

## The role of environmental accounting in sustainable development to conserve natural resources

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### ABSTRACT

The issue of preserving the environment and the natural resources of the society is no longer a desirable thing that some facilities can be established to gain fame only, but it has become a global urgent necessity, and because of the importance of development and the environment, the United Nations held its conference on development and the environment in 1992, and as a result of this.

The conference most countries adopted sustainable development as a national goal. The debate now revolves around how the economic sectors can contribute or business in achieving this goal, as it resulted in a number of principles such as sustainable business or corporate responsibility, Environmental, sustainable accounting. In response, companies, in particular Canadian companies, began to disclose a report Annual report on sustainable development, as it is convinced that this will increase the value of its shares and create what is known as shareholder value Shareholder value

Therefore, issues of environmental care, costs, revenues and benefits from it have come to the fore and are very important Around the world because of its close relationship to human well-being, standard of living and advancement. This has led to an increased need for data. The current information provided by accounting to its annual financial statements is no longer sufficient for environmental purposes.

It requires accountants to focus on the potential economics and benefits that can be achieved from creating accounting for the sustainable environment While building a comprehensive framework for environmental accounting stems from the reality of accountants' use of environmental accounting techniques to rationalize management decisions

The facility affecting the environment and rationalizing environmental costs, in addition to the interest of chartered accountants and external auditors By validating the environment-related information in the accounting statements.

Many scientific bodies have adopted the process of preparing guide documents to guide the role of accounting in supporting development

And environmental conservation, such as the Environmental Conservation Agency in the United States, the Association of Management Accountants of Canada and the organization

Environment Canada, the National Service for Environmental Quality in the United States and the United Nations / Development Division

Sustainable.

The question is what is the appropriate behavior to embody the needs required to oversee progress towards sustainability. In fact, there are two broad responses to the problem of measuring sustainability, in terms of institutional sustainability. The companies improve their environmental performance, and the second response is the formal sustainability or non-sustainability of a project. Lessons learned from national accounts that help define The first starts with the lack of clarity of the idea of sustainable business due to the difficulty of identifying a set of practical indicators to help

#### Introduction.

The concept of sustainable development that focuses on preserving natural resources, and which requires knowledge and commitment to natural resource values in the financial report, has increased participants' responsibility in the accounting aspect of the natural environment. In fact, natural resources were not given enough consideration in the early years of economic development despite their unique contribution to development.

Recently, there has been an increased interest in developing environmental and resource accounting in Iraq. The development of national resource accounting has focused on placing a monetary value on the known physical quantities of natural resources in order to obtain the value and wealth of natural capital. The natural resource inventory account is usually recorded in both physical and monetary terms.

Sustainability accounting includes the equity aspect of the environmental justice paradigm. This approach powerfully introduces the three-way minimum profit requirements for people and the environment in accounting jobs. In order to contribute to environmentally sustainable development, the company must meet all three conditions. Incorporating Profit Environment and People in Accounting integrates environmental externalities into an economic model based on incentives.<sup>1</sup>

The development of national accounts to form the basis of any environmentally sustainable development approach in most countries in the short to medium term shows us that it is not bright in the face of today's challenges.

**KEYWORDS** Environmental accounting is one of the most important pillars of sustainable development in Iraq.

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<sup>1</sup>-The uncivilized behavior of man towards the environment has resulted in a large number of negative environmental influences limited it due to its expansion and simultaneous growth with the rapid development of the industry and the use of various sources of energy, which are: It has dangerous repercussions on society, and on life in general

### **The first topic: the theoretical framework of the research the study Problem**

The information provided by accounting to society and the environment through its annual financial statements is no longer sufficient for environmental preservation purposes, but rather requires that accountants in organizations focus, on an ongoing basis, on potential economics and the benefits of internal management.

The other could be achieved from the introduction of accounting for the sustainable environment.

Companies sometimes encounter some questions when developing and implementing sustainable development, such as:

1- Is sustainable development accounting different from environmental management systems?

2- How do companies measure the extent of success in achieving sustainable development.

3-What are the influencing external variables and how can they be entered into the sustainable development equation

### **Research hypothesis.**

From the above, the following assumptions can be included:

**Main hypothesis:** "Green accounting contributes to achieving sustainable development."

### **Sub-hypotheses:**

1-The concept of green accounting is achieved through a balance between economic and social development on the one hand.

### **Environmental protection on the other hand;**

2- Planning the Central Bureau of Statistics works to achieve sustainable development by applying green accounting in its lists

### **The financial importance of studying:**

1. The research dealt with one of the interesting and important topics. Sustainable development is a complex concept that opens the door for many

2-Interpretations and topics regarding the usefulness and reliability of sustainable development accounting.

3-Increasing interest by governments and community members in environmental performance for the purpose of sustaining the environment and preserving it from pollution and achieving high quality of products.

4-The field of accounting work expanded to include all segments of society and deals with treating all problems, especially environmental and development.

5-The importance of the role that accounting plays in measuring and analyzing the costs of environmental conservation and the disclosure of environmental information to help establishments in continuous improvement and development and support the sustainable development policy.

### **Objectives of the study:**

1. Clarify and evaluate the role of accounting in achieving sustainable development.

2. A statement of the contribution of accounting and the accounting system to preserving the environment and supporting sustainable development

3. Creating a conceptual formula based on sustainable development.

### **Research Methodology:**

In order to achieve the objectives of the research, the researcher followed the following in his research:

1. The descriptive approach based on the favorable sources of books, magazines and the Central Bureau of Statistics, Department of Environmental Statistics. Using the Internet.

**research importance:**

In terms of the environmental dimension, the importance of this research appears in the work to spread environmental awareness

Establishments through accounting methods topics related to the environment in general

And management accounting issues in particular in light of the relative scarcity of research in the field

Accounting for environmental management in the Arab countries. As it turned out later, a necessity.

**Research Methodology:**

This research is based on the inductive analytical curriculum, through extrapolation and analysis It has been reported in the literature on accounting and environmental literature from academic and senior research Professional environmental, accounting concepts, experience, and developments it has gone through Environmental accounting in an attempt to establish a proposed scientific framework for environmental management accounting systems.

Paying attention to environmental issues in business enterprises in order to adhere to the legislation regulating the exploitation of the environment

And its resources on the one hand, and responding to customers' desires to provide environmentally friendly products on the one hand

Secondly, and to improve the image and reputation of the facility from the third party, which in turn contributes to supporting capacity

The users of financial data in assessing the extent to which the facility is consistent with the philosophy of the society on which it is based

The principle that the facility is part of society and it should maintain it.

On the accounting side, this research acquires its importance by explaining the accounting role in Provide stakeholders with appropriate environmental information, and broaden the scope of research.

The field of environmental management accounting systems through disclosure of the scientific aspects of them within the establishments Actions to bridge the gap between theory and practice and to support practitioners' confidence in

The practical reality in accounting information and then support for these

**search limits:**

n light of the abundance and diversity of academic literature in the field of environmental and social accounting

Over the past two decades, Ali has had the Ministry of Planning, despite the positive results of the research, but the researcher faced difficulty in collecting everything written in one field or a specific topic, especially in light of the intertwining of research topics from here, in light of this distinctive feature of environmental accounting research and within the border. From. The experience of the available time for research on the one hand, and the nature of the research as a reference search, on the other hand, the researcher presented most aspects of the general framework for environmental accounting without going into the technical details.

(Such as cost-benefit measurement, product life cycle development, environmental control, etc.) given that each of them may need independent research, as the researcher focused on studies that directly relate to the research topic and according to what can be from those studies that the researcher has tried builds a framework Scientifically for environmental management accounting systems.

**Search Plan:**

To achieve the research goal, the study was divided into four main points:

The first point is the theoretical background of the research, by explaining the environmental and accounting scientific concepts Related to the general framework of environmental accounting, and in the second point deals with the accounting approach To study the environmental dimension, the third point presents the most important previous studies in the field of research, while

The last point deals with the scientific framework for environmental management accounting and the most important challenges facing it.

Then the research concludes with the presentation of the most important findings and recommendations.

Previous studies in the field of environmental management accounting systems.

The Bible researcher on this point of research previous studies in the field of research, which is

The scientific framework for environmental management accounting systems follows: Environmental Management Accounting (EMA

Study reports of global and international organizations

Among the most important topics dealt with in this study is the definition: UNDS, 1- 2001 study With environmental management accounting and an analytical study of environmental costs, classified into four groups And environmental revenues (as previously mentioned), as the study discussed in detail a flow budget

Raw materials and basic concepts of cost accounting, activity cost accounting, and accounting Cost flow. At the end of the study, several examples of demonstration of performance indicators were presented

And calculating the savings in the costs of environmental investments and projects.

The researcher started with this study because it represents the beginning of the promotion of environmental management accounting And presenting it as a new branch of management accounting, and this study was prepared by the United Nations /

United Nations Division for Sustainable Development

It mainly relates to EMA Procedures and Principles (USD

By assessing and controlling environmental costs, this study was prepared by a working group of national experts

It is an advisory body made up of representatives of the united UNEMA Expert Working Group

For: industry, environmental agencies in various countries, international organizations, accounting firms,

Academics, United Nations agencies. From the researcher's point of view, within the limits of my knowledge in the field

Research in environmental management accounting, this study is not only a pioneer but also a source.

The main one for many of the following studies, especially in the field of environmental costs in various countries

The scientist, and perhaps this is due from the researcher's point of view to the comprehensiveness of the study (located in 144 pages)

Generality and in-depth handling of many environmental accounting issues, in particular Environmental costs and raw material flow.

The Institute of Chartered 2- Study of the Australian Institute of Certified Public Accountants.

A consortium consisting of Accountants in Australia (ICAA)

It is managed and funded by EPA Victoria, ICCA, and Environment Australia.

Case studies in Environmental Management Accounting Australia to illustrate how the practices.

Environmental management accounting in a business unit can achieve financial and environmental outputsPositive, and the study concluded that environmental management accounting increases management awareness.

The environmental impact of costs also affects the financial performance of the organization and strengthens relationships

(ICAA, 2002b) the overlaps between an organization's operations and their impacts on the environment.

International Federation of Accountants 3- Study of the International Institute of AccountantsThis study mostly dealt with the theoretical framework for environmental management accounting (IFAC

Where it presented at the outset the need for attention to business organizations and accountants

On environmental issues, then it dealt with the definition of environmental management accounting, its uses, and challenges

In the end, she mentioned a detailed analysis of the financial and material aspects of itThe study is some examples of environmental management accounting applications in multiple countries around the worldsystems and confirm the demand for them

The most important terms used in the studyContinuity of its existence.

Such as: Australia, Japan, the United Kingdom, the United States of America, and Germany

And Argentina.

4- Reports from other organizations, including the report of the National Department for the Defense of Environmental Quality in

National Defense Center for Environmental) United States

1999 AD on the methodology for analyzing environmental costs (Excellence NDCEE)

European) Recommendations of the European Commission in Brussels, (NDCEE, 1999)

2001 regarding measurement and accounting disclosure in accounts (Commission EC

United Nations Report / Conference on Trade and Development, EC annual report (2001)

Accounting (Nations Conference on Trade and Development UNCTD

Agency Report, UNCTD, and Financial Reports on Financial Costs and Liabilities (2002

The American Environment: The United States Environmental Preservation Agency released

(the United States Environmental Protection Agency USEPA)

A report titled Environmental Accounting as an EPA Tool to be referenced in the US Environment Agency references

USEPA, Business Administration (2003)

Environmental studies specializing in accounting and its tools "The subject of this study is Supervision: Henri and Journeault, 1- Study 2010

This means the application of environmental strategic and financial control methods

To manage the environment, where the study dealt with the effect of administrative control systems on environmental performance



And the economic performance by examining the direct impact of environmental control on economic performance,

And the indirect impact of environmental control through environmental performance on economic performance,

In a sample of Canadian industrial firms. The study concluded with several results, including:

Environmental monitoring does not have a direct impact on economic performance, while a moderate effect was found

On the environmental performance when linking environmental control and economic performance. mediating

The relationship between environmental monitoring and economic performance under specific determinants has also been studied

It was found that environmental control has an indirect effect on the economic performance of the companies

By: high environmental interest, high environmental risk, and public concern

Other interests, and large companies. The researcher believes that this study is from

Recent research trends shed light on the role of environmental monitoring as one of the tools

Environmental management accounting in improving the environmental and economic performance of business organizations.

This study focused on environmental management systems: Perez, et.al., 2- Study 2007

Where it aimed to clarify the relationship between strategy and environmental management systems and environmental accounting

For non-valuable assets and their role in improving environmental performance, where several values were examined

Tangible in relation to improving environmental performance: employee awareness and environmental knowledge

(And they had a primary effect), skills and experience of workers, the commitment of managers, coordination between

Functions, including the environmental dimension in the strategic planning of operations (and had an impact

Initial), and the use of managerial accounting practices (and had an advanced effect). It was concluded

The research has drawn several results, and what is related to the research is that advanced use of practices

environmental management accounting is key to the encircling intangible asset

The environment improves environmental performance. embedding

3- Khaled Abdulaziz Attia study 2007: This study aimed to clarify the role of accountability

Environmental management as a tool to assist business organizations in accounting measurement and disclosure

Environmental costs and benefits, as the study dealt with the general framework of environmental management accounting

In terms of its definition, objectives, and application framework, it was presented to its role in measuring costs

Environmental costs by discussing the basics of environmental cost classification and accounting tools and methods

Environmental management to identify, count, and separate environmental costs from the rest of the cost components

The other (where a discussion was made of how to apply several methods, including The input model

And outputs, process flow charts method, environmental cost accounting

Activity ...), the study also deals with methods of disclosure of environmental costs and benefits.

The study concluded the importance of environmental management accounting and that it needs all the support

Competent authorities to be applied in all business organizations because of their role in

Achieving environmental sustainability. The researcher believes that this study dealt with multiple aspects

The intellectual framework for environmental management accounting, but focused mainly on me

Its tools, especially those related to measurement and disclosure of environmental costs and benefits.

4- The study of Muhammad Abdul Hamid Mutawa 2006: This study aimed to assess the extent of competence

The effectiveness of traditional accounting systems in measuring and reporting environmental costs and benefits,

As well as building an intellectual framework for environmental management accounting and applying it to industrial companies

Egyptian. The study dealt with the concept, fields of application, and benefits of management accounting

It presented a proposed applied conceptual framework, and then a field study was conducted on me

A sample of Egyptian industrial companies concluded with several results, the most important of which are: No

Recognition of traditional accounting systems for environmental costs and benefits and that external actors are

The most benefit from the environmental management accounting system, although it is an internal system

To primarily serve the internal administrative levels and the importance of fair measurement of costs

The most important information required is that of environmental products, to the most accurate cost of products

It measures the extent to which the company is fulfilling its environmental responsibilities and the effect this has on its performance. The researcher believes that

This study tried to put steps on the road to the intellectual framework for administrative-accounting

However, its focus was on an applied intellectual framework to test its acceptance in the reality

Practical through field study. And so it was among the recommendations of this study

The need for concerted efforts of academics and professionals to develop a scientific framework for administrative accountability

Environmental gaining general acceptance.

The subject of this study is Environmental Management Costs: Jasch, 5- Study 2006

It covers the definition of accounting and environmental management costEnvironmental and environmental management accounting and accounting for raw material flow and some costs

Data within various other systems of consistency, and the importance of consistencyInformation such as accounts, inventory management, production planning, engineering operations.



She explained that perhaps in one day a working group could be formed to estimate the costs of the administration

Environment, and that this can be accomplished through the annual report information, in conjunction with

Information extracted from assisting jobs in several specialties such as production manager and manager

Environment, materials management, financial manager, and at least a member of the financial accounting department and the department

Cost accounting. The researcher believes that this study focused on the input side

The environmental management accounting system, or in other words the relationship of the management accounting system to systems

Other information within the facility (the work team), which is an important point that must be taken into consideration

The consideration when building a scientific framework for an environmental management accounting system.

This study focused on environmental management accounting: Gale, 2006a 6- Study

As a reflection of the recent clean or green product strategies, it addressed the importance of understanding

the material purchase value of the waste and radiation Raw materials procurement

The associated UNDSO operating costs according to waste and emissions classification and are implemented through an environmental management accounting methodology. The study adopted the research Method: Reference of practical problems, where good examples of management accounting applications are presented environmental. One of the most important findings of the study is that because of the disappearance of environmental costs in the calculations. They are not recorded or not required in traditional accounting systems, the chances are

Improved environmental performance and cost savings are lost. The researcher believes that this study confirms

On the importance of environmental management accounting.

The subject of this study is the study and analysis of environmental costs: Gale, 2006b-7 study

The environmental management accounting structure applied in the annual financial reports of paper mills.

Canadian and one of the most important results of the study is that the environmental costs are usually the highest that is taken into consideration.

This is due to the fact that environmental costs and benefits are usually hidden in the calculationOther calculations, as it turns out, are the environmental costs in Canadian paper mills when measured

According to the environmental management accounting methodology double the measured environmental costs according to the systemsTraditional accounting. The researcher sees the importance of this study as it relies on a study method.

The case highlighted the importance of applying environmental management accounting and its impact on financial reports

Corporate annuals.

The subject of this study is Accounting and Saka, 2006-8 - Study

It examined the relationship between environmental management, eco-efficiency, and environmental efficiency measures

Applications of environmental management accounting and environmental efficiency measures in Japan, and from the results

The study shows that the practice of linking environmental efficiency measures with administrative-accounting information

To help environmental promotions, they are used in various shapes and need promotion

Its products are geared towards Japanese consumption to guide its production and consumption processes

Sustainability. The researcher sees the importance of this study because it also uses the case study methodology

Its focus on the relationship between environmental management accounting and environmental efficiency measures is a trend

Hadith in this area.

The topic of this study is the challenges facing the Scavone Reports: 9- Study 2006

Internal environmental management reporting

It discussed internal environmental management reports prepared by environmental and production managers

Green through a balanced environmental assessment of performance in Argentina, and improved information

By accountants. One of the results of the study is that accountants have an important role in developing quality

Information provided to management. The researcher believes that this study dealt with an important aspect, namely

Environmental management, considering that environmental management accounting is one of the components of a system

Environmental management.

The subject of this study was Accounting: Jasch and Lavicka, 10 - 2006 studySome launch sustainability management accounting.

Researchers have this designation, and they mean by it environmental managerial accounting as well.

The two main drivers of costs are: purchasing costs that do not have a finished product and the cost of working days

Lost due to sick leave, accidents, and the output from overtime to make up.

These lost days, in the Australian Spark Group of companies. The researcher believes that

This study is one of the case studies that was conducted during a workshop in Six

Australian companies have also dealt with an environmental management accounting tool (Reasons

In analyzing a set of environmental cost groups, then cost drivers

It is directly related to the research topic.

11- Khaled Muhammad Labib study 2002: The study aimed to clarify the framework of the accounting system

Environmental management at the level of business establishments and studying the possibility of its application in the sector

Egyptian business enterprises, as the study covered previous studies in this field.

Then I presented a proposed framework that includes both related objectives, tools, and methodsEnvironmental management accounting and its relationship to the environmental financial accounting system were also conducted

A field study on Egyptian business establishments. The study concluded the importance of incorporationBusiness organizations develop their own environmental management accounting systems and the significance of each system.

Accounting in monetary units and the accounting system in kind units to establish the

accounting system. Environmental management functions and achieving its goals with the required efficiency, and that there is a strong correlation between them.

The efficiency of the environmental management accounting system and the efficiency of the environmental financial accounting system.

The study problem:

The information provided by the accounting in its annual financial statements is insufficient for the purposes of the environment.

Accountants focus on both environmental, social and economic performance and the benefits that can be gained from.

Creating sustainable green accounting, by building a comprehensive green accounting framework with the aim of achieving development. Sustainable.

The study problem can be formulated in the following main question:

- To what extent does green accounting contribute to achieving sustainable development?

The main question is divided into the following sub-questions:

What is meant by green accounting?

2. What do we mean by sustainable development?

3. Is there a relationship between green accounting and sustainable development?

4. Does green accounting contribute to achieving sustainable development in Iraq?

5. Does the Ministry of Planning, the Central Bureau of Statistics, the Environmental Statistics Department, implement green accounting? What is the policy it follows in achieving development?

Sustainable

The study examined the effect of data consistency on the efficiency of environmental management accounting.

SD -Sustainable Development

GDP -is the gross domestic product

GNP- gross national product

SEEA- is an integrated environmental and economic accounting system.

TC- assesses consumer use values such as farmland values using methods such as travel cost.

CV -Contingent Assessment.

EAI - Environmental Impact Assessment decree.

EPA - U.S. Environmental Protection Agency.

(FoF-UK) Forum for the Future.

### The second topic

A conceptual framework for green accounting.

Environmental pollution

The environment is exposed to several problems that arise from different sources, and environmental pollution stands at the forefront, which made development is the subject of many studies and research aimed at trying to prevent and limit or reduce its impact.

The different angles through which he looks at him, but all they represent the points of view of different fields of scientific knowledge.

They agree that it is one of the biggest environmental problems due to its depth of impact on the environment. We will deal with this topic.

The concept of the environment, what is environmental pollution, and its relationship to accounting.

The awareness of all societies of the danger that environmental problems and environmental

pollution pose to human life and development in the short and long term, make the process of preserving and protecting the environment a strategic dimension of management Rationalizing natural resources is a prerequisite for achieving sustainable development. Environmental concepts differed by the angle through him, he looks at it.

This term is a metaphor for the place a person takes to live: "home and home, that is, the place which the person returns and takes his home and livelihood."<sup>2</sup>

The environment is also defined according to the broad concept adopted by the Stockholm Conference in 1972 as: "The sum of all impact direct and indirect external conditions that affect the life and growth of living things."<sup>3</sup>

-The relationship of accounting to pollution.

The relationship between development and the environment, or rather the internal content of this duality, has been shaped in terms of impacts their mutual exchange is an appropriate entry point for studying environmental problems and raising the issue of the depletion of natural resources that are viewed

The Libyan economists considered it indefinitely available in nature, and even the socialist thinkers were considered Scarcity of some

economic resources in the forms of ownership and the nature of production relations and social relations. this situation

As a result of the occurrence of environmental imbalances that affected the development process itself, and thus the relationship between development and the environment reached a critical situation under a development that has largely ignored the environmental dimension.<sup>4</sup>

The close link between the environment and sustainable development has given rise to the concept of development that is described as sustainable development that aims to concern itself with the reciprocal relationship between man and his natural environment and between society and development, focusing not only on quantity but also on gender, for example, the distribution of income among members of society, And the provision of job opportunities, health, education and housing, and sustainable development also aims to pay main attention to education The environmental, social, and economic impact of development projects, as the environment is the natural reserve of resources that

Man depends on it, and that development is the method used by societies to reach prosperity and benefit development and environmental goals complement each other.<sup>5</sup>

Accounting has a role in this economic development through the necessary accounting information provided by the system.

The accounting, which took a new path and a new dimension, is the environmental dimension, which calls for placing these costs in the lists of

<sup>2</sup> 1-Khaled Muhammad Qasim, Environmental Management and Sustainable Development in Light of Contemporary Globalization, First Edition, University House, Alexandria, 2110, p. 1

<sup>3</sup>-Bin Azza Muhammad, Bin Habib Abdul Razzaq, The role of tax collection in deterring and stimulating economic institutions to protect the environment from forms of pollution Analytical study -Regarding the environmental group model in Algeria, the intervention of the International Scientific Forum on the behavior of the economic institution in light of the stakes of sustainable development and justice -Social Affairs, 20/21 November, KassidiMerbah University, Ouargla, Algeria, 2012, p: 15.

<sup>4</sup> 1-ObeidaSobti, Saber Baqour, Environment, and sustainable development ... Any Relationship ?, Journal of Social Sciences, Issue 23, University of Biskra, Algeria, March2017, p: 109.

<sup>5</sup>1-Hoda Building, Environment, and Sustainable Development, The Experience of Algeria, Journal of Legal and Political Research and Studies, Issue 12, DT, p.: 511.

the company's financial statements so that it benefits management and investors in making their decisions and to give a clear picture that reflects reality these costs are not limited to financial data and information only but also include data and information reflecting environmental impacts. In view of the increase in pollution rates and the large size of environmental commitments that have become part of the total liabilities of the company, the environmental cost resulting from environmental obligations is one of the most important items that must be taken into account when evaluating a company's profitability.<sup>6</sup>

The relationship between accounting and environmental pollution is the role of the accounting system in providing the information needed to take decision and performance evaluation, as it represents the increased concern on the part of users of financial information with the economic impacts pollution is one of the main reasons that made societies and scientific bodies call for the need for recognition and measurement company's environmental obligations are part of its environmental responsibility logic, which requires submitting its environmental performance to theoretical framework accounting and working on measuring and recording all activities related to the environment, and determining the extent of the company's commitment to the requirements fulfilling environmental responsibility.<sup>7</sup>

#### The concept of green accounting

Green accounting has many definitions, the most important of which are:

<sup>6</sup>-Abdul Hadi Mansour Al-Dossary, The Importance of Environmental Cost Accounting in Improving the Quality of Accounting Information, Master Thesis in Accounting, College of Business, Middle East University, 2011, pp. 22, 23.

<sup>7</sup> 3-Abd al-Hadi Mansour Al-Dossary, reference already mentioned, p. : 23

It is: "A systematic description within an accounting framework of the interrelationships between the environment and the economy."

And in another definition, it is: "Determining and measuring the costs of environmental activities and using that information in."

Making environmental management decisions, with the aim of reducing and reducing the negative environmental impacts of environmental activities and systems."<sup>8</sup>

The US Environmental Protection Agency (EPA) in 1975 defined green accounting as: "Defining and defining."

Collecting, analyzing, and disclosing environmental cost information and relying on them in making economic decisions<sup>9</sup>

It is "the comprehensive accounting of the cost of all activities that cause damage or lost benefits, or prevention and evaluationAnd re-correct the damage at the enterprise level, and at the national level, and the hidden cost of the environmental impact onCommunity, so that these costs can be disclosed independently of other costs, and contribute information<sup>10</sup>.

Green accounting from the administrative point of view: In this stage, data and information are identified and analyzed associated with environmental activities for the purpose of assisting management in planning and making

<sup>8</sup>-Ahmed JaberBadran, Economic, and Sustainable Development, Center for Jurisprudence and Economic Studies, First Edition, Cairo, 2014, p. : 110.

<sup>9</sup> 2-Ibra Rahim Jaber Al-Sayed, Accounting for Environmental Pollution, First Edition, Ghaidaa Publishing, and Distribution House, Amman, 2013, p. : 181.

<sup>10</sup> 3-AmnaTounsi, Aba Rahim BouRanan, The Role of Environmental Culture in Supporting the Application of Environmental Accounting in Light of the Requirements of Sustainable Development, Journal of Studies and Research, IssueThe 27th, June 2017, the ninth year.



various administrative decisions, such as pricing decisions.

Products, continuing to produce a specific product, quality requirements, and other management decisions.

It is "a management tool in which financial applications of environmental issues are integrated with organizations' financial management systems."

Improving effective decision-making that feeds into the concept of environmental and economic sustainability.<sup>11</sup>

Through the aforementioned definitions, green accounting can be defined as: "A tool that provides beneficiaries with accounting information and decision-makers with cost information related to environmental aspects. Any inclusion and complementarity between methods of measurement and accounting and economic disclosure of activities and programs that affect the environment and its task is to measure costs. The various activities of the facility and their impact on natural resources and using the results of these measurements to help the competent authorities realizing and correcting the negative effects of the establishment's activity on the environment.

The general framework for sustainable development.

Today, environmental problems are the first reason for the spread of the term sustainable development, as environmental challenges that have moved

Its impact to the point of threatening the basic requirements of the lives of future generations, which led to calls for adopting a new approach to development. To get out of these dilemmas on

<sup>11</sup> 4-Amal Abdul-Hussein, The Reality of Using Environmental Accounting in Al-Ghary Journal of Economic and Management Sciences, Volume VIII, Issues 11 and Thirty, Iraq, 2014, p. : 293.

a sustainable basis, I finally came to proposing a general and integrated model, namely

Sustainable development, and from this standpoint, the subject will be further expanded through the following demands: The concept of development

Sustainable development, its characteristics, and objectives, its dimensions, indicators for measuring sustainable development.

The concept of sustainable development.

There is no uniform definition of development, and it is this difference that impresses its concept that will then drive a process

Conceptual integration insists that development is an intertwined and harmonious whole, as it is effective and effective when directed towards its use.

With societal questions to all activities that express people and society across various aspects<sup>12</sup>

It was formally embodied in the 1991 World Human Development Report, which defines development as a process

This allows human beings to develop their personality to gain confidence in themselves to lead a decent life through freedom from fear

From destitution, exploitation, and forms of political, economic and social oppression.<sup>13</sup>

In economic definitions, they are: Optimal management of natural resources by focusing on obtaining the limit

<sup>12</sup>-BouchanqirEman, Raqami Muhammad, The Right to a Peaceful Environment, The Human Rights Generation Journal, The Center for Scientific Research, 2nd Issue, Beirut, December 2013, p

<sup>13</sup>393-Malek Hussain Al-Hamid, Economic Dimensions of Environmental Problems and the Impact of Sustainable Development, First Edition, Dijlah House, Amman, 2014, p. 230.



The maximum benefits of economic development provided that the services and quality of natural resources are preserved. And use

Today's resources should not reduce real income in the future. <sup>14</sup>

Edward Barbier also defines it as that activity that promotes greater social welfare

Estimate with due regard to the available natural resources, and with the least possible damage and harm to the environment, and clarify that

Sustainable development differs from development in that it is more complex and intertwined with economic, social, and environmental matters. <sup>15</sup>

The Brandt Land Report 1987 defines sustainable development as meeting the needs of current generations Without prejudice to the possibility of meeting the needs of future generations. <sup>16</sup>

Through the previous definitions, we conclude that sustainable development is one that meets the needs of the present without

Disturbing the ability of future generations to meet their needs and are environmentally and economically appropriate

<sup>14</sup>-Alexandre Asselineau Pierre Piré-Lechalard, Développement durable et entreprises responsable, une voie pour l'innovation de rupture, Communication présentée lors des 3<sup>ème</sup> Journées Neptune Université du Sud-Toulon-Var, Toulon, 13-14 novembre 2008, P 06.

<sup>15</sup>1- Amari Ammar, The Problem of Sustainable Development and Its Dimensions, Intervention in a conference on sustainable development and the efficiency of use of available resources, Faculty of Science Economics and Management Sciences, Abbas Farhat University, Setif, 7/8 April 2008, p: 04.

<sup>16</sup> 2-Corinne Gendron, le développement durable comme compromis, Québec, 2006, p 166.

And in social terms.

The second requirement: characteristics and sustainable development goals

Sustainable development has several characteristics and goals, including:

The first section: characteristics of sustainable development

The characteristics of sustainable development are summarized as follows: <sup>17</sup>

It is a development that places the satisfaction of the needs of individuals in the first place, as its priorities are to meet the basic needs The necessary food, clothing, education, health services, and everything related to improving the quality of human life Physical and social; - -

- It is the development of efforts to preserve the biosphere in the natural environment, regardless of its basic components and components

Such as air, and water, for example, or the biological processes in the biosphere, such as rivers, for example, so it is a development that requires

The natural resource base in the biosphere is not depleted;

It is the development of care to meet the future needs of the natural resources of the planet's biosphere;

History of the emergence of the term sustainable development

The concept of sustainable development (SD) emerged in the 1980s and most countries have adopted it as an appropriate form of development. Sustainable development includes that current patterns of consumption of natural resources are not sustainable, and that more

<sup>17</sup>-Abdelhadi Mokhtar, Green Economy and the Challenge of Sustainable Development in Algeria, Journal of Scientific Research in Environmental Legislation, Issue 9, June 2017P., Pp: 572, 573.

forms of harmless development are needed, and sustainable development has become very prominent with the publication of the Brundtland Report as it was defined as development that meets the needs of the present without compromising the ability of the future generation to meet their needs. Own (UNCWED 1987).

Definition of a sustainable project: A sustainable project is one that strives to achieve high levels of performance by creating value for its investors and clients( Abdulaziz,2006,36 )In Agenda 21, sustainable development is defined as "development that does not destroy or undermine the environmental, economic or social basis on which sustainable development depends."

There are two important types of sustainability, weak and strong sustainability. With poor sustainability, loss of ecosystems is not a major concern as long as the total saving rate in the society is high enough to compensate for the decrease in natural capital and thus produce sustainable welfare pathways. Strong sustainability on the other hand emphasizes that future generations must be given the same amount of natural capital as the current generation. Two factors that support strong sustainability are uncertainty and irreversibility. The presence of uncertainty means that we are not sure how the natural resources will function; Thus replacing human capital with natural resources is not realistic. More irreversible environmental resources; If you make mistakes that cannot be corrected. These two traits should make humans more cautious about giving up natural capital (Pearce and Turner 1990).

Natural resource accounting and sustainable development ...

African Journals indexed online: [www.ajol.info](http://www.ajol.info)

Sustainability is not without criticism. The fiercest criticism of sustainable development is seen in Willers (2009) who states: "Sustainable development is one of the most deceptive and

manipulable ideas that have emerged in decades and because the multifaceted global offensive to sell it is fundamentally irresistible, it is seen. But it is a thing of self-evident by people who have blatantly transcended the links of reasonableness and who is the ancestor of a host of environmental and social diseases, has long since become an enemy of the natural world.

The Iraqi experience:

Iraq has witnessed rapid social, economic and material development since independence. Therefore, the country faces many challenges to achieve economically and environmentally sustainable development. The development achieved so far cannot be described as sustainable because the various development processes have misused natural resources or are overexploited and in this process negatively affected the environment as well. The country's ecosystem has been subjected to disruption as a result of rapid population and housing growth, with great pressure on natural resources (Statistical Abstract from 2003 to 2009). Aside from the issue of natural and man-made disasters that accompanied these changes, global environmental issues pose a major threat. Meanwhile, attempts are being made to design a statistical system that describes the interrelationships between the natural environment and the economy.

The Natural Resources Stock Account is one of the main sub-accounts that are currently being developed in the Environmental and Economic Account in the office of the Ministry of Planning for Statistics. The issue of evaluation is also properly considered. The System for Integrated Environmental and Economic Accounting (SEEA), developed by the United Nations Statistics Division, applies three categories of assessment in a different version. There, the cost of maintenance of natural assets, depletion and (environmental quality) degradation, and contingent assessments of welfare efforts of environmental degradation. However, for reasons of data availability and compliance with

the traditional accounting rules, which were adopted by Iraq through a methodology of market assessment.( -Barzetti, V. 1993,54)

It is noted that the issue of the environment in Iraq is mainly related to population and housing, land use and soil conservation, water resource management, toxic and hazardous materials, agricultural production, air pollution, noise pollution, work environment and settlements (Iraqi Central Bureau of Statistics).

(Statistics). Current efforts also target measurement of orchards and fields, soil degradation, loss of biodiversity and wildlife, and coastal degradation.

The removal of orchards and agricultural lands, for example, is one of the highest priority environmental problems in Iraq.

The current effort in developing resource and environmental accounting will certainly improve measures of economic performance and measure sustainable income and growth.

#### It represents natural resources

Natural resources like water, soil, air, green spaces, unexploited land, etc., are very important to humanity and need to be explicitly considered at the level of macro and micro planning.

For effective planning at the macroeconomic level taking into account the natural environment is important. The inclusion of the natural environment in the national accounts provides information on the use of natural resources in economic activities. Natural resource accounting corrects national income accounts by giving a balance sheet of natural resources that records quality and value. Policy makers and resource managers will benefit from this information. It is important in determining the rate at which natural resources are depleted in the economy. It will also provide policy prescriptions to reduce resource degradation. If the monetary values of these resources are included in the national income, it will provide a reliable guide to the performance of the

economy. Sound macroeconomic policy formulation will be improved upon availability of such explicit information.

From a microeconomic perspective, it is observed that business entities currently provide limited information, often free from the use of environmental assets, to restricted stakeholder groups. However, modern versions of legitimacy require that information be presented to the wider community. To achieve these broader goals, business firms must go further to integrate activities and influence the company and its endeavors to protect amenities and the environment, in other words, the external factors related to the business must be absorbed by the company. Comprehensive reporting on all aspects of the business, optimizing resource allocation.

Natural resource accounting and sustainable development ...

Consider natural resource accounting from a macroeconomic standpoint

Traditionally, Gross National Product (GNP) or Gross Domestic Product (GDP) is used as the main indicator for measuring economic development. The three main weaknesses of GNP for SD are:

1. Do not take into account environmental degradation;
2. The value of natural resources is valued at zero. And the
3. Expenditures for repairs and treatment such as pollution control measures, healthcare, etc. are accounted for as positive contributions to the GNP.

Natural resources are not completely free, although there is no investment cost.

Only market activities are included in the GDP, but the non-market activities should be given equal status and thus added to the GDP. For example, the revenues from animal feed from the fields are added to the GDP but the loss of a

farm and other non-market benefits is not deducted. The same applies to other activities such as mining, agriculture, and industrial production - all of which cause pollution and the loss of natural capital. Man-made capital is consumed in all accounting procedures but natural capital is not. (Ahmed, M. 2000,78)

The measure of development plans best suited to sustainable development that includes intergenerational well-being and sustainable use of resources is net national product (NNP). NNP is the sum of the social value of the economy's consumption and the social value of real changes in the stock of capital assets, including manufactured capital and natural resource stocks. Since only man-made assets are valued as productive capital whose depreciation is depreciated, the level of depreciation that is achieved by reducing the stock of capital exceeds the level of sustainable income. Natural resources are neither valued nor losses deducted from current income which may reduce prospects for earning income in the future. Depreciation of natural capital has to be deducted to obtain green GDP.

For resource-based economies such as Iraq, estimates of the macroeconomic relationship that fail to account for the depreciation of natural resources distort the macroeconomic relationship.

#### Incorporation of natural capital into GDP

The microeconomic perspective of environmental accounting

##### a. Common reporting procedures

Accounting reports have been the most significant formal means of communication of

an entity, which are prepared for the benefit of external users will evaluate the use of scarce resources and internal users can use them to formulate master plans and policies. Traditional accounting approaches provide partial information by excluding unquoted transactions and significant natural resources that are critical to assessing human well-being. Traditional accounting deals with resources that have clearly defined equity and market rates. Inclusion of environmental impacts will provide a more complete reporting system for company management.

Environmental accounting focuses on the financial implications of environmental impact and aspects of the organization, including the implications for expenditures, cash revenues, etc., it translates the environmental impact and concern into monetary values. A company that wants to adopt sustainable development needs to devise a fair method for evaluating its use of the environment regardless of whether it is related to resource degradation or depletion, and that this evaluation be disclosed in the company's accounts.

B. B. The current status of environmental reports for government departments (Baghdad water analysis)..

The success of environmental accounting depends on the vision and philosophy of the company. Firms with a well-defined vision of sustainable development will want to embark on a full-cost environmental accounting. Those companies that do not have a vision of environmentally sustainable development may prefer to use private environmental accounting, with the misguided view that ignoring environmental concerns may keep profits high. This may be true in the short term but not in the long term. See Table No. -1-

Table No. -1-

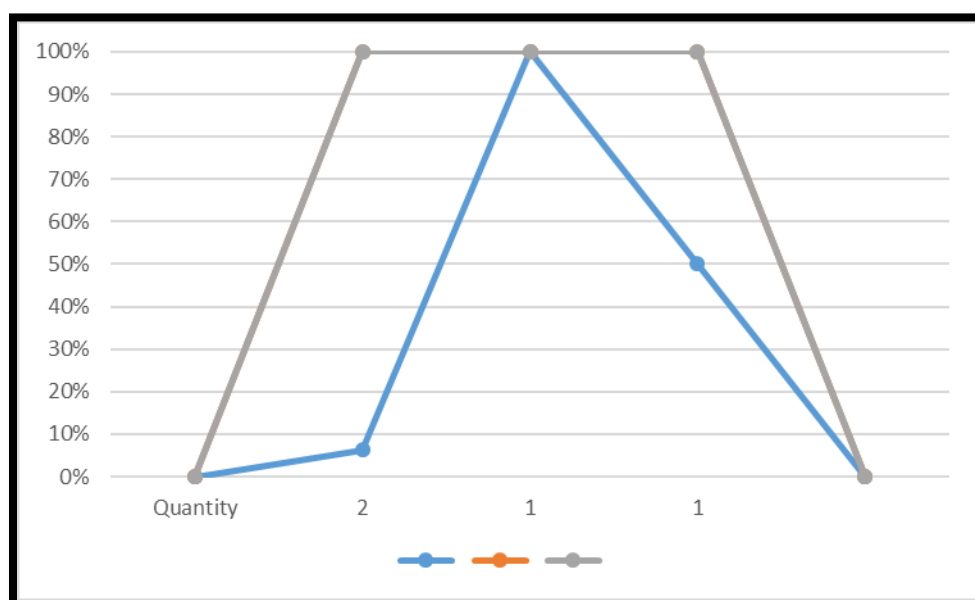
#### Water analyzes in Baghdad 2018

Subject	Filtering	Quantity	Unit price H T	Total price HT
sample		02	1000	15000
Wastewater	Physio-chemical analyzes	01	<b>1800</b>	
drinking water	Microbiological analyzes	01	15000	15000
The monthly total				<b>3000</b>
The total of four months				<b>3000 × 4 = 9000</b>

<https://www.google.com/search?sxsrf=ALeKk00Bcaf3bXIZrGxuzvpHUpOCXbH/https://www.iraqhurr.org/a/26861657.html/>

Figure No. -2-

Water analyzes in Baghdad 2018



The source is the researcher's work based on the data of Table No. -1-

Table No. -2-

Sample scrap items that the Foundation sold

haberdashery	Weight (kg) X	%	Unit price HT / KG Y	Total amount HT	%	Simple Correlation and Regression
Plastic	10200	<b>28.5</b>	5.00	51000.00		0,9
Ferrous residue	6980	19.5	12.00	83760		1
Used oil filter	820	2.29	1.00	820.00		1
Used batteries	4260	11.9	22.00	93720.00		
Used tires	13440	37.6	2.00	26880.00		

Total	35700	100%		256180.00		
TVA Added Value 19%				48674.20		
The total amount is TTC				304854.20		

Source: Iraqi Ministry of Environment data, unpublished data.

x = the independent variable

y = dependent variable

$$r_p = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

$\sum_{i=1}^n x_i y_i$  y times x: the sum of the product.

$\sum x$  The sum of the values of the variable x

$\sum y$  y: the sum of the values of the variable y

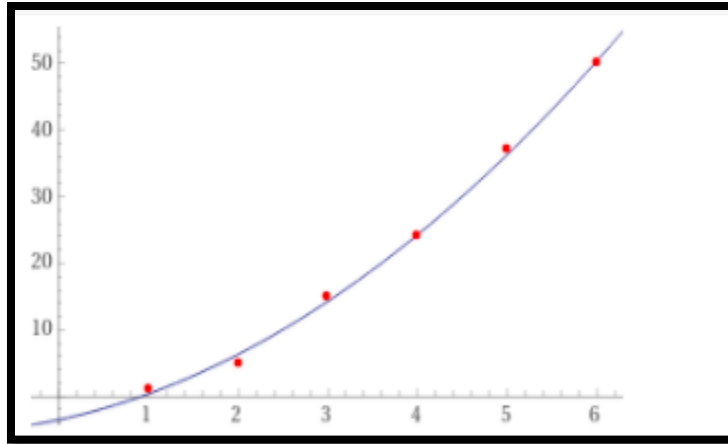
$\sum x^2$  x: The sum of the squares of the variable values x

$\sum y^2$  The sum of the squares of the variable values y

The application of the equation shows the simple correlation and regression, and as represented by Figure No. - - that there is a complete direct correlation, that is, whenever the weight of the plastic waste (kg) increases, the price per unit HT / KG increases, and the price increases with the increase in weight. See Figure No. -3-.Figure No. -3-

علاقة الوزن الوزن (كجم) في سعر الوحدة HT / KG لمخلفات البلاستيك



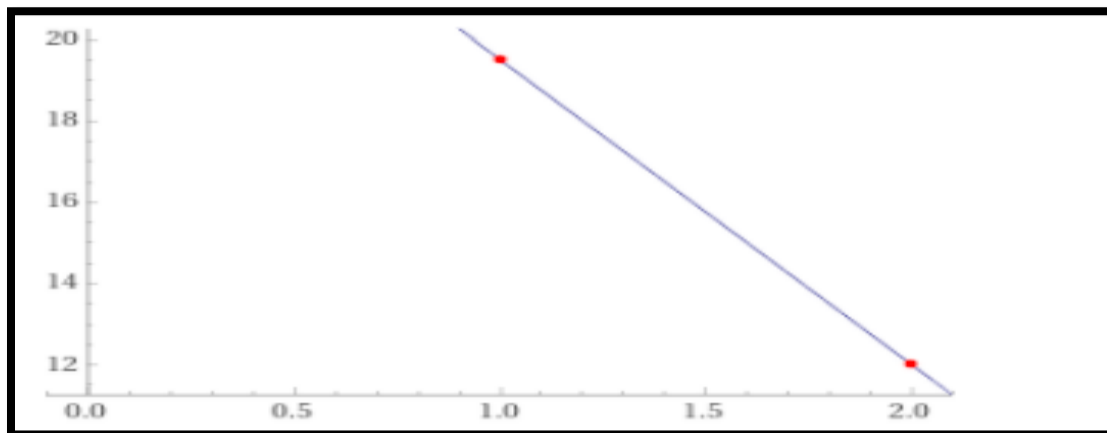


The source is from the researcher's work based on Table No. -2-

The application of the simple correlation and regression equation, as represented by Figure -4, shows that there is a complete inverse correlation, that is, whenever the weight of ferrous waste (kg) increases, the price per unit HT / KG decreases, and the price increases with the decrease in weight of ferrous waste. See Figure -4-.

Figure No. -4-

Relationship to weight Weight (kg) in unit price HT / KG ferrous waste

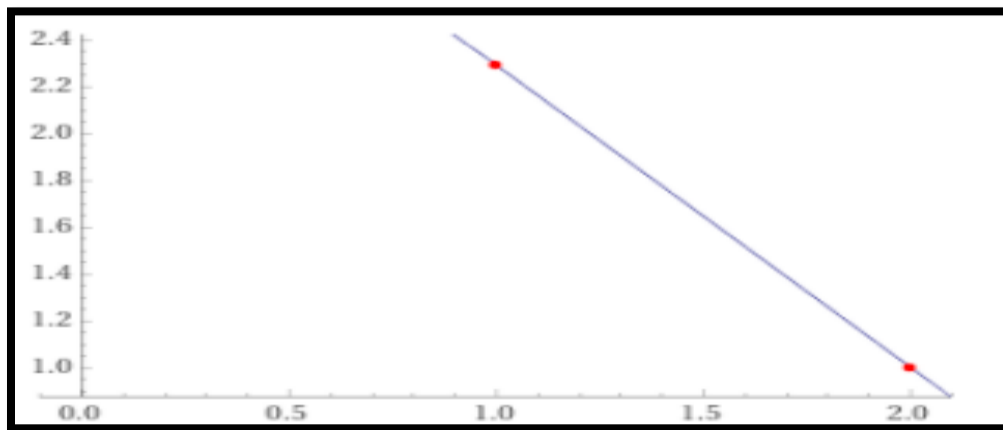


The source is from the researcher's work based on Table No. -2-

The application of the simple correlation and regression equation, and as represented by Figure -4 - shows that there is a complete inverse correlation, that is, whenever the weight of the oil filters increases (kg), the price per unit HT / KG decreases, and the price increases with the decrease in the weight of the oil filters. See Figure -5-.

Figure No. -5-

Weight relationship (kg) in unit price HT / KG oil filters



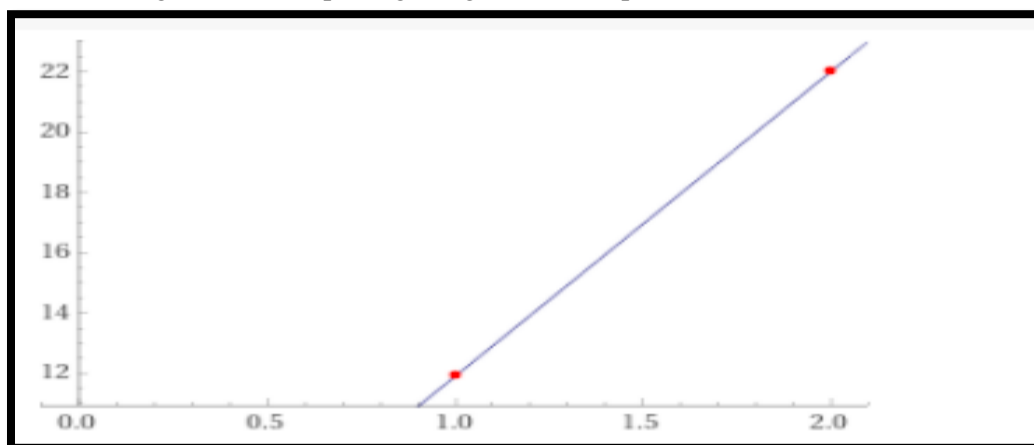
The source is from the researcher's work based on Table No. -2-

The application of the equation shows the simple correlation and regression, and as represented by Figure No. - - that there is a complete direct correlation, that is, as the weight of used battery waste (kg) increases, the price per unit HT / KG increases, and the price increases with the increase in weight. See

Figure -6-

.Figure No. -6-

Weight relationship Weight (kg) in the unit price HT / KG used batteries

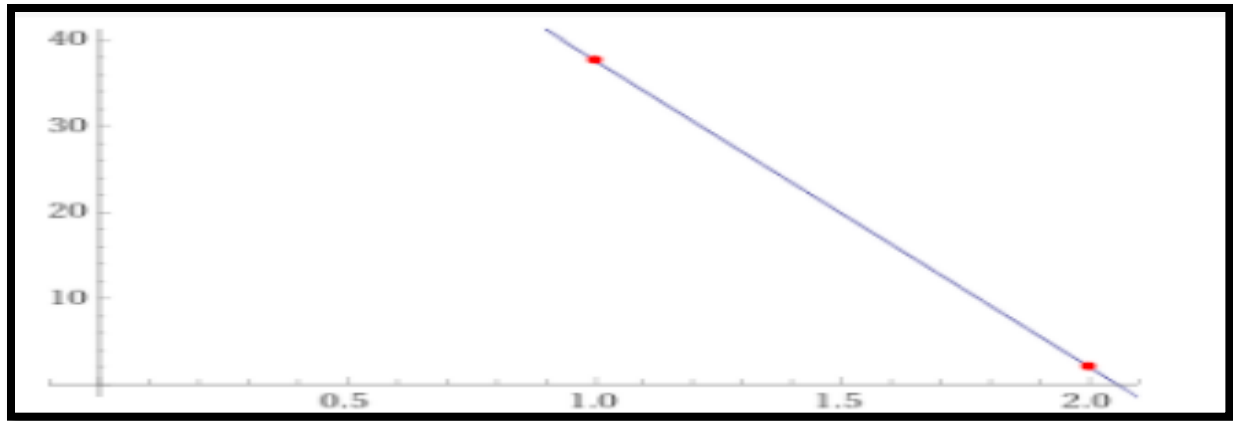


The source is from the researcher's work based on Table No. -2-

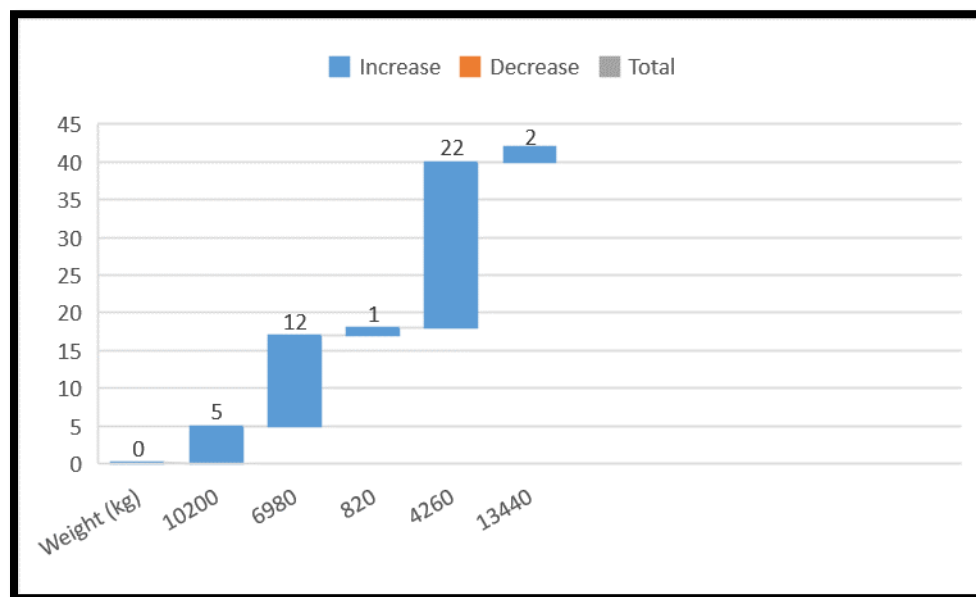
The application of the simple correlation and regression equation, as represented by Figure -7 - shows that there is a complete inverse correlation, that is, as the weight of used tires increases (kg), the price per unit HT / KG decreases, and the price increases with the decrease in the weight of used tires.

Figure No. -7-

Relationship to weight Weight (kg) in unit price HT / KG used tire



The source is from the researcher's work based on Table No. -2-



The source is the researcher's work based on the data of Table No. -2-

Appropriate green accounting will reveal the problems associated with specific technologies and may force them to adopt environmentally friendly approaches to production and the environment.

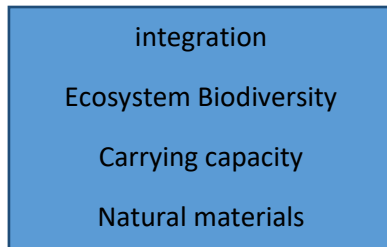
The way some business entities report economic activity in monetary terms but not by environmental volumes in physical units such as the number of carbon dioxide emitted still points to the need to develop a suitable accounting standard for environmental reporting, which will help change the old perception of economic growth from Before the government and others. See Figure - 1 -.

Figure - 1

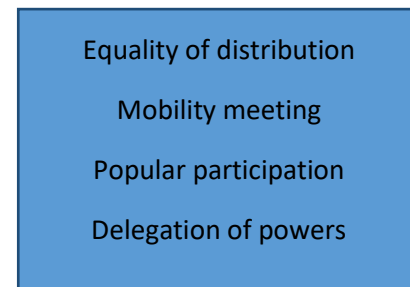
Linking the dimensions of sustainable development

Sustainable Growth Capital Efficiency

## The ecological dimension



## The social dimension



Source: Hashem Marzouk Ali Al-Shammari and others, Green Economy, New Path in Sustainable Development, First Edition, Dar Al-AyyamFor Publication & Distribution, 2016, p .: 53.

## The second topic

## Important issues in Iraqi environmental accounting

## 1. Who regulates environmental impacts?

Rapid growth in industries such as breweries, refineries, tourism, and other environmental activities have resulted in serious environmental damage in many countries. There is an urgent need to regulate these negative impacts without compromising the prospects of these sectors. The main issue is the nature of regulation, and methods of control. The topic is closely related to determining the nature of the organization. In the case of industrial pollution, strict regulation through requirements and prohibitions may be more effective than taxes or levies. However, in the social sphere, the elimination of the use of child labor by a distant organization in the supply chain may be more a result of stakeholder participation than of requirements and prohibitions (ICAEW 2004).

## 2. Valuation of environmental goods

It is difficult to allocate monetary value to environmental resources. This requires the use of implicit or shadow prices which may not be beneficial as they may be affected by defects. Non-consumptive use values such as agricultural land values were evaluated using methods such

as travel cost (TC), contingent valuation (CV) and other methods.

When assessing environmental resource management, if non-use values are apparent, they should be considered and measured as accurately as possible in order for public decision-making to be as fully informed as possible.(Donato,2007.56)

## 3. Ethical issues in evaluation

Decision makers need to think about the consequences of any outcomes and how they affect community members. Thus, what ethical position should be adopted is controversial, should rights be recognized first as suggested in the ethical approach, or should ends justify means as implied in the teleological tradition?

## 4. Policy problems

In some countries, environmental policies themselves may be at the heart of the accountability problem. For example, tax provisions in Australia clearly discriminate against natural resources (Herath, 2005). Government policies must support sustainability, as Michael Mitcher, former UK

Environment Secretary, stated in June 2003, "It is the policy of this government to ensure that environmental concerns are on the companies' radar. Need to make the most responsible business the most competitive ..."

#### 5. The lack of a unified reporting framework

Inclusion of the environment in any credible manner in documents designed for information and planning purposes requires acceptable reporting methods, computational techniques, and indicators. In Iraq, this is usually fulfilled by reports issued by the Ministry of Planning for Environmental Protection in line with the Environmental Impact Assessment (EIA) Decree No. 86 of 1992. So accountants fail to join other groups - such as environmental economists to develop appropriate environmental cost techniques. It is noted that many developments in environmental accounting at the levels of managerial accounting and strategic sustainability accounting - which are implemented by non-accounting organizations. These include the US Environmental Protection Agency (EPA), Forum for the Future (FoF-UK), and the World Resources Institute (WRI), (ACCA Sector Accounting Report 2002). Accountants must live up to their responsibility to foster reliable reporting.

#### The main challenges ahead

The accounting and economic professions should continue to work with the corporate sector and researchers outside of their field to build a comprehensive and robust environmental accounting methodology to ensure that environmental impacts and resource depletion are considered. When developing accounting reports that will provide financial information to the stakeholder group, accountants, management experts, environmental scientists, and other related professions should consider the following issues:

First. Collaboration between several disciplines such as economics, accounting, management, psychology, and philosophy in developing an

environmental accounting method is very necessary due to the complexity of natural resource accounting.

Second. Developing a complete reporting system that includes losses and gains for the environment.

Third. Developing reliable environmental assessment procedures.

Fourthly. Those organizations that report and disclose environmental or social information or complete sustainability information must be recognized.

#### Conclusion.

Through this study and depending on the theoretical framework in the first and second topics of the memorandum, It is clear to us that in the context of preserving the environment and reducing environmental degradation, institutions of all kinds work on adopting or implementing every system that would contribute to preserving the environment, and sustainable environmental accountability from these systems that would contribute to achieving this as they combine the environment and the economy. This accounting is a branch of accounting that aims to determine the outcome of the institution's business and its financial position through an environmental dimension, because the institution has a relationship with various groups of society, as it is the institutions that take into account their responsibility towards the environment and society by fulfilling their obligations imposed on them from the negative effects resulting from their economic activity. Indeed, great efforts and serious attempts have appeared in adopting environmental costs, even if there are different methods and methods of accounting measurement for them.

The study also proved the most widespread waste affecting the environment, which is used tire waste, where its percentage is 37.6, and plastic waste came in second place, where it

reached (28.5), while iron waste ranked third, amounting to (19.5), and it came with the lowest proportions of both batteries waste and used oil filter ( 11.9,2.29) respectively, in addition, the material value constituted a great importance in guiding sustainable environmental development.

#### RECOMMENDATIONS:

1. The need for the assessment of the social-environmental information to be part of the generally accepted accounting principles.
2. Working on the interpretation of sustainable development through three dimensions, economic, social, and environmental
3. The necessity to lay down and formulate accounting rules that clarify, control, and define requirements for measurement and presentation of environment and development information,

By issuing an accounting standard that obliges companies to prepare financial statements that take into account the disclosure of development data

Sustainable and in line with modern environmental variables.

4. Given the role of the accounting profession and its contribution to environmental improvement, it is required that the accounting measurement of costs includes the measurement of costs

An environment such as costs arising from pollution caused by the activity of the industrial establishment in addition to measuring treatment costs

Environmental damage, whether this is done voluntarily under its responsibility to protect the environment or as mandatory according to legislation

Environmental.

5. Urging the academic bodies to conduct more studies and research in the field of measuring and analyzing environmental costs and their role in

Improving the quality of accounting information.

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