

THE OIL INDUSTRY AND MISSED OPPORTUNITIES IN IRAQ

Dr Abdul Jaleel Oda Hussain

Associate Professor of Economics

ABSTRACT: *The depth and breadth of the analysis of the oil industry in Iraq can make the subject seem daunting to any scholar or individual with substantial interest in the subject. The aim of this research is not to explore the technical elements of oil and gas or even the oil industry in its entirety. This research will focus on delivering the analysis of the oil industry from a macroeconomic perspective; this approach will enable the research to address national economic issues, which will illustrate the macrocosmic effects of the practices of the oil industry in Iraq without needing to delve into microcosmic details, and the following matters will be discussed:*

- 1 - A brief look into oil and gas Industry highlighting its present.*
- 2 - Discussing the views that claim that the wealth of oil and gas have not been used for the purpose of economic and social development.*
- 3 - Predicting the future of oil and gas industry in Iraq and speculate on what could be lying ahead.*
- 4 – Suggesting appropriate policies in the field of oil and gas, in light of contemporary Iraqi economic and political transformations.*

KEYWORDS: Oil and gas industry, missed opportunities, Iraqi economic policies.

INTRODUCTION

Energy has become the cornerstone when considering the development of human societies. For example, the era of wood which characterised the middle Ages ended to be replaced by the era of coal, which seemed to shift in the late nineteenth century to the oil era in the twentieth century. Because the reservoirs of oil, gas and coal were distributed unevenly in the world, the countries that have large reserves under their soils were able to develop faster than others and to be super-states. The US has become an industrial state in the early twentieth century, as a result of possessing vast reserves of oil and gas, which has become a mainstay of its launch and then industrial development. As well as in the start of the industrial revolution in Britain the secret behind its emerging was the possession of the great reserves of coal.

Apparently we are going to witness a new era in which the wealth of the capitalist Western countries and the other rich industrial countries such as Japan and the later developed China, India and Southeast Asian, to be transferred to those rich in mineral resources countries, up to the duration of a given country's lasting stocks vital for the continuation of the world's economic survival. Since 2010 the amount of assets that turned out to the oil-producing countries, from the

United States alone each year reached more than 160 billion dollars. After the United States entered its peak oil in 1972, and became dependent on the imported oil in more than half of their oil consumption, which imported 60% in 2010.

By 1993, China began, and for the first time to import energy resources from abroad. In 2001, China produced 3.3 million barrels per day, while the total consumption rose to 5 million barrels per day. While local oil production rates reached to the limits of the peak in 2000, at the same time demand for oil in China increased and is expected to continue at a rate of increase to more than 4% annually and it is estimated that the total oil consumption in China will exceed 12 million barrels per day while domestic production will not exceed 3.4 barrels per day. China now, as the fastest-growing economy in the world, will exceed the total consumption of oil in the year 2025 the consumption of Western Europe combined. And so will exceed the annual consumption of oil of the United States, which is now the largest consumer and importer in the world. But for fairness should be noted that China cannot be considered energy-consuming nation as it is in America or Europe, because most of the energy used in China are re-exported in the form of ready goods to the world. And once you look at the per capita energy consumption in China clarified the huge difference between them and other industrial Nations of the world. (Hutton 2007).

Accelerated economic development in India in recent decades, led India to enter the field of energy import just like China and the countries of Southeast Asia, in spite of all this, the consumption of oil rose from one million barrels per day in 1999, to 3.2 by 2010, to become also one of the most important factors pushing for increased rates of global demand for oil. The total global crude oil consumption increased from 59.9 Mb/d in 1980 to 87.3 by 2011. (Stern 2004). The Iraqi petroleum policies should comprehend all these energy facts and trends, to target national and international benefits from restructuring its industry.

LITERATURE REVIEW:

- Zainy Muhammad, 2003, Iraqi economy, past, present, and future options, Al-Rafid Ltd, London; Dr Zainy devoted Chapter four of this important book to discuss Iraqi petroleum industry and economic development efforts, detailing the five year plans for the most critical periods of the country, comparing the economic development through the plans, criticizing the low realization in one hand and the strategic failure of the economic policies on the other, Concluding that the wastage of the scarce resources on the wars efforts, was a disastrous fact in our economic history.

- Gavel Doug, 2011, Iraqi oil & Global markets, Harvard Kennedy school, USA. The paper oriented on prediction of the huge political risks that are going to face the country of Iraq from the consequences of the radical political changes that occurred after the regime change in 2003. The new political scene would promote new dangers from the social fragmentation as the different social fractions battling for better share of the petrol wealth.

- Jaffe Amy Myers, 2007, Case study on Iraqi oil industry, James A Baker institute, USA. Discussed the impact of dissolution of the Iraqi national oil company, suggesting vital point's for the Iraqi oil industry, highlighting the need for restructuring the Iraqi oil industry, suggesting the leading role of the National Iraqi oil company by recreating it on new principles.

- kumas Gizem, 2012, The oil curse and Iraq, Academia.Edu, USA; This research debating the interesting phenomena of coexisting the abundance of the natural resource like the Iraqi petrol and the poverty and lack of growth. There are solutions proposed to overcome the oil curse and there are positive outcomes of these solutions and also evident examples such as Norway. Among these solutions, how Iraq, which is one of the countries experiencing poverty as well as civil conflict, can utilize these solutions.

The research objectives:

This research aims to prove that the wealth of Iraqi oil and gas had been wasted and misused as a vital tool for economic and social developments. These conclusions are supported with appropriate data and comparisons, which form the rational scientific foundations to suggest the appropriate restructuring in Iraqi oil policies.

Research Hypothesis:

This research offers a pragmatic approach when assessing the wealth of the oil and gas industry. This hypothesis considers explicitly the faults of how the oil and gas industry has been managed in Iraq up until this point, and a sharp consideration of how the gas and oil industry has not been sufficiently manoeuvred to propel economic development and growth; there will also be a focus on identifying patterns of weak economic planning and analyzing the lack of strategy. The critical element of this research is the exploration of how the oil and gas industry in Iraq can be reworked to ensure economic prosperity which would position Iraq on a strong economic platform; this will be achieved by comparing the Iraqi economy to other countries whose economies are similar. The figures provided in this research have been calculated and sourced to address contemporary readings.

THE FUTURE OF PETROLEUM WEALTH

Post-petroleum era

Some decades ago geologists and oil experts start talking about the possibility of oil depletion, which became a reality and non-negotiable, but the debate was and still focused on when this important source of energy will run out, and how will the conditions of the global economy during and after the depletion phase will be.

There is a well-known comment from the former Saudi oil minister and expert on oil, Mr. Ahmed Zaki Yamani in which he says "the Stone Age ended not because there are no more stones in existence, as well as the end of the oil age it won't happen because of the end of the oil existence" this Yamani's smart signal was probably influenced directly by the calls, writings and researches

that has been active in the eighties of the last century toward the search for new sources of energy. In other words, the end of the oil era may be will occur through the discovery and development of other sources available in nature to produce energy and by new technological ways to discover unknown methods to produce more energy to compensate the consumption of traditional fossil sources, based on the following facts:

- 1 - Because the coal, oil and gas are considered as the sources of energy that pollute the environment.
- 2- The geological studies proved that those deposits of oil, are limited energy resources and what is left of it available under the layers of the earth seemed to be decreasing strongly, especially in recent decades. (Klare 2005)
- 3- The last remaining reserves of oil reservoirs will be situated in some countries in the Middle East and specifically in the Arabian Gulf, those areas known for their political instability.
- 4- Recently appeared some researches on so-called “post- oil energy”, the importance of this term is that the depletion of oil became a reality and what we are experiencing now is a transitional period to the new types of energy sources. Some of the experts trying to study the global energy crisis to answer the most serious question of, are there a solution to the dilemma of the traditional energy resources depletion that we are facing today? The answer is yes, but the answer suggesting harsh conditions and is not easily accessible.

Alternatives that are known so far can be summarized as the following sources:

- Raw materials of conventional oil, which the old technologies have been unable to extract of reserves, which used to extract only about 70%, per well then the hope is in the search for new ways to extract the remaining 30%.
- The other alternative is the Natural gas, which was present along with oil in the nature.
- The question of returning to the coal as a source of energy, a modern of access to ways leading to the new technique to extract coal from the ground.
- Building nuclear power plants for peaceful purposes major in the production of electric power.
- The clean and sustainable energy: From the Sun, Air, Seas and rivers...etc (Stern 2004 Ibid)

HOW DID THE SUCCESSIVE IRAQI GOVERNMENTS DEAL WITH THE OIL WEALTH?

1934-1958

The discoveries of oil reserves in Iraq go back to the twenties of the last century, and the first thing that appeared to actual production was in 1927, but the commercial importance of Iraq's oil started in practice in 1934. Three companies had got the privilege of extracting oil and shared the investment in Iraq, they are: Iraqi Oil Company, Mosul Oil Company and Basra Oil Company. (Mutually 1977).

Table No. (1) Iraqi oil production (000b/d)

years	1935	1940	1945	1950	1955	1960
Production	18.7	21.4	80.5	140	600	920

Source: OPEC Annual statistical Bulletin 1991

Oil production was equivalent to about 1.5% of the world's production in the early years, but it was reduced by the events of World War II and the Palestine war. The important change that has occurred on the size of Iraq's oil production appeared since 1950, as production started to increase until 1955, to reach about five times the amount produced in the year 1950. There have been important investments in new oil fields and in the pipeline to transport the crude oil from Iraqi fields to ports in Syrian, Lebanon and Palestine. Proven reserves estimated at 700 million tons in 1949 then increased to 2.3 billion tons in 1954. The new agreement reached between the Iraqi government and foreign oil companies in 1952, was an important development for the oil industry in Iraq, being achieved for the first time the principle of dividing the profits equally between the Iraqi government and the producing companies. That period have seen increase in oil revenues due to the increase in Iraq's share of the profits on the one hand and the growth in the amount of extraction on the other. As it is known to many Iraqis that the oil industry in Iraq was marked in this period, as it falling in full dependence on foreign companies, the oil policy in terms of the exploration, extraction or export almost all were in the hands of Western companies, and behind them colonial policies that characterized that era. The role of the Iraqi state is not more than the recipient of the proceeds of the oil, which is the share of the net profit, but the administration jobs and technical skilled jobs mostly goes to the staff of those companies, and what was striking, that Iraqis are getting only some of the functions of temporary, unskilled employment, then the development of the matter was very slow towards the training and rehabilitation of some Iraqi engineers and technicians. For these reasons, economists were calling Iraq's oil industry as a strange and isolated economic sector from the Iraqi society (ibid Mutually 1977).

Table No. (2) Employment in the oil companies

Years	1935	1940	1945	1950	1955	1960
Iraqi Employees	2.340	3.535	10.360	11.370	15.400	16.200
% to the total	3.2	3.5	4.4	6.4	5.8	6.3

Source: Middle East economic papers, 1956

If we consider that the total workforce of Iraq in various branches of industry for 1955 had reached 140 000 people, and from here we can extract that employment in the oil sector at the time did not constitute more than 10% of industrial employment and is less than 0.7% of the total Iraqi workforce. This on the one hand and on the other, concession companies in Iraq have made fictional profits, the money invested between 1956-1960 does not exceed 100 million dollars, while profits achieved exceeded for the same period \$ 212 million, the proportion of profits

reached up to 62% While this percentage of the oil industry in the United States did not exceed 10% and in Venezuela stood at 20% for the same period.(Al Dalli 1954)

Interestingly, the behaviour of Iraqi governments over the disposition of the oil resources in that time, praised the idea that the oil as national depleted resource and its proceeds should be used for the purposes of investment, dating back to 1927 when the government received for the first time franchise tax, and made the decision to direct these revenues to finance projects in infrastructure. That unique trend compared to what is happening today, where they founding the Council of reconstruction in 1950 and formed its law, which included conversion of all oil resources for the budget of the Council, to be spent on development projects. And the Council already has succeeded in the implementation of vital projects in the field of regulation, dams to avoid flood risks and direct the implementation of other projects involving infrastructure such as roads and bridges and the establishment of hospitals, schools and power plants.

Things changed in the subsequent short period towards a steady rise in oil prices, the reasons for this was the increasing need for the supply of oil by industrial countries specially as the U.S. start turning into an importer of oil and then the formation of the Organization of Petroleum Exporting Countries, OPEC in 1960, enabling producing countries of getting the right to contribute to the capital of the foreign companies starting from 25% in 1973 and ending by 51% in 1982. But Iraq was distinguished from OPEC countries to take the decision to nationalize the Iraq Petroleum Company in 1972. (Alnassrawi 1995)

The first era of oil wealth extraction in Iraq, was Characterized by the occurrence of Iraq under the British Mandate, then the founding of the national state, the whole oil operations (including exploration to extraction, transport, storage, and export) were conducted by the foreign companies, led to:

- Policies were Suited the needs of economic and political aspirations of the governments of their respective countries, leaving the economic interests of Iraq as the last thing they think of.
- Unfair acquisition of the lion's share of revenues, during the early decades.
- Acquisition of these companies, not only of the raw materials, but the entire oil industry, withholding the Iraqis from participating only in a small numbers of unskilled labours, so that the oil industry was then an isolated island from the Iraqi society.

- But the Iraqi government and since 1950, after the Council of reconstruction has been founded with the help of the International Bank of Reconstruction at the time, began to allocate all revenues from oil resources for the purpose of investment in vital development projects, and then continued to do so, but gradually reducing the proportion allocated. It became 70% after a year and then 50%. Important observation here is that the proper procedure in the allocation of the revenues of that rare, depleted resources happened only in this early period of Iraqi economic history. **The period 1958-1969** was a period of military coups and has not experienced a continuous

political stability, which is the vital condition for the economic recovery, during this period some significant changes happened in the economic policy, and legislation pertaining to the exploitation of oil wealth.

Table No. (3) Oil production and Revenues 1958-1968

Years	1958	1960	1962	1964	1968
Production/000b/d	860.3	920	1.00	1.300	1.400
revenues/Million\$	280	320	350	430	690

Source: OPEC, annual statistical bulletin. Annual Abstracts of statistics Government of Iraq.

The most important was the enactment of Law No. 80, which recalled the untapped territory under the control of the oil companies. It held that the relationship between the Iraqi government and oil companies. Refrained those companies from the expansion of investment and began looking for opportunities in other areas, other than Iraq to put pressure on the Iraqi government and to carry on reducing ceilings of government's demands, which led to the decline in the revenues, then led the government with political oriented towards socialism at the time to relay on soviet union for the development of the oil industry, signing several agreements with the Soviet Union and East Germany. These decisions became debatable for a long time, as they led to disastrous consequences mixed with some social and political gains. (Al Hafuz 1971)

The period 1970-1980 regarded as the golden age for the Iraqi oil and gas industry.

There were important economic laws issued by the previous governments as law No. 80 of 1961 and the nationalization laws issued in 1964, in addition to the economic agreements with the Soviet Union and Germany. And the most important achievements were:

- The completion of the nationalization of all oil industries by ending the presence and interests of foreign companies operating in Iraq, we cannot underestimate the full rights recovered to localize the oil industry and make it an Iraqi in terms of policy and decision, then the development of infrastructures for the national oil company, and the activation of the search operations for oil and gas reservoirs, then the local training for the Iraqi labour with help of the expertise of the companies that came temporary on the basis of service contracts. The national oil company has achieved significant business in the areas of exploration and development, adding new numbers to increase production and export. Lifting proven reserves from 45 billion barrels in 1965 to 112 in 1978, and increased production from 1 million barrels in 1961 to 1.5 million barrels per day for the year 1972, an annual increase of less than 3.5 % and has increased export a little more than one million barrels per day from 1.5 million barrels per day in 1970 to 2.5 million barrels in 1976.

Table No. (4) Oil production and revenues/1970-1980

Years	1970	1972	1974	1976	1978	1980
Oil production/000b/d	1.400	1.500	2.000	2.400	2.500	2.600
Oil revenues/million\$	840	860	6.300	11.800	15.200	26.4

Source: Iraqi National statistics bureaux Year book 1970...1980

With respect to the oil manufacturing also can be argued that for the first time a factory for the production of chemical fertilizers was built in Baiji and another similar plant in Khor Al-Zubair. Both factories depend on the associated natural gas from nearby fields generally are relatively small and do not fit with abundant resources of crude oil and gas that can be manufactured. Petrochemical complex in Khor Al-Zubair can convert about one billion cubic meters of associated gas extracted from oil fields in Rumaila. (Alnassrawi 1995 Ibid)

Here we can record the following observations:

- The increase in exploration was slow and not commensurate with the estimates of the international experts about the prospects of finding large quantities of oil on Iraqi soil.
- Development operations are subject to the capabilities of lone national oil company in terms of dimension in investment in the sector or in directing this investments, which came very modest growth, production levels is slow, whether relative to the large reserves of oil and gas, or the percentage of evolution happening with the neighbouring countries.

1980 - 2003

Several things contributed to the formation of the economic features in Iraq within this period, which include external and internal factors, but the overall picture of the Iraqi economy remained as it is unchanged as we have explained briefly from 1960 to 1980, despite partial attempts to mobilize the Iraqi economy, but there were only touching the surface of things and did not affect the substance. The Iraqi oil commodity continues to be as the sole source of the budget and the largest component of GDP. Oil extraction and export in the form of cheap crude oil not changed. This period witnessed a disastrous economic deterioration, for several reasons:

- The Regime launched Iraqi-Iran war in 1980 (first Gulf war) and quickly the battles intensified as Iranian aircrafts shelling Iraqi borders, resulting in direct destruction of ports and oil plants, which is found mostly in the south of Iraq and close to the Iranian borders. This was followed by the oil tanker war leading to the export of oil through the Gulf becoming impossible, leading to decreased production from 3.5 barrels per day at the end of 1979 to 2.6 barrels per day at the end of 1980, equivalent to 34% Export decreased to about the same level. And the situation has worsened in 1980, where production declined to an unprecedented level of 897 000 barrels per day, exporting only 872 000 barrels per day. And reached the worst things in the year 1981, as Iraq

has not been able to produce more than 702 000 barrels a day, equivalent to almost fifth what was produced in 1979.

- The regime occupied the state of Kuwait in 1990, the (second gulf war).
- Economic sanctions that lasted more than 12 years. (Al Faris 1993)

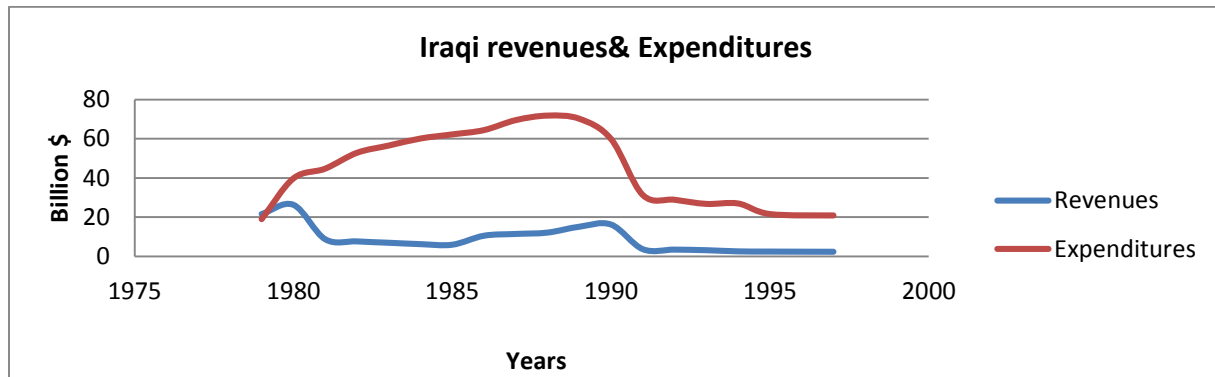
Table No. (5) Production and exports of Iraqi crude oil for the period 1979 - 2003 (thousand barrels per day)

Years	1979	1980	1985	1990	1995	2000	2003
Production	3.480	2.600	1.220	2.130	560	2.500	1.300
Export	3.250	2.480	866	1.600	211	980	390

Source: *Iraqi National statistics Bureaux, year Book, 1950.....2003.*

This means that, the financial returns obtained by the government from the oil export has deteriorated, and if this added to the decline in oil prices in that year , then it has taken a dangerous turn now. While the total revenues from export of crude oil reached \$ 26.3 billion at the end of 1979, it dropped to 10 billion dollars in 1981, then to 7.82 billion dollars in 1983. (OPEC 1990)

The decline in revenues to less than the third 28% from what it was 3 years ago on the one hand and doubled military imports on the other, putting the Iraqi economy between the scissors jaws.



Source: Data extracted from the Iraqi national statistics bureaux yearbooks 1975...1995

As a result of war and economic sanctions, production levels dropped, leading to lower export, then the significant drop in constant prices of crude oil, which was one of the results of the dumping oil policies of different OPEC countries, like Iran and other Gulf States in discounts prices of their oils, Unlike OPEC agreements. The economic data during this period telling that Iraq's oil wealth, have been used in a manner not for the economy and Iraqi society's benefits, during the past period and since 1958, but in this period the oil wealth actually turned to be curse and a factor for the impoverishment of Iraqi society. The data has proved that oil resources to be misused as an

essential tool for economic development, enough to look at the rate of per capita GDP, which reached to the level of 6 500 dollars in 1980, to fall to 450 dollars in the year 1995, throughout the period and continued dropping for more than two decades until the year 2003. (World Bank 1995)

Table No. (6) Iraqi GDP per capita (000\$)1980-2010

1975	1980	1985	1990	1992	1995	2000	2005	2010
2.36	4.65	3.70	0.890	0.555	0.450	1.04	2.13	3.65

Source: Iraqi National statistics bureaux, year book, 1975...2010

It is unfortunate to say that what happened within this period at the economic level, not only led to a recession and the decline in the growth rates, but also led directly to the destruction and demolition of what was built in development programs during the past three decades.

2004 - 2012

The period since the U.S. military occupation of Iraq in April of 2003, considered as transitional period, the first three years, were chaotic and instable times, the absence of the state and its institutions in the beginning and then the weakness and lack of legitimacy of the few institutions that created and then the control of the U.S. decision on them, these circumstances don't leave space for any opportunities at all.

It makes sense to trace the course of things about the economic decision- and policy for the exploitation of oil wealth since 2006, when things began moving toward stability, and formed an elected government in Iraq which targeted the priorities program for reconstruction the ruined infrastructures by wars and internal conflicts and terrorism. By this time the oil production rate reached new bottom around 900.000b/d, exporting less than 700.000 of it.

So the government has found itself over the two-sided problem: the first of them is the repair, restoration and replacement of machinery and equipment. The second aspect of the task of the new government in the field of oil and gas ' is to continue the development and production processes that have stopped in terms of re- repair or restoration, the wells which dropped its production levels and drilling new wells in ways that are consistent with the technological modernization in the oil industry.

Table No. (7) Iraq's oil production, exports and revenues for 2004 - 2012

Years	2004	2006	2008	2010	2012
Production/million b/d	1.5	1.9	2.3	2.5	2.9
Export/million/b/d	0.690	0.840	1.7	1.9	2.2
Oil revenues/billion\$	12.6	17.5	28.7	50.1	84.2

Source: Iraqi National statistics Bureaux, year Book, 2004.....2012.

It is clear from the data above that the process of reconstruction of infrastructure for oil and gas industry did not make a clear successes or it's going very slowly, the level of production was not

up to the level reached before the invasion of Iraq in 2003, not to mention peak oil production reached in 1979, which exceeded 3.5mb/d. For the following reasons:

- The lack of a clear strategy, indicating trends and plans to reach them, but the current Iraqi government, intending to extract more crude oil, in response to the pressure from US and the West to keep the global oil supply out of shortages, that is why the government planned to develop the oil extraction in fast rates to reach more than 5mb/d by 2016. This policy would drain the resources faster, and will intensify the resistance by the OPEC which will put pressure on Iraq and to comply with the commitment to the production of a specific ceilings, especially that Iraq is now heading a policy to maintain and support OPEC.

It continued the same policy followed by the previous government's extraction of raw materials and export them to use the financial resources for the import of consumption. Since 2005 it seems that this trend is kept its same patterns. There are no plans drawn related to the refining industry.

- The level of corruption in Iraq, which is practiced on a higher ratio compared to other countries of the world. It is not just the small practice of corruption like bribery in government departments or operations of administrative laxity count and disguised unemployment, it grew throughout the periods of the former regime and was probably logical results of a wars and impoverishment and siege. Powerful political entities that have contributed to or allowed to sabotage, oil theft trucks go to neighbouring countries. The appointments of incompetent people in key managerial posts, the expulsion of experienced expertise, Intense competition between the political parties on important functions prorated without regard to the importance of the inauguration of the administrative and technical managers that can provide the better results. (Al Basry 2010)

So it is inherited corrupted policies, and a lack of understanding in terms of strategic vision. This is in addition to the political instability that poses after the founding of the new state on the ruins of the totalitarian regime. The chaos and violence and terrorism have taken an important aspect of the concerns identified by the state and directing resources to the operations and maintenance.

- We must not neglect serious attempts that took place recently in order to develop laws and legislation based on the constitution, to design better policies regarding the oil wealth exploitation. Of these things: The Oil Ministry has been active between the end of 2009 and 2010 in order to bring in some international oil companies which are known for their reputation in the field of oil industry. And has proceeded to organize what was called the first licensing round and then followed by the second, which was a tender for the granting of these companies concessions in the development of oil and gas riches, for the first time conducted the process of granting concession contracts in an open and transparent manner. (Kumas 2012)

Missed opportunities

The period after the mid-seventies witnessed the peak in Iraqi oil production, as the total production reached 3.5 million barrels per day in 1979 for the first time in Iraqi history. In addition

to the increased petrol prices during this period in leaps and one-way, rising price per barrel from \$1.7 in 1970 to 2.3 in 1971, to 2.5 in 1972 and to \$ 5 in 1973 to 11.6 in 1974 and then to 12.4 in 1975 and then rose to \$ 13 in 1979 and to \$ 28 in 1980 and in the same year jumped to \$ 32.

This was the golden opportunity, while the level of production and prices jumped to high levels, to about 36 times in just ten years, the huge rewards of hard currency coming to government funds. The net revenues from oil export increased from 788 million dollars in 1970 to 26.3 billion in 1980, in annual growth rate reached 42%. The regime used the vast revenues to wage war on Iran in 1980.

- An opportunity to develop the exploitation of the natural gases, which is the second mineral wealth in Iraq after the oil. First, the associated gases, which comes with almost two-thirds of the oil extracted from the fields of crude oil. And secondly, the most part had been neglected either to remain under the earth's surface without exploiting or been burn and lost forever, adding heavy damages to the environment. This was supposed to be a giant industry in itself separated from the oil industry. To extract, compile and store free gas, then transported for the local uses or export in the form of liquid fuels or gases after liquidated then to be transported through pipes as it is in Russia. Russian example could be useful for Iraqis to learn from, as in the late eighties Russia started to develop its vast reserves of natural gas, now it is supplying the whole Europe with direct delivered natural gas through various pipelines making 39% of Europe's gas consumption, while the gas in Iraq wasted and polluted the country's environment.

- Missed the opportunity to build a giant refining industry capable of supplying the international market of various petroleum products on the one hand and the accumulation of additional values of refined products and exit out of the OPEC ceilings, to maximize resources, diversify the economy and employment in the areas of skilled people. The total productive capacities of the oil refineries of Iraq is 680 000 barrels per day by 1980, goes direct to meet the domestic consumption of a derivative of oil, however, since 2003 it declined to about half of that, because its exposition to sabotage during the political unrest. The rate of what is produced now is not covering the local consumption, led the government to import fuel from abroad to meet the growing local needs, which amounted to between 450-500 thousand barrels per day. While USA, has got the most refinery operations on the world, serving its oil industry and raising the crude oil value. Even Japan depending on the imported oil, but they created a huge refinery industry.

- Missed the opportunity to expand and develop the bases of oil industry in the fields of exploration, extraction in terms of increased output in line with Iraq's share of OPEC in the export and keep the amount of spare production. As the data shows around 10% of the country's territory have been explored only, and so far the huge quantity of the proven reserves of the crude oil 145 billion barrels, the average extraction not reaching 1.5% of it, which representing a huge backwardness comparative to; Saudi Arabia, Iran, and UAE.

- Missed the opportunity to transfer the oil industry sector from only extraction and export of cheap crude oil exposed to price fluctuations in the international markets and OPEC ceiling boundaries, to high-end manufacturing industries in terms of technology used and human cadre and convert it to globally desired products. Just compare our poor achievements with the oil producing neighbouring countries, like Saudi Arabia, which created a very huge industrial base like SABIC industries. In 2010, SABIC grew to be the second largest diversified chemical company, or first when measured only by asset value, it became in 2014 the world's 94th largest, with sales revenues of \$50.4 billion, profits of \$6.6 billion and assets standing at \$90.2 billion. SABIC employs more than 30,000 people globally and has 60 manufacturing and compounding plants in over 40 countries.

- Missed the opportunity to transform a part of that vast resources into investments in pilot projects restore the agricultural and industry sectors to raise their contribution to GDP, and to diversify the national income. United Arab emirate is a good example of diversification of the national income based on their oil revenues; there total proven reserves 98 billion barrels, producing 3 m/b/d by 2013. In 1962 as oil revenues increased, started to undertake a massive construction program, building schools, housing, hospitals and roads. UAE has the second largest economy in the Arab world (after Saudi Arabia) with GDP of \$400 billion in 2013. A third of the GDP is from oil revenues. The economy was expected to grow between 4–4.5% in 2013, since independence in 1971, UAE's economy has grown by nearly 231 times 2013.

The most important conclusions

From here we come to the main conclusion in this matter is that the oil wealth that we have in Iraq will be determined by the features of the strategic aspects based on:

- Wealth being depleted. In the sense that what exists under the Iraqi soil, and in spite of its relative abundance, it is in a limited amount and well-known beforehand, and its quantity will not increase the. Then it is exposed to exploitation, as extracting millions of barrels every day, for the purpose of export and domestic consumption. And that what is extracted will not be back. So it is decreasing in a bleeding way.

- It's volatile wealth in terms of its dependence on the international energy market, and this in turn depends on the state of the global economy regardless of Iraqis will, affected by the stock market ups and downs, influenced by new discoveries, affected by weather conditions and the seasons.

Most of the risks that affect the volatility of petroleum products today in addition to the above two issues: first, the political conditions in producing countries, especially in areas that control shipping lanes and pipelines or tanker trucks of oil or gas. The occurrence of a coup or political change, civil war or military skirmishes between two countries ... etc. leading directly to raising oil prices in global markets. The second thing is the issue of speculation in the international commodity stock exchanges.

- The oil industry is one of the most polluting industries to the surrounding environment, and this is relevant in the future if they carry on the catastrophic way of exploitation, as it happening now. Some non-governmental organizations are now beginning to shed spotlight on environmental issues in Iraq.

There are other disadvantages with severe damage to the economy, society and politics, caused by the presence of oil and gas resources specific to developing countries such as Iraq, including:

- The discovery of the mineral wealth in developing countries, most likely they are governed by military governments and dictatorships or authoritarian regimes -based on local theocracy, which lead by some extended families or tribes highly leveraged. The strong financial returns it brings and, this is what happened and is still happening is that these vast resources of money at the disposal of those groups and governing bodies often leads to strengthen the political unrest leading to form shaky societies.

And from here we find a direct correlation between the capacity of the mineral wealth and its importance to the rentier states and the power of the authorities that governing the community. Iraq was one such example.

- Another manifestation associated with the political organizations for this group of countries, where corruption is pervasive because those minority ruling controlling the results of the wealth away as much as possible from transparency, whether in governance or in the distribution of wealth, so the corruption is too often, playing on double faced, where the government is the giver to the agencies and companies that can consolidate its power, and the foreign or local companies bribe the Government in the plunder of wealth.

- In the light of all said above, Iraqi authorities, all the line since 1958 so far they mistreated and mismanaged that valuable natural resources, depriving their population from the fruits of the prosperous economy , that could have been gained from smart, honest management of the resources.

RECOMMENDATIONS

-To keep the oil and gas industry under the control and management of the public sector, but in a different manner from what was run in the past. Constitute the Federal Council for the management of natural resources. And issue a law to determine the functions and powers of the Ministry of Oil then to ratify Law for the national oil company to bring it to life.

- Open the doors for foreign and domestic investment, in the field of oil and gas, to fill the need for more large capital and important expertise to transfer of technology, this implies the use of foreign oil companies, and this trend does not mean abandoning the use of a capital and expertise

of the local private sector, but with time can expand the circle of opportunities granted to the local private sector and gradually trained to qualify for entry in the industry, where it is hoped to play a major role with the public sector in the future in the formation of major companies and perhaps beyond Iraqi borders to invest in the oil and gas industry, as has happened in some oil-producing countries such as China , Russia, Singapore and Saudi Arabia recently .

- Revival of the national oil company and enhance its capabilities, can lead to profound changes in the manufacturing of our wealth of mineral , through the use of the foreign companies well known with expertise to provided the training and qualification to the local staff and transfer of technologies. The future of the national oil company can be protected and enhanced by the laws to level it out to be a global giant in the fields of development and exploitation of mineral resources in Iraq and elsewhere, and gradually transform it into a joint stock company by selling shares of the company's capital such as to start with 10-15% then increase that share to keep the lion's share of the government in the field of appropriate policies in the oil and gas industry in the light of the transformations

- Amendments to the draft law of oil and gas in harmony with the constitution , in order to achieve economic efficiency and national unity.

- The completion of the Federal Council for Oil and Gas.

- The formulation of a legal framework to encourage a realistic local private sector to engage in investment in mineral wealth

- The development of a new sector and elevate it as the backbone of the economy of Iraq 's promising future that is the manufacturing in oil and gas sector, starting from the expansion in the oil refining and then the establishment of industries headlights to support the extraction and transport , such as factories producing pipes and equipment pistons and pumping stations, Storage equipment and all the requirements of the extraction of oil. As for the back links to the extraction industry are most important matter which should be given priority in the search and studies, benefiting from the experience of similar countries such as Saudi Arabia , for example, the feasibility of its industrial companies ARAMCO and SABIC Groups. Convert the precious oil resources to the manufacturing industry, what was apparently a priority for the economic growth. And in addition to the misguided exploration and development, it has ignored the trend towards the manufacture of oil, because of its comparative advantages, Iraq producing a kind of raw oil characterized by its good quality, easily to be manufactured into intermediate and consumer goods, Iraq brut oil is one of the lowest extraction costs, for example, in the extraction of sulphur, and in the manufacture of fertilizers, as well as in the production of many goods required in the final markets. But crude oil itself when dealing in petrochemicals it can produce a long list of intermediate or final goods. Grained and threaded plastic, pots, plates, and packaging materials. Fabrics, materials used in Knits materials used in the aircraft industry or hardware minute. Plastics and batteries , materials used in the manufacture of explosives , detergents , disinfectants ,

lubricants , pesticides , rust -resistant materials , plastic pipes and equipment , paints, perfumes ... etc.

- Certainly manufacturing the vast oil and gas resources in Iraq will establish industries that will add more than 10 times values to the economy, and will absorb large-scale unemployment, leading to higher productivity rates, then can Iraqi petroleum industry escape from the OPEC production boundaries. That is the only way to diversify the country's GDP and putting the economy on the departure point to prosperity.

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