2012).

6.2 The environmental reality of the brick factories in Wasit Governorate

Industrial activities constitute a major source of air pollution with gases and particulates, due to the old technologies used in production processes, aging lines, poor maintenance procedures, and the lack of appropriate and efficient means of control. There are (7) existing brick complexes in Wasit Governorate (Al- Aldboni Bricks Factories Complex - Al-Hayy Bricks Factories Complex - Al-Alkayah Bricks Factories Complex - Al-Shuweja Bricks Factories Complex - Al-Rami Square Factories Complex - Al-Azizia Bricks Complex - Sheikh Saad Bricks Complex)(Wasit Environment Directorate,2021).

6.3 Presentation and analysis of the results of the questionnaire

The number of questionnaires distributed was 100, and the number of questionnaires returned was 86 to deal with data and extract results.



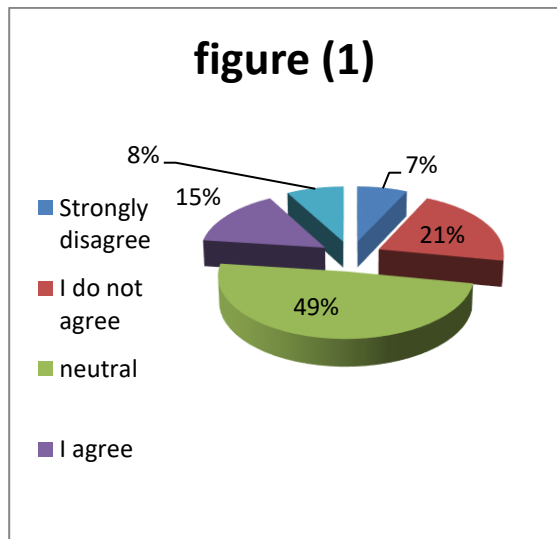
Map No. (1) shows the brick factory complexes in Wasit Governorate

Source: Wasit Environment Directorate, GIS division

6.4 Legal dimension

The first question: - The paragraphs of the environmental law related to industrial facilities are applied to industrial facilities

Table No. (1) shows the extent of application of the environmental law for industrial establishments



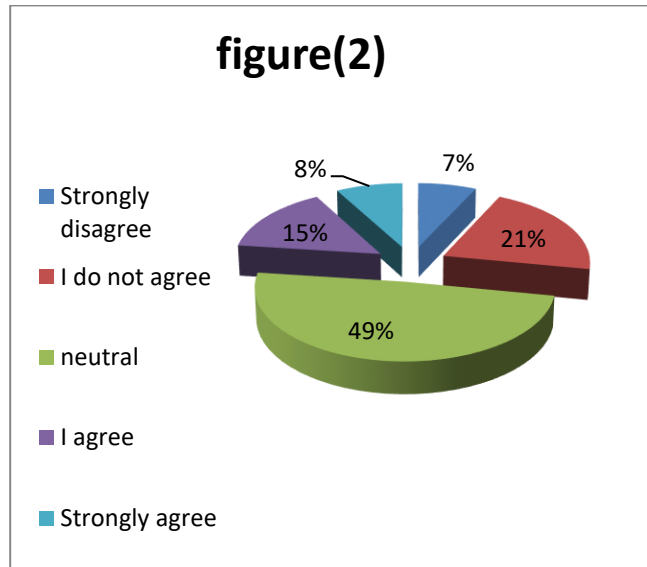
Percentage	Number	The environmental law for industrial facilities
9%	8	strongly Disagree
39%	33	Disagree
31%	27	neutral
15%	13	Agree
6%	5	strongly Agree
100	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest percentage of respondents to the question was (I do not agree), which means that the paragraphs of the Environmental Law are not applied in industrial establishments by (39%). And the lowest percentage was (strongly agree) with (6%) as shown in Figure (1) and Table (1) due to the lack of legal oversight over the implementation of the paragraphs of the Environmental Law

The second question: - The environmental audit is considered supportive of activating the role of environmental law

Table (2) shows the extent to which environmental auditing contributes to the activation of environmental law



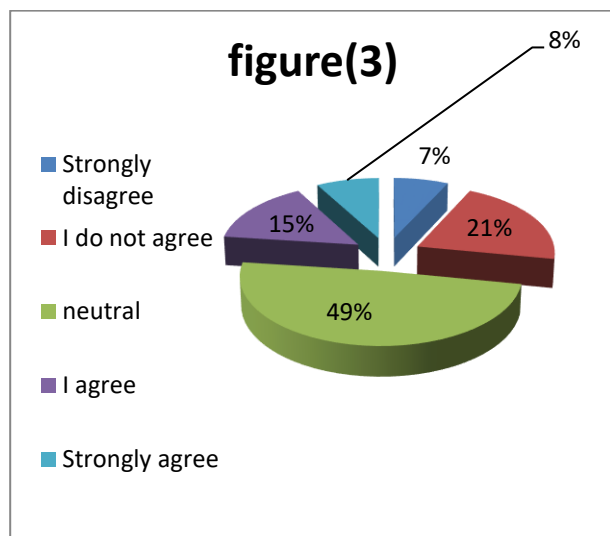
Percentage	Number	Environmental auditing is considered supportive of activating the role of environmental law
15%	13	strongly Disagree
27%	23	Disagree
13%	11	neutral
22%	19	Agree
23%	20	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest response rate for a question that considers environmental review supportive of activating the environmental law was (I disagree) with a rate of (27%), and the lowest response rate was (neutral) with a rate of (13%). This indicates that the environmental review is not supportive of activating the role of environmental law with a rate of (27%)) and as shown in Figure (2) and Table (2), which shows a weakness in the implementation of the procedures and not a weakness in the paragraphs of the Environmental Law, and the evidence for this is the presence of pollution in the study area.

The third question: Does the Ministry of Environment work with the supporting authorities to activate and update the environmental law?

Table No. (3) Does the Ministry of Environment work with the supporting agencies to activate the environmental law?



Percentage	Number	Does the Ministry of Environment work with the supporting authorities to activate and update the environmental law?
7%	6	strongly Disagree
21%	18	Disagree
49%	42	neutral
15%	13	Agree
8%	7	strongly Agree
100%	86	Total

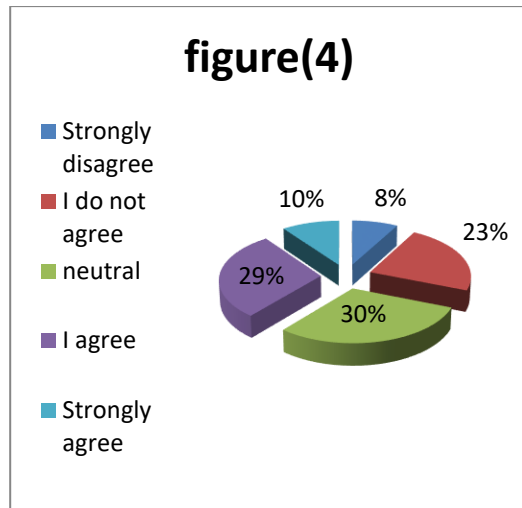
The source is from the researcher's work based on the results of the questionnaire

The highest percentage of the answer to the question: Does the Ministry of Environment work with the supporting authorities to activate and update the environmental law was (neutral) by (49%) and the lowest percentage was (strongly agree) by (8%) as shown in Figure (3) and Table (3) This explains the weakness of the interdependence between the ministries in solving the problem of environmental pollution in a participatory manner, or the lack of information they have, and the reason is the lack of communication between the concerned authorities.

6.5 environmental dimension

The first question: - The Ministry of Environment works to spread environmental awareness among workers on a regular basis.

Table No. (4) shows whether the Ministry of Environment works on spreading environmental awareness among employees on a regular basis



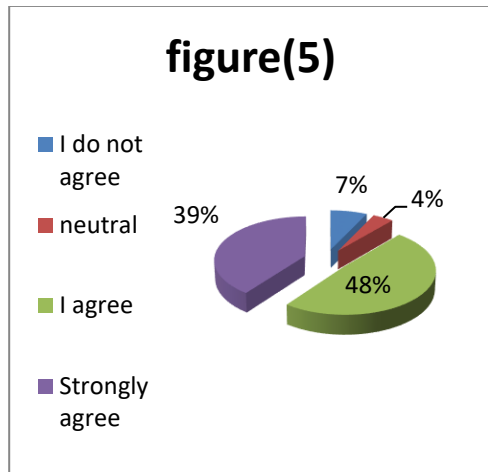
percentage	Number	The Ministry of Environment works to spread environmental awareness among workers on a regular basis
8%	7	strongly Disagree
23%	19	Disagree
30%	26	neutral
29%	25	Agree
10%	9	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest percentage of the question that the Ministry of Environment works to spread environmental awareness among workers on a regular basis was (neutral) by (30%) and the lowest percentage of opinion (strongly disagree) by (8%), and this is as shown in Figure (4) and Table (4). Which supports the outcome of the third question from the legal dimension axis. Does the Ministry of Environment work with the supporting authorities to activate and update the environmental law, which was of a (neutral) opinion by (49%).

The second question: - The contribution of environmental review to achieving urban sustainability

Table No. (5) shows the extent to which environmental review contributes to achieving urban sustainability



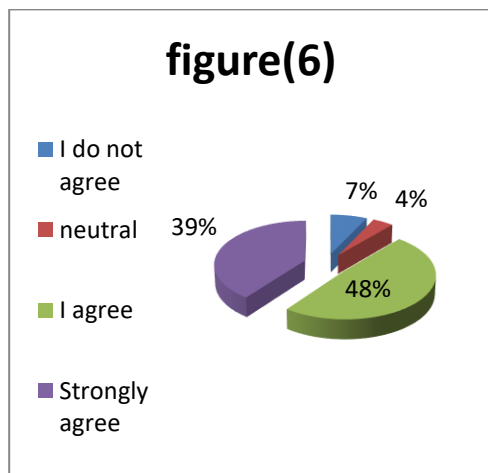
Percentage	Number	The contribution of environmental auditing to achieving urban sustainability
-	-	strongly Disagree
9%	8	Disagree
19%	16	neutral
60%	52	Agree
12%	10	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest percentage of the second question, the contribution of environmental review to achieving urban sustainability, was for the opinion (agree) by (60%) and the lowest percentage for the opinion (do not agree) by (9%). This indicates that environmental review has a role in achieving urban sustainability, as shown in the figure (5) and Table (5).

The third question: - Publication of environmental laws and reports on websites to increase environmental awareness among the community in the city.

Table No. (6) shows the extent to which environmental laws and reports are published on websites to increase environmental awareness among the community in the city



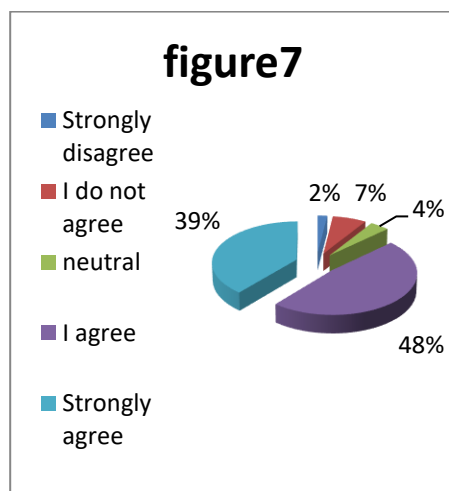
percentage	number	Publication of environmental laws and reports on websites to increase environmental awareness among the .community in the city
-	-	strongly Disagree
1%	1	Disagree
6%	5	neutral
49%	42	Agree
44%	38	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest percentage of the third question, the publication of environmental laws and reports on websites to increase environmental awareness among the community, was for the opinion (agreed) with a rate of (49%), and the lowest percentage was for the opinion (disagree) with a rate of (1%) . This shows that the respondents agree the publication of environmental laws and reports on websites to increase environmental awareness among the community, as shown in Figure (6) and Table (6).

Fourth question The local community has the right to express opinion in the planning of industrial sites.

Table No. (7) shows whether the local community has the right to express opinion



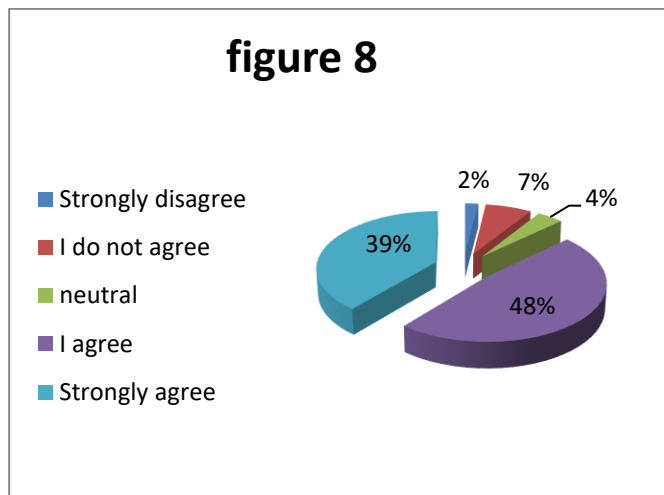
percentage	number	The local community has the right to express opinion in the planning of industrial sites
4%	3	strongly Disagree
6%	5	Disagree
7%	15	neutral
50%	43	Agree
23%	20	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

That the highest percentage of the fourth question of the local community has the right to express an opinion in the planning of industrial sites was for the opinion (agree) by (50%) and the lowest percentage was for the opinion (strongly disagree) by (4%) as shown in Figure (7)and Table (7) supports the desire of the local community to apply participatory planning in the planning decision-making of the city

The fifth question: Industrial establishments contribute to achieving urban sustainability in the city.

Table No. (8) shows the extent to which industrial establishments contribute to achieving urban sustainability in the city.



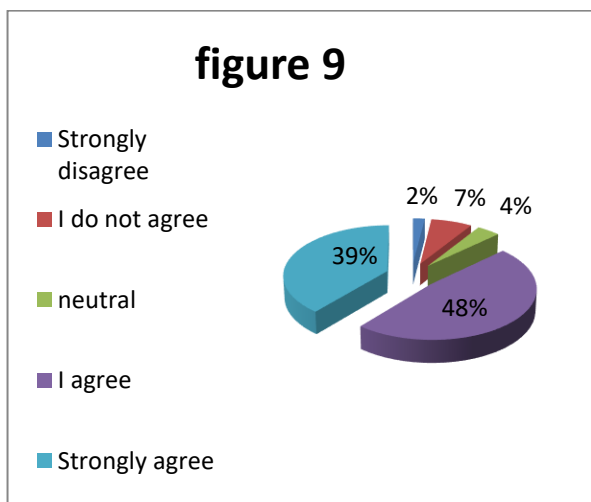
Percentage	Number	Industrial facilities contribute to urban sustainability in the city
-	-	strongly Disagree
4%	3	Disagree
11%	11	neutral
48%	41	Agree
36%	31	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest percentage of the fifth question that industrial establishments contribute to the development of the reality of the local community was (agree) with a rate of (48%), and the lowest percentage of opinion (do not agree) with a rate of (4%). This indicates that the respondents support that industrial establishments have a role in developing the reality of society The local community, as shown in Figure (8) and Table (8), supports the fourth question. The local community has the right to express its opinion in the planning of industrial sites. The opinion of (agree) was (50%).

The sixth question is the lack of sufficient awareness among institutions and individuals of environmental pollution problems.

Table No. (9) Lack of sufficient a wareness among institutions and individuals of environmental pollution problems



Percentage	number	Lack of sufficient awareness among institutions and individuals of environmental pollution problems
2%	2	strongly Disagree
7%	6	Disagree
4%	3	neutral
48%	41	Agree
39%	34	strongly Agree
100%	86	Total

The source is from the researcher's work based on the results of the questionnaire

The highest percentage of the fourth question, the lack of sufficient awareness among institutions and individuals about the problems of environmental pollution, was for the opinion (agree) with a rate of (48%), and the lowest percentage for the opinion (strongly disagree) with a rate of (2%). This indicates that there is a lack of sufficient awareness among institutions and individuals Environmental pollution problems as shown in Figure (9) and Table (9).

Conclusions

- 1) The Iraqi environmental law did not include the principle of sustainability in the articles and paragraphs related to industrial facilities.
- 2) The neighborhood brick factory complex is within the taboos of the basic design, which is (5) km, and is about (3) km away from the nearest population center, and this is contrary to the restrictions.
- 3) Al-Shuweja Factories Complex, some of which have been canceled due to the expansion of the municipal boundaries and its harmful environmental effects due to its proximity to residential areas (Al-Damuk and Al-Shuhada).
- 4) Most of the brick factory complexes in Wasit governorate have an old facility and operate using primitive methods and use unclean fuel (black oil).

- 5) The lack of adequate legal oversight to implement the provisions of the environmental law.
- 6) Non-participation of the supporting ministries with the Ministry of Environment in activating and implementing the environmental law.
- 7) The contribution of industrial establishments to the development of the reality of the local community.
- 8) Lack of sufficient awareness among individuals and institutions of environmental pollution problems.

Recommendations

- 1) The need to review environmental laws on a continuous and planned basis, according to the policy of decision makers, if changes occur in the environment for the purpose of amendment and revision.
- 2) The necessity of activating adequate legal oversight to implement the provisions of the environmental law in governmental and private institutions.
- 3) Everyone must inform the environmental protection department of any case of environmental pollution.
- 4) The need to include an article in environmental law in which it supports the right of public participation in environmental policies.
- 5) The environment directorates should constantly review the future expansions of the city in the case of the spatial signature of any industrial activity.
- 6) It is prohibited to carry out any work that leads to pollution of the environment except after obtaining environmental licenses and approvals from the authorities concerned with protecting the elements of the environment from pollution and depletion.
- 7) We recommend activating the role of environmental review in applying the environmental law and its instructions to preserve the environment around us.
- 8) The Environmental Directorate must stop granting environmental approvals to the brick factory complexes in Wasit Governorate that operate using primitive methods.
- 9) Remote sensors should be installed in industrial areas, especially in areas where brick factories are located in the governorate, to know the amount of gaseous emissions and their conformity with environmental standards and determinants.

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