

## The Developmental Role Of Iraqi National Oil Companies

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**Abstract :** Oil production operations in Iraq went through different eras, starting with the dominance of foreign companies to invest Iraqi oil in the 1920s, going through the process of nationalizing Iraqi oil in the early 1970s, and ending with a new policy adopted by the Iraqi government, represented by contracting with foreign companies to develop oil production, because this sector was exposed to a decline in its technical and material capabilities and the destruction of infrastructure as a result of the conditions of wars and sanctions imposed on Iraq before the year (2003) and it was concluded through the research that the oil extraction process in Iraq is characterized by being the cheapest compared to the costs of oil production in the world according to international standards, but that foreign oil companies have set very high extraction prices, as the cost of producing one barrel ranges between (3-6 dollars), similar to the fields that are characterized by the depth of their wells, and thus the total costs of extracting one barrel rose to (15-20) dollars, and thus it is necessary for the Iraqi Ministry of Oil to work on developing an integrated plan of action in partnership with foreign companies to rebuild the infrastructure of the oil sector, especially production and export, and try to gradually increase the treasury capacities in export warehouses, and work on technology transfer and training the national staffs in the national role, in addition to its role in monitoring the extent to which foreign oil companies adhere to the controls and conditions set in the contract, especially if the oil companies have a role in achieving sustainable development, and ensuring that part of their revenues are allocated to activities that lead to achieving sustainable development.

**INTRODUCTION:** The subject of national oil companies and their role in sustainable development is one of the important topics that have attracted attention at the international and national levels, as these strategies carry with them multiple concepts represented in the ability of national oil companies to carry out production operations and their ability to achieve sustainable development, and their work to expand their investments in the oil industry. Also, interest in the concept of sustainable development has increased due to the increase in environmental pollution levels caused by oil production processes, and the damages it causes represented by global warming, lack of water, etc., so the importance has become represented by pursuing sustainable development that achieves a balance between the different needs of the present generations without causing harm with future generations. The national oil companies in the various oil-producing countries are of particular importance in investing the wealth of their countries, in a way that ensures the realization of their national interests, given their special importance in limiting the exploitation of other countries or multinational companies, as well as their role in controlling the quantities of products in their countries, which is in determining the volume of oil revenues to contribute to the field of sustainable development in those countries, Iraq has been working hard to invest its national oil wealth to advance the level of sustainable development and achieve a balance between production requirements and global oil markets, which made the current issue of great importance.

The research problem focuses on the ability of national oil companies to manage oil resources instead of foreign oil companies (oil licensing round contracts) and work to achieve the goals of sustainable development.

### **The paper aims to:**

The presence of national oil companies played an important role in exploiting the oil wealth in the sample countries, which reflected positively on achieving economic development, and then striving to achieve sustainable development.

### **The research starts with the hypothesis that following:**

1. Iraq possesses huge oil wealth in addition to the human resources capable of managing the oil sector, as a direct national investment is the best way to invest the oil wealth in Iraq.
2. Inviting foreign oil companies to work in Iraq through contracts for oil licensing rounds to invest and employ their expertise and modern technology to achieve high production rates.

**The research relies on following** the descriptive analysis method, which depends on analyzing the data and indicating its development trends to clarify its changes.

### **Spatial and temporal boundaries.**

- 1- The spatial boundaries of the study are the oil companies in Iraq.
- 2- The temporal limits of the study are represented by the period (2004-2020).

## **structural**

In order to encompass the subject of the research and reach the goals it seeks, the study was divided into three axes, which are as follows (the first axis: the emergence of oil companies, the second axis: the emergence of Iraqi national oil companies, the third axis: the role of Iraqi oil companies in some indicators of sustainable development) and the conclusion is the conclusions and recommendations.

### **The first Theme :The emergence of oil companies**

Iraqi oil was discovered in (1870) by German missions sent to Iraq when Iraq was under Ottoman rule, and Iraq is one of the most dependent countries in the world on oil revenues, it is the second largest producer and exporter of crude oil in the Organization of Petroleum Exporting Countries (OAPEC) and has the fifth largest crude oil reserves in the world, amounting to (144) billion / b and oil revenues accounted for more than (98%) of state revenues and (30%) of GDP, and this excessive dependence on oil exposes the country to macroeconomic fluctuations and cyclical fluctuations, as oil prices are characterized by continuous fluctuations between high and low. <sup>(i)</sup>

The process of investment in the oil sector is one of the important processes in changing the economy from being a rentier economy to making oil a bridge for the development of all sectors, and here comes the role of oil companies and their possession of high and advanced technologies, and the types of oil companies can be clarified as follows. <sup>(ii)</sup>

#### **1. Foreign Oil Companies**

They are the well-known big companies (Seven Sisters) and have been known for their control and control in oil production, and are often privately owned and based in America and Europe, their activity extends to cover all stages of the oil industry, starting from the stage of discovery to extraction, transportation, and refining. <sup>(iii)</sup>

#### **2. National Oil Companies**

They are companies owned by the government and aim to better exploit the oil and gas wealth, develop fields, production, marketing, and all activities related to the oil sector, in addition to investing in the transformational industry and seeking to achieve the highest returns and the lowest costs, and the oil countries are seeking to be their national companies the effective means in Control and management of its oil resources optimally, relying on national competencies, transfer of experience and mastery of technology, and make them serve their development goals and restore national sovereignty over their wealth, and these companies have been allowed to control their oil sector and carry out the production process and develop their oil industries. <sup>(iv)</sup>

### **The second Theme :The emergence of the Iraqi national oil companies**

The oil industry in Iraq has relied on the method of direct investment mainly since (1968) when the national oil companies took upon themselves the task of developing oil facilities and fields, and following up the production processes of the oil sector in all its stages until reaching transport and export, and used the expertise of many countries to sign service contracts with international oil companies, and focused through their work on carrying out seismic and geological surveys, And the expansion of oil exploration and drilling wells, and the participation of foreign countries many joint research and studies aimed at developing the oil sector and developing the skills of cadres working in this sector. <sup>(v)</sup>

The Iraq Petroleum Company manages oil production operations, in addition to the Khanaqin Oil Company, and the two companies obtained their concession in (1925) and in (1928) the Mosul Oil Company, known as Shell (Dutch-British), was established. <sup>(vi)</sup>

In 1929, the North Oil Company (the Iraqi-British Company) was established, and in 1939, the Basra Oil Company was established. <sup>(vii)</sup>

In (1964) the Iraqi National Company and the Oil Exploration Company were founded, and the work of the National Company was in the field of the oil industry in all its stages, and the concession contracts were organized with the French company Irab and continued until the nationalization of Iraqi oil in (1972) after which the Iraqi company terminated all concession contracts with all foreign companies. <sup>(viii)</sup>

The Oil Marketing Company SOMO and the Iraq Tanker Company were established in (1972) and the SOMO Company is responsible for concluding oil export and import contracts, and its work is subject to the control and supervision of the Oil and Energy Committee in the Council of Ministers and the Parliamentary Oil and Energy Committee, and the company is subject to the control and supervision of the Office of the Inspector General in the ministry. <sup>(ix)</sup>

In (1990) the Iraqi Drilling Company was established, and its establishment aimed to limit drilling and reclamation operations to one company after these operations were managed by the South Oil Company and North Oil. <sup>(x)</sup>

In (1997) two companies were established (South Oil Company and Dhi Qar Oil Company) the two companies are the basis for national direct investment operations, and the two companies aimed to contribute to supporting the national economy in the oil field through the development and production of crude oil and gas for local consumption and export, to achieve the objectives of development plans <sup>(xi)</sup>. In (2008) the Missan Oil Fields Authority was converted to (Missan Oil Company) and disengaged from the South Oil Company, and it has achieved outstanding achievements in the extractive field, and (1010) established the Central Oil Company and was disengaged from the North Oil Company in (2011) to become an independent company. <sup>(xii)</sup>

The oil industry in Iraq took a gradual development until the outbreak of the (Iraqi-Iranian war), which harmed Iraqi oil exports, and led to the deterioration of the oil industry and the destruction of a large part of the oil facilities, and after the end of the war in (1988) was re-worked on the development of the oil sector by the national cadres, which contributed In accelerating the process of oil production and export, through the rehabilitation of Iraqi ports overlooking the Arabian Gulf, and the repair of the port and maintenance of its equipment, but Iraq's entry into a second war (the Second Gulf War and the subsequent economic sanctions) in (1990), which destroyed a large part of the oil facilities, became an obstacle in the way of achieving Iraq's development goals. <sup>(xiii)</sup>

The South Oil Company and its national potential have worked to develop oil fields after the Iraqi oil production reached zero after the events of (2003) and then achieved increases in a national effort until the production reached (2250) thousand b/d in (2006) and the company aimed to raise the ceiling of production to reach (4) a million b/d, but the change of oil policy in Iraq after (2010) prevented the achievement of the desired goals, The federal government decided to rely on foreign companies to develop the fields through oil licensing rounds, under the pretext of the lack of sufficient financial allocations to invest in the oil sector, as the absence of technology and the obsolescence of equipment remained inherent to this important sector, but it is a relative dilemma that many national companies were able to overcome. <sup>(xiv)</sup>

The infrastructure, especially the energy sector, transportation, and the oil industry has become subject to political control aimed at the entry of foreign oil companies to invest inside Iraq, and a series of policies and procedures have been taken that relate to the organization of the Iraqi economy, and among the proposed solutions to address the economic crisis in Iraq were invitations to many international oil companies, and work on Studying the offers submitted by these companies to choose the appropriate service contracts, and signing oil and gas license contracts with several international companies, for Iraq's need to increase oil revenues to meet the obligations that were owed to it, represented in military expenditures, foreign debt, in addition to social obligations, etc.) In addition to many obstacles that hinder the advancement and development of oil industries, including financial, technological, and service ... Where oil fields need rehabilitation and development to increase production capacity, in addition to the lack of national companies' qualified cadres to manage large oil projects with experience and efficiency. <sup>(xv)</sup>

The Iraqi government has concluded with foreign companies four contracts of licensing rounds with international companies such as the American multinational Exxon Mobil, the Japanese company Itochu, the Russian Lukoil, the French Total, the UAE Crescent Petroleum Company, and the Dutch Shell. and other companies. <sup>(xvi)</sup>

The most important items included in the contracts for licensing rounds were as follows: <sup>(xvii)</sup>

- 1- Rehabilitation and development of oil fields and wells according to the latest administrative and financial methods.
- 2- Work on transferring the expertise of international companies specialized in the oil field, as well as their modern technologies in drilling and exploration.
- 3- Work on the development and training of Iraqi cadres in various fields to promote the Iraqi oil industry.
- 4- Raising production capacity in line with the population increase and the need for reconstruction and development of infrastructure.

### **The Third Theme: The Role of Iraqi National Oil Companies in Some Sustainable Development Indicators**

The development reality in Iraq during the period (2004-2020) can be identified by presenting the most important indicators of sustainable development for Iraq and indicating the contribution of national oil companies in supporting them and achieving their goals as follows:

#### **1. Economic indicators**

Economic indicators represent an important tool to know the location of countries economically, identify and evaluate strengths and weaknesses, and develop plans aimed at achieving the goals of sustainable development, represented in the optimal use of resources and providing the needs of society without harming the environment, and among the economic indicators in Iraq, some of which will be detailed, are the following:

### I- Gross Domestic Product (GDP)

Iraq suffered from structural problems and imbalances due to the wars it fought, which greatly affected the gross domestic product, and continued until (2003) after which Iraq faced many challenges and accumulated problems and a large number of decisions and reforms at the organizational and economic level, which had a direct impact on the Iraqi economic sectors, especially the oil sector being the main source of state revenue. <sup>(xviii)</sup>

Oil exports began to record a significant rise, which led to the rise of the (GDP) being the largest contributor to its composition, as it amounted to about (36.63) billion dollars in (2004) and achieved a continuous increase in per capita share of (GDP) is a necessary condition in achieving sustainable development, for the close relationship between the growth of oil exports and the growth of (GDP) Thus, the growth of GDP per capita is highly correlated with fluctuations in oil revenues, which are affected by the stability of oil prices and the amount of oil production intended for export. <sup>(xix)</sup>

The national oil companies had a large contribution to oil production until (2014), while in the period (2015-2020) was for foreign oil companies had the largest role in the extraction and production of Iraqi oil, as these companies, according to licensing round contracts, began to participate in the extraction and production operations, and the contribution of national oil companies decreased and ranged between (10%-15%) while the contribution of foreign oil companies amounted to about (85%-90%) and Table (1) shows the contribution of national and foreign oil companies to the (GDP).), which starts from (2015) considering that the previous period was the contribution of national oil companies to a large percentage in the extraction and production of crude oil.

Table (1) Contribution of Iraqi National Oil Companies to GDP for the Period (2015-2020)

2020	2019	2018	2017	2016	2015	Sunnah
184.37	233.64	227.37	187.22	166.6	166.77	GDP/billion dollars
55.86	100.47	105.50	70.77	50.81	55.20	Billion GDP/ Total Oil Sector Contribution to USD
30.3	43	46.4	37.8	30.5	32.2	Oil Sector's Contribution to GDP
3.95	6.33	6.01	3.73	2.86	3.5	% Contribution of national companies
26.35	36.67	40.39	34.07	27.64	28.6	% Contribution of foreign oil companies

Source: The table was prepared by the researcher based on Basil Abdullah Hussein and Yusra Salem Nayef, Analysis of the relationship between the industrial sector and (GDP) in Iraq for the period (2010-2020) Tikrit Journal of Management and Economic Sciences, Volume (18), Issue (60), Part 2, Tikrit University, 2022, p. 457.

The percentage of the contribution of the oil sector in the formation of (GDP) for the year (2015) was about (33.1%), as the percentage of the contribution of national oil companies in the formation of (GDP) was about (3.5%), while the percentage of the contribution of foreign companies was about (29.6).

These percentages continued to fluctuate until the contribution of the oil sector in the formation of (GDP) reached about (30.3%) for the year (2020), the contribution of national oil companies was about (3.95%) and the percentage of foreign companies' contribution amounted to about (26.35%) It is clear from the table that foreign oil companies have clear control over oil extraction and production operations in Iraq for the period from (2015-2020).

### II- Average GDP percapita

The per capita GDP represents a key factor of sustainable human development, which is expressed in the income index, as the increase in real income per capita is a development in the standard of living, which in turn is associated with high consumption of services and goods and thus leads to improving the level of individual well-being and providing the basic needs of individuals and lifting them out of poverty. <sup>(xx)</sup>

The per capita GDP has been affected by the changes taking place at various levels, including economic and political, that have passed through the country, as it is linked to GDP, and the latter is linked to oil revenues semi-fundamentally, and this can be shown through Table (2).

Table (2) GDP per capita (USD) for the period (2004-2020)

GDP per capita/dollar	Sunnah	GDP per capita/dollar	Sunnah
7076.6	2013	1392.0	2004
6637.7	2014	1855.5	2005
4688.3	2015	2373.2	2006
4550.7	2016	3182.8	2007
4985.5	2017	4636.6	2008
5915.9	2018	3853.8	2009

5943.5	2018	4657.3	2010
4583.7	2020	6045.5	2011
		6836.1	2012

Source: The table was prepared by the researcher based on the World Bank Group, <https://data.worldbank.org/>

The table above explains the per capita growth of the GDP during the period (2004-2020) And this growth Gets back to improve the conditions of the country after the change of the political system and economy In Iraq. The development in the oil sector and the increase in oil exports, as the per capita share of the (GDP(about)1392.0) dollars for the year (2004) after which the values gradually increased until they reached (4636.6) Dollars in the Year (2008) The reasons for Height Oil revenues improve. <sup>(xxi)</sup>

The per capita continued between the relative rise and fall due to the change in oil prices in the global markets and the deterioration of the security situation, represented by the control of terrorist groups (ISIS) over large areas of the country and this reflected negatively on the economic and productive sectors, especially the oil sector, causing a decrease in oil revenues and the deterioration of economic conditions, and the oil markets were restored. Its balance in (2017) and positively affected oil exports and oil revenues, and in (2020) the per capita GDP recorded a significant decline as a result of the impact of the Covid-19 pandemic in addition to many other factors, which affected the economic performance, as the Iraqi per capita output reached about (4583).7) Dollars. <sup>(xxii)</sup>

### III- Export Index

Exports are one of the important indicators in determining the volume and level of foreign trade of any country, the rise in exports has a positive impact on the balance of payments, and Iraq is one of the countries that depend very heavily on oil exports to finance government spending in all its details, due to the decrease in non-oil revenues (agriculture, industry ... etc.).

The quantities of oil production and the value of Iraqi oil exports during the study period for the period (2004-2020) can be shown in Table (3), as the Iraqi oil production for the year (2004) was about (2106.2) million barrels and the value of oil exports was about (17455.7) million dollars and the contribution of the oil sector to exports was about (98%).

Table (3) Oil Production and Value of Iraqi Oil Exports for the Period (2004-2020)

Contribution of the oil sector to exports	Oil exports/million dollars	Oil production/ million B/d	Sunnah
98.0	17455.7	2106.2	2004
97.9	23199.4	1913.0	2005
97.3	29708.1	1963.0	2006
95.4	37771.3	2035.2	2007
97.1	61883.7	2280.5	2008
98	38964.7	2336.2	2009
99.4	51453.0	2358.0	2010
99.7	79407.5	2668.0	2011
99.6	93778.5	2942.0	2012
99.5	89349.8	2980.0	1013
599.	83538.8	3110.0	2014
99.1	43058.6	3481.0	2015
99.4	40493.8	4164.0	2016
99.3	57129.8	4469.0	2017
99.4	85798.7	4410.0	2018
96.1	78364.7	4576.0	2019
94.6	44287.4	3946.0	2020

Source: The table was prepared by the researcher based on the unified Arab Economic Report in different numbers.  
- Data of the Extractive Industries Transparency Authority, different numbers

In (2008) after holding the oil licensing rounds and coinciding with the rise in crude oil prices due to the global financial crisis, the Iraqi oil companies, with the help of foreign companies holding licensing round contracts, worked to increase crude oil production, and oil production in (2009) about (2336.2) million barrels and the increase in production continued to reach (4576.0) million barrels in (2019) and the value of oil exports rose to (78527) billion dollars. In(2019) The contribution of the oil sector to total exports decreased to about (96.1%) And it continued to decline until a year ago (2020) As oil production decreased to (3946.0) million barrels, and led to a decrease in crude oil exports to reach (41756) billion dollars, due to the decline in demand for oil due to the repercussions of Covid-19, and it is noted that exports fluctuate continuously despite the continuous increase in oil production and export, and the reason for this is due to the decline in global oil prices due to economic crises due to the dynamic nature of the international oil market, which in turn reflected on oil prices and made them volatile and unstable. <sup>(xxiii)</sup>

Table (4) shows the quantities of oil intended for export, and it is clear that oil production was through national oil companies, and marketed through SOMO until (2014), as the production of crude oil by national companies combined reached about (695544094) barrels during the year (2009) and production continued to rise until it reached about (1032485867) barrels during the year (2014), as the contribution of national companies to production was large, As for foreign oil companies, their work during that period was limited to exploration, exploration, development, and rehabilitation of oil fields through (technical service contracts). <sup>(xxiv)</sup>

Table (4) Quantities of crude oil prepared for export by the marketing company (SOMO) for the period (2009-2020)

Total oil for export/barrel	Producer				Years
	% Contribution	Foreign Companies	Contribution %	National Companies	
695544094	0	0	100	695544094	2009
690011166	0	0	100	690011166	2010
624533830	0	0	100	624533830	2011
972658365	0	0	100	972658365	2012
980147506	0	0	100	980147506	2013
1032485867	0	0	100	1032485867	2014
1353541786	89.44	1210611361	10.56	142930425	2015
1434037313	90.62	1299521646	9.38	134515667	2016
1466457830	90.13	1321693608	9.87	144764222	2017
1561553358	87.04	1359132304	12.96	202421054	2018
1565033612	85.27	1334533767	14.73	230499845	2019
1343582452	86.95	1168301739	13.05	175280713	2020

Source: The table was prepared by the researcher in AlastanaD to the Republic of Iraq Transparency Commission in Extractive Industries, annual reports, different years

The contribution of foreign oil companies to production ranged between (85% and 90%) and the amount of oil extracted for the year (2020) was about (1343582452) barrels, national companies contributed by (13.05%) where the national production reached (175280713) barrels, while the contribution of foreign companies amounted to (86.95%) and the amount of production is about (1168301739) barrels.

## 2. Social Indicators

Social indicators represent the activities carried out by the state or non-governmental organizations to perform public services to members of society, and government social welfare in particular is characterized by the fact that it works under a national policy and a general plan to provide basic services to all citizens as a commitment by the state towards its citizens and aimed at achieving social, economic, health and recreational welfare for all members of society. <sup>(xxv)</sup>

National and foreign oil companies operating in extractive industries contribute to the disbursement of large sums to cover the expenses of social services, specifically in the surrounding areas adjacent to the oil fields, which are affected by production processes, as they affect the surrounding environment and the health of individuals living

in those areas, and these services are provided to improve the standard of living and the economic and social well-being of the affected areas, and there are two types of social service contributions in Iraq: <sup>(xxvi)</sup>

1. Social contributions provided by foreign companies and determined through the Energy Committee are mandatory to be implemented by foreign companies upon signing the licensing round service contract, where an amount not exceeding (5) million dollars is allocated for each service contract, and social benefits are provided to the areas surrounding the fields and the exploration areas in which work is carried out by these companies in agreement with the local governorates.
  2. Social contributions are made at the discretion of foreign companies and voluntarily, where they represent social expenses that are provided and disbursed at the discretion of foreign oil companies, where these expenses are non-refundable, which are donations from those companies to the areas concerned with oil production operations.
- The social dimension includes several indicators, the most important of which can be indicated as follows:

### **I- Unemployment Index in Iraq**

Unemployment is one of the most serious and largest problems that threaten the stability of countries, and the nature of the social and economic system of any society must be reflected in the jobs of the labor market, Iraq the employment policy in the public sector aims to achieve social and humanitarian goals in addition to economic goals, and the Iraqi economy as a rentier depends heavily on oil revenues, which constitute about (95%) of the revenues of the public budget, Most of them are allocated to providing job opportunities through central or decentralized appointment, not absorbing the public sector large numbers of manpower, in addition to the state's control over the resources and main economic activities in the country, making it become the main employer of the labor force regardless of the actual need for work, which emerged with it the phenomenon of disguised unemployment in state agencies and departments and public government institutions. <sup>(xxvii)</sup>

The total manpower in the Ministry of Oil can be shown in Table (5), as the number of employees of the ministry in addition to the employees of the national oil companies reached about (120174) employees for the year (2012), and it was noted from the table that the employment rate remained almost constant despite the growth of the workforce, as the number of the ministry's employees reached about (128192) public employees (2022).

Table (5) Preparation of Ministry of Oil Employees for Different Years

2022	2018	2017	2016	2015	2014	2013	2012
128192	127246	135911	137493	132573	127741	126819	120174

Source: The table was prepared by the researcher based on the Republic of Iraq, the Transparency Commission in Extractive Industries, the annual report, and different numbers.

Concerning the national oil companies (North Oil Company, Central Oil Company, Maysan Oil Company, Basra Oil Company, Dhi Qar Oil Company, Oil Exploration Company, and Drilling Company), the number of its employees total for the year (2022) reached about (55 thousand) employees, while (Sumo Marketing Company) had about (374) employees, and among the conditions set within the licensing rounds was determining the percentage of the national workforce, Companies are entitled to hold up to 15% of the positions of contractor employees, and the remaining 85% must be filled by persons seconded from regional oil companies or appointed by the Field Operation Department. <sup>(xxviii)</sup>

The national oil companies have had an important role in caring for the human cadres working in the production sites, and working to develop their capabilities and skills through the establishment of internal and external scientific courses and informing them of the latest scientific findings in the field of mining, as the international oil companies have allocated during the year (2017) a financial allocation of (10,584,058 dollars) for workers in the extractive field, represented by Training courses, technology, and scholarships, where some of these allocations were a voluntary initiative by international companies, and others came at the special request of national oil companies, and are mandatory social expenses as they are recovered costs deducted from the accounts of the Ministry of Oil to develop its cadres and research centers and transfer technology to it, and the number of beneficiaries of these services has reached about (9291) employees. <sup>(xxix)</sup>

### **I- Education Index in Iraq**

The period of the nineties affected the impact of economic sanctions on the education sector in Iraq, and the rates of government spending on education decreased due to the decline in oil revenues, as the percentage of spending on education did not exceed the national income (1%) Despite the improvement of economic conditions and the lifting of economic sanctions after (2003), but spending on education did not witness an improvement as required, and despite the percentage of spending on education from the (GDP) has risen from (3.39%) in (2004) to approximately (4.7%) in (2020), but it remains low compared to developed countries or even developing countries, as the education sector in Iraq suffers from material and human problems, there is a shortage of buildings and school supplies in addition to the lack of educational cadres. <sup>(xxx)</sup>

## II- Iraq Health Index

The health services sector in Iraq has a distinguished position among other sectors, for its direct connection to human health, creating a clean healthy environment has become one of the basic things that the state cares about, and a right of members of society stipulated in the constitution, and the government relied on the adoption of a central and free health care system, and also worked to provide health centers, medical complexes and public and specialized hospitals, and the work of health institutions is not limited to providing treatment only, but goes beyond that to provide preventive services and despite The fact that Iraq had an advanced health system capable of providing health services at a high level, but the health sector in Iraq was exposed to political and economic fluctuations during multiple periods of time, which affected the Iraqi health reality, as the size of the financial allocation to the health sector decreased due to crises, wars and internal problems to which the country was exposed, which negatively affected the level of health services provided to members of society, Many buildings and hospitals have also been vandalized or destroyed, and many medical staff have migrated outside the country due to the security situation as well as the lack of medicines and medical supplies. <sup>(xxxii)</sup>

## Third: - Iraqi Environmental Indicators

Organizations interested in the environment in general and organizations interested in the green orientation called for the fact that industrial processes cause an increase in pollutants in the air, water and land, and that excessive use may cause environmental pollution that disturbs environmental systems significantly, and Iraq has suffered from environmental pollution in all its territories, due to the many wars that it has been subjected to for long periods, which led to The second Gulf War also caused the burning of (1.44) million barrels of crude oil, (1.33) million m3 of natural gas, (72) thousand tons of sulfur in Anbar, (30) m3 of hydrogen sulfide gas in Kirkuk and (36) million liters of Gas in Al-Qaim and Karbala, the index of per capita carbon dioxide emission in Iraq reached (49) million tons in (1990) and rose to (73) million tons in (2003), and the per capita emission was about (2.7) tons for the year (2003) and the percentage of emissions can be clarified through Table (6). <sup>(xxxiii)</sup>

Table (6) Iraqi CO2 per capita emission for the period (2004-2020)

(capita (metric ton Carbon dioxide emission per	Sunnah	Carbon dioxide emission per capita (metric ton)	Sunnah
4.2	2013	3.3	2004
3.9	2014	3.2	2005
3.7	2015	3.0	2006
3.9	2016	2.7	2007
4.1	2017	3.1	2008
4.2	2018	3.3	2009
4.4	2019	3.6	2010
—	2020	3.7	2011
		4.0	2012

Source: The table was prepared by the researcher based on World Bank data, <https://www.albankaldawli.org/ar/home>.

It is clear from the table that the per capita pollution rose after (2003) and the reason is due to the lifting of economic sanctions on Iraq and the rise in Iraqi oil exports, and the increase in oil production during the period (2004-2020) increased the percentage of pollution, and the per capita emission of gas (CO2) reached about (3.3) metric tons for the year (2004) and gas emissions continued to rise until it reached its largest value in (2019), where the per capita share of (CO2) gas reached about (4.4) metric tons.



The national oil companies, under the supervision of international companies, had a role in the field of environmental protection, laying flow pipes, and civil works for wells or camps, and in (2017) Eni Iraq allocated funds for training programs in health, safety, and environment, the first program was allocated about (434,075) dollars and the number of participants in the program was (7020) and the second program was allocated to it (1,357,236) dollars and the number of participants in the course was (1983) people. <sup>(xxxiii)</sup>

**Fourth: Iraqi Institutional Indicators**

The technological and information acceleration in the world requires the government to pay attention to providing information and statistics, developing infrastructure, improving the level of health, paying attention to the environment and education, encouraging scientific research and funding, and the Ministry of Planning has worked to develop a series of measures to achieve the goals of sustainable development, and a national committee for sustainable development has been formed to coordinate between the Ministry of Planning and Ministries and other institutions, However, Iraq faced institutional weakness resulting mainly from the lack of legal obligation to its plans and strategies, which weakened the ability of institutions concerned with planning to achieve the goals set by the Iraqi government, as achieving development goals requires the mobilization of capacities at the local, national and international levels, whether by government institutions or the private sector, non-governmental organizations, educational and educational institutions, as well as international organizations. Work on mobilizing resources and taking measures that will adapt sustainable development goals, targets and indicators, and include them in development plans and programs, and spending on research and development as a percentage of GDP can be illustrated through Table (7). <sup>(xxxiv)</sup>

Table (8) R&D Expenditure/GDP for the Period (2004-2020)

GDP% / Percentage of R&D Expenditure	Sunnah	Percentage of R&D Expenditure / GDP%	Sunnah
——	2013	——	2004
0.04	2014	——	2005
0.04	2015	——	2006
0.04	2016	0.05	2007
0.04	2017	0.03	2008
0.04	2018	0.05	2009
0.03	2019	0.04	2010
0.04	2020	0.03	2011
		——	2012

Source: The table was prepared by the researcher based on World Bank data, <https://www.albankaldawli.org/ar/home>

The table shows that the rates of spending on research and development for the GDP range between (0.03 and 0.05), which are very low compared to the importance of research and development to serve sustainable development, while the information and communication technology index Iraq ranked (132) with a value of (24.2) despite the existence of a revolution in the field of information and communication, but Iraq still suffers from the retroactivity of this important joint of the joints of individuals' lives. <sup>(xxxv)</sup>

Table 8 shows the financial allocations that were spent on providing social benefits and training employees working in national oil companies, in addition to training missions in foreign countries, and the companies' contribution to cover training expenses in key areas, such as English language education, operations, health, safety and environment, drilling wells, basic skills development, engineering, and project management.

Table (8) Contribution of National Oil Companies in Providing Social and Training Benefits for Different Years

Total Customization	Social benefits	Training Benefits	Sunnah
72711943	13664806	59047137	2012
101525763	5944255	95581508	2013
80118869	7251374	72867495	2014

10905815	10905815	2016
974891783	974891783	2017
171000000	171000000	2018

Source: The table was prepared by the researcher for the Ministry of Oil, the Extractive Industries Transparency Authority, in different years.

In (2012) the total allocation was (72711943) dollars, and four training programs were held with an estimated budget of (120,000) dollars for each program, and in (2013) the total allocation reached (101525763) dollars, and the companies worked to provide lectures on health, safety, and environment, drilling, production, management, and human resources, information technology and others, in addition to caring for people with cancer. However, they are not the minimum acceptable interest in developing appropriate solutions to these problems and environmental impacts caused by the work of these companies. <sup>(xxxvi)</sup>

### **The Conclusions**

1. The Iraqi government is nearly entirely dependent on oil income for its domestic and international transactions, making it vulnerable to swings in world petroleum prices.
2. The country's economic, social, and political stability is all threatened by its reliance on international oil companies to fulfill oil licensing contracts, a situation fraught with danger that is only exacerbated by the fact that these companies are constantly striving to increase their production capacity to maximize their profits.
3. The measures of sustainable development in Iraq are falling, which has major consequences for numerous phenomena, including rising unemployment, poverty, and lack of access to healthcare and quality education.
4. Despite knowing that it would have to deal with startling and constant swings in oil prices, Iraq did nothing to ease the burden on the oil industry or lessen its utter reliance on oil earnings.

### **Recommendations**

1. It is imperative that the Ministry of Oil work with foreign companies to develop an integrated action plan to rebuild the oil sector's infrastructure, particularly production, and export, and to try to gradually increase the treasury capacities in export warehouses, as well as to work on technology transfer and training of national cadres.
2. Because of the detrimental consequences that their excessive use of natural resources has on the environment and the lack of environmental sustainability that results from it, oil firms in Iraq must accept social and environmental responsibility in the area or governorate in which they operate.
3. Increase production capacities in non-oil sectors like agriculture, industry, and other activities to diversify sources of income and work on activating the paragraph of additional allocations for the oil-producing governorates, which are specified to improve the living situation and reduce the risks of diseases resulting from oil operations.

### **References**

<sup>i</sup>Saraa Salem Dawood Al-Jarjousi, The Negative Effects of Revenue Changes in the General Budget of Iraq for the Period 1971-2019, Tikrit Journal for Administrative and Economic Sciences, Volume (17), Issue (53), College of Administration and Economics, University of Tikrit, 2021, p. 177.

<sup>ii</sup> Nabil Jaafar Abdel Redha, Oil Economy, Dar Revival of Arab Heritage, Lebanon, 2011, pp. 56-60.

<sup>(iii)</sup> Ahmed Abdul Aziz and Jassim Zakaria and Firas Abdul Jalil Al-Tahhan, Multinational companies and their impact on developing countries, Journal of Administration and Economics Vol. (1) Issue (85), Al-Mustansiriya University, 2010, pp. 117-119

<sup>iv</sup> Bouqlila Ahmed, previous source, Bouqlila Ahmed, Competition between national oil companies and international oil companies in the field of oil industry, Scientific Horizons Journal, Volume (12), Issue (2), University Center of Tamangst, Algeria, 2020. p. 455.

<sup>v</sup> Amira Abboud Marza Al-Karawi, Rentier States in the Era of Oil Decline - The Trend Towards Reforming and Diversifying the Iraqi Economy, Special Issue of the First International Scientific Conference in Cooperation with the College of Administration and Economics, Warith Al-Anbia University, Vol. (3), 2021, p. 28.

<sup>vi</sup> Ghassan Ghazi Youssef Al-Jashaami, Concessions of Oil Companies in Iraq 1925-1952, A Historical Study, *Al-Researcher Magazine*, Volume for the Second International Scientific Conference held on May 10, 2022, Issue (1), University of Karbala, p. 211.

<sup>vii</sup> Tamara Amer Amin Kiso, Methods of accounting treatment of survey and exploration costs and their impact on the financial statements of the oil industry (applied to the North Oil Company (Master's thesis, College of Administration and Economics, University of Mosul, 2005, pp. 51-52).

<sup>viii</sup> Lawrence Yahya Saleh and Fatima Mohsen Mohammed, Iraqi Oil between Licensing Rounds and Sustainable Development - with reference to the experience of Norway, *Proceedings of the Eighth Scientific Conference The Energy Sector in Iraq: A Vision of the Present to Foresee the Future*, Faculty of Economics, University of Basra, 2015, p. 171.

<sup>ix</sup> Rahim Hassouni Ziyara and Muhammad Hazem Abbas, Pricing mechanisms of Iraqi oil types and their implications for export for the period (2003-2013), *Journal of Economic and Administrative Sciences*, Vol. (23), Issue (97), University of Baghdad, 2016, p. 321.

Fadila<sup>x</sup> Salman Dawood Wahba Naji Salman, The Role of Total Quality Management Requirements for the Environment in Enhancing Environmental Sustainability / Applied Research in the Iraqi Drilling Company, *Journal of Economic and Administrative Sciences*, Vol. (22), Issue (87), University of Baghdad, 2016, p. 150.

<sup>xi</sup> Abdul Karim Abdul Rahim and Jaafar Abbas Abdullah, The use of the balanced scorecard to evaluate performance in the oil extraction industry: An applied study in Al-Basr Oil Company, *Gulf Economic Magazine*, Volume (34), Issue (37), University of Basra, 2018, p. 154.

<sup>xii</sup> Lawrence Yahya Saleh Al-Kubaisi and Firas Fawzi Fadel Al-Dawoodi, Strategic Planning for the Sustainability of Oil and Natural Gas Resources in Iraq (Al-Wasat Oil Company), Baghdad 2020, p. 59.

Mahmoud <sup>xiii</sup> Muhammad Mahmoud Dagher and Faisal Ghater Hassan Salman, Iraqi Petroleum (Oil) Contracts under the Integrated National Energy Strategy INES, from the proceedings of the eighth scientific conference, the energy sector in Iraq, the vision of the present to foresee the future, held at the College of Administration and Economics, University of Basra for the period (15-16/4/2015), pp. 81-82.

Mahmoud <sup>xiv</sup> Muhammad Mahmoud Dagher and Faisal Ghater Hassan Salman, op. cit., pp. 81-82.

<sup>xv</sup> Saif al-Din Muhammad al-Hadithi, Foreign Investments and the Reality of the Iraqi Economy and its Future Prospects, *Journal of the Baghdad College of Economic Sciences University*, Special Issue of the College Conference, Volume (2013), Issue (4), Baghdad, 2013, p. 399.

<sup>xvi</sup> Talib Mazher Jassim Al-Muhammadawi, Contractual agreements in the oil markets, Iraq as a model, *Maysan Research Journal*, Volume (17), Issue (34), Maysan University, 2021, pp. 434-436.

(<sup>xvii</sup>) Akram Ali Al-Shaheen, Oil Licensing Contracts: Their Effects and Economic Dimensions on the Future of the Oil Industry in Iraq, *Journal of Sustainable Studies*, Third Year, Volume (3), Issue (4), 2021, p. 288.

<sup>xviii</sup> Farazdaq Ali Al-Tamimi, Political Development and its Crises in Iraq after 2003, Thesis and Thesis Series, Beirut, Lebanon, 2021, p. 95.

<sup>xix</sup> Hatem Karim Belhawi, Analysis of the impact of oil revenues on the gross domestic product in Iraq for the period (2003-2018) using the (VAR) model, *Warith Scientific Journal*, Volume (3), a special issue of the first international scientific conference under the title (Strategies for the transition from a rentier economy to a multi-resource economy), held on 1/6/2021, Warith Al-Anbiya University, p. 53.

<sup>xx</sup> Munem Ahmed Khudair and Noman Munther Younis, Measuring the Impact of Public Expenditure on Sustainable Development in Iraq for the Period (2000-2016) Using the ARDL Model, *Tikrit Journal of Administrative and Economic Sciences*, Volume (3), Issue (43), 2018, p. 317.

<sup>xxi</sup> Hamsa Qusay Abdul Latif and Omar Adnan Khamas, Global Oil Price Fluctuations and their Impact on the Reality of the Iraqi Economy, *Al-Riyada Journal for Finance and Business*, Volume (4), Issue (2), Al-Nahrain University, 2023, p. 8.

- <sup>xxii</sup> Amer Badr Ahmed Al-Faraji and Makhif Jassim Hamad, Analysis and measurement of the impact of the average GDP per capita on the human development index in Iraq for the period (2004-2019), *Tikrit Journal of Administrative and Economic Sciences*, Volume (17), Issue (55), 2021, p. 219.
- <sup>xxiii</sup> Hatem Karim Belhawi, op. cit., p. 50.
- Republic<sup>xxiv</sup> of Iraq, Extractive Industries Transparency Commission, Sixth Annual Report, 2014, p. 21.
- <sup>xxv</sup> Rahman Hassan Ali and Marwan Shaker Obaid, Analysis of Economic Growth Indicators in the Iraqi Economic Environment for the Period 2004-2017, *Al-Kout Journal for Economics and Administrative Sciences*, Volume (12), Issue (35), Wasit University, 2020, pp. 194-195.
- Republic<sup>xxvi</sup> of Iraq, Transparency Commission in Extractive Industries, Annual Report 2018, p. 87.
- <sup>xxvii</sup> Jamal Aziz Farhan Al-Ani, The Trilogy of Economic Failure in Iraq (Thought, Unemployment and Corruption), *Al-Kout Journal for Economic and Administrative Sciences*, Volume (1), Issue (19), College of Administration and Economics, Wasit University, 2015, p. 140.
- Republic<sup>xxviii</sup> of Iraq, Transparency in the Oil, Gas and Minerals Industry Report 2019-2020, Annual Report 2022, p. 109.
- Republic<sup>xxix</sup> of Iraq, Transparency Commission in Extractive Industries, Annual Report 2017, p. 138.
- <sup>xxx</sup> Mazen Ali Ahmed Al-Zuhairi and Murad Faleh Murad, The Policy of Government Spending on Education and its Role in Developing the Education Sector in Iraq, *Journal of Dijlah University College*, Volume (1), Issue (2), Dijlah University College, Baghdad, 2023, p. 28.
- <sup>xxxi</sup> Rabie Qasim Thajeel and Ghofran Qusay Khalil, Analysis of the development of expenditures on the health sector in Iraq for the years (2007-2017), *Journal of Economic Sciences*, Volume (16), Issue (63), University of Basra, 2021, p. 94.
- Hilal<sup>xxxii</sup> Judeh and Hadeer Nabil Jaafar Symposium, Environmental Impacts of the Oil Industry in Iraq, *Journal of Economic Sciences*, Volume (13), Issue (51), University of Basra, 2018, p. 31.
- <sup>xxxiii</sup> Extractive Industries Transparency Initiative in Iraq, Annual Report 2017, p. 138.
- <sup>xxxiv</sup> First Voluntary Report on the Sustainable Development Goals (2019), pp. 70-71.
- <sup>xxxv</sup> Bassem Ali Khuraisan, Iraq in the Global Knowledge Index 2021, Al-Bayan Center for Studies and Planning, p. 1-4.
- <sup>xxxvi</sup> Ministry of Oil, Extractive Industries Transparency Authority, various years.