CHAPTER THREE

DEVELOPMENT OF OIL INDUSTRY

This chapter starts by tracing the beginning of the Libyan oil industry in the early 1950's when its contribution to the national accounts were minimal (i.e 6.9%) to its current level when it accounts 30% of GDP. The consequence of the 1955 law for the oil industry in Libya is also discussed. The various policies and legistations that have been enacted will also be presented and analyzed. The need to control the Libyan economy's mainstay which is oil, led to nationalization policies being promulgated and this will be discussed at large in this chapter. The chapter concludes by presenting the relationship between Libya and OPEC particularly in respect the influence they have on each other and on the world economy.

3.1 The initial oil condition :

The nature and prospects of the Libyan economy changed drastically with the discovery of important oil reserves in the early seventh century. The oil industry in Libya had significant beginning with the enactment of the first petroleum law in June 1955. Although the Italians had made a few attempts at exploration in the 1930s, they were unsuccessful, and the second world war abruptly interrupted these activities.

As soon as the British military authorities established themselves in the country in 1943, the Western powers mainly the US, became interested in possible oil finds. The US state department sought an assurance that American companies be given equitable treatment in Libya in any exploration program. In 1947 and 1948, ESSO carried out some preliminary work and made the first strike in the South West Fezzan (The Economist Intelligence,1992). After 1951 the Libyan government responded promptly to the interest of the oil companies to discover more oil fields. In the late 1953 the government issued reconnaissance permits to companies such as Mobil, Esso, Shell,BP, Continental, CFP,Bunker Hunt, Oasis(Marathon), Amerada, Amoseas (Socal &Texaco) and Libyan American, which entitled them to drill.

In 1955 the Government introduced petroleum law which was important for two reasons: Firstly, it enabled a large number of companies to engage in the systematic exploration of large tracts of land, an activity which soon rewarded both the country and the companies with significant oil finds. Secondly, the law departed from the usual system of concession granting in the Middle East.

The repercussions of this departure on the structure of the oil industry, largely unforeseen at the time, later proved to be considerable (Ali Otiba,1976). The conventional system usually led to the establishment of a single concessionaire in the exporting country for example Aramco in Saudi Arabia . Through this system, major oil companies, the famous seven sisters which consists of it five American companies such as Standard oil of California(socal), Mobil oil, Golf oil, Royal Datch (shell group 60% Holland, 40% British) and British petroleum. were virtually controlling all oil production out side the United States.

Libya departed from this pattern because she wanted fast exploration and development at a time of plentiful oil supply (Ministry of Petroleum Affairs, 1976), and to encourage competition between large and small companies. To achieve those objectives, the law provides favorable inducements with provisions on the maximum area number of plots and the maximum area to be held by any one firm and further stipulations on the surrender of plots left unexplored after five years.

3.2 **Entry of independents** :

The major consequence of the 1955 law for the oil industry in Libya was the entry of the independents, that is entering another oil companies other than the majors and it includes companies of the private sector (Wright,1982). These companies competed with the majors such as Mobil, Esso, Shell, BP, Continental, CFP, Bunker Hunt, Oasis, Amerada, Amoseas, Libyan America, in the oil product markets but did not control sources of crude petroleum outside the Middle East.

As a result of 1955 Law, some independent companies such as Occidental, Amerada, Continental and Marathon for example, had preferential access to oil in a privileged location close to the expanding European markets. They increased their share of oil products sales during the 1960s. Another consequence of the 1955 law which became apparent in the 1970s ,was the weakening of the company's position in the exporting countries. But the independents introduced a particularly weak link. They were dependent on oil supplies in Libya and hence were fairly vulnerable to pressures exerted by the government. Their existence helped to some extent, though it did not determine or provide an explanation for the Libyan success in obtaining higher tax in 1970, the first of significant events which changed the rules of the oil game in favor of OPEC (NOC,1971).

There are many other sequences of oil development in Libya following the 1955 Law. Between 1955 and the end of 1958, seventy-seven concessions were granted to fourteen companies, many of which were consortia of major and independent oil firms. These concessions covered some 55per cent of the Libyan oil territory. By the end of 1961, the number of concessions had increased to ninety-five and several companies entered the scene either as partners of old concessionaires or as new operators (Ministry of Petroleum Affair,1985).

Less than four years after the introduction of the concessions, the first major oil discovery was made by ESSO on June 1953 in the ZELTIN field (Wright,1982) and the first exports left the shores on 12 September 1961. This is because, the discovery of ZELTEN was rapidly followed by other several smaller fields which were found in 1959. ESSO Sirte drilled a promising well in RAGOBA and British petroleum had its first success with the important SARIR FIELD in 1961. Finally Occidental drilled a well in Idris in 1967, with a tested production rate of 43,000 barrels a day and another well with almost 75,000 barrels a day (NOC, 1971).

A new batch of concessions was granted in 1966, raising the number to 36. At the end of 1967 there were 42 concession holders in Libya: 22 Americans, 6 West Germans, 3 each Anglo-Dutch, French, Italian, and 1 Spanish (Elhesnawi,1981).

3.3 Policies and legislation :

Libya's petroleum policies and legislation did not remain static in the face of these developments. The immediate response of oil companies to the inducement of the 1955 Act has revealed that its provision are perhaps too generous (Ibrahim Hangari,1966). Realizing this, the government in November 1957 began to insist on better terms, negotiating the grant of new concessions. New concessionaires like Elwerath and Cori were requested to pay a bonus. A novel principle was also introduced in the form of an undertaking to spend a fixed minimum amount on exploration over a specified period of time. This principle has since gained wide currency (Ibrahim Hangari,1966). Libya, however, refrained from requesting the retroactive application of these terms from old concessionaires.

The discoveries of 1959-60 further revealed that Libya had important oil reserves and that very large supplies would soon became available. Libya found a typical problem similar to that of the British government with the North Sea, the predicament of the "dissatisfied landlord" (Eiches, 1975). The landlord initially conceded terms which may have been necessary to induce the companies to invest in exploration. If no oil is found, the companies would have wasted their money and both partners are disappointed. But if a rich discovery is made the landlord is also dissatisfied. He knows that the tenant is acquiring a much larger rent than necessary to keep him producing. The landlord will inevitably want more (Elhesnawi, 1981).

In 1961, Libya amended the 1955 Act by promulgating a new legal instrument. However, these changes were not very radical. The new decree defined certain concepts on company's profits, reference prices for tax purposes, allowable expenses with much greater precision than the 1955 Act. But the basic 50/50 principle of taxation was not altered.

However, the Libyan practice of allowing sales or marketing discounts from posted prices was not discontinued at this stage. This practice, perhaps the most significant inducement provided by Libya to the pioneers, had implications for the industry in Europe. The legislation was not made retroactive but old concessionaires were advised to accept the new terms (Zayd,1980).

Companies with access to Libyan oil enjoyed clear advantages over other competitors in the European markets. The independents which accounted for almost half of Libya's output in the middle 1960s offered high discounts than the majors which tended to stick to the posted prices or to remain close to them in transferring oil to their affiliates. In the meantime very great changes had taken place in the relationship between the companies and other exporting countries in the Middle east.

3.4 Toward nationalization :

By the time of the Iraqi nationalization, it had become clear that other governments could also control or nationalize the companies operating in their countries if they so desired. In particular, this had been demonstrated by developments in Libya, where in less than twelve months the government had destroyed the principle of equality in profit sharing, even in concessions with the major companies, and had effectively asserted its control over posted prices by forcing the companies to accept substantial increases against their will (Penrose,1975).

The development of Libyan oil had followed close on that of Algeria , where exports on a significant scale began in 1960. But whereas Algerian oil had been largely in the hands of French companies and was destined primarily for the French market, Libyan oil was in the hands of international companies, among which American independents were predominant. Thus, the major companies were not in a position to control the development of oil in Libya as they had elsewhere in the Middle East (Penrose, 1975).

3.5 Control of oil wealth :

In 1970, the Libyan government made a review of the situation of the oil sector particularly the activities of foreign companies from a technical, economic, and administration point of view. This review meant that control and ownership was transferred from foreign companies to government.

Accordingly, from 1969 on words, Libya set out to hold talks with the oil companies which was aimed achieving fair prices for the oil produced in Libya. As a result, the following were promulgated :

Firstly, Act number 82 of 1973 was introduced, amending some provision of petroleum Act number 25 of 1955 after defining new price structure. The act was amended in such a way to secure the nations control over its wealth. Secondly, to secure complete effective national control, the government took many new steps, including the direct control of Libyan wealth, which represented an important milestone. Thirdly, Act number (24) 1970 was also introduced, establishing the basis of the National Oil Corporation (NOC). This Corporation was given the right to enter in all stages of oil production as well as the distribution of oil products and gas to the local market. The NOC undertakes and fulfils its duties and exercises its authorities through the oil companies which are wholly owned by it, and which vary from administration, exploration, production, refining, manufacturing, local distribution, overseas marketing and other oil services. Moreover, the corporation works through participation with other foreign companies in the fields of exploration and production as well as other specialized services pertaining to oil industry (NOC, 1975). Fourthly, in 1970 Act number(69) was issued to give the sole right of export, sale and distribution of oil products to the NOC. This right was previously held by three foreign companies, viz.: Sale, Shell and Esso. This right was revoked and the above Act was issued to nationalize these companies and to establish the "Brega Oil Marketing Company" as a part of the NOC, which is responsible for marketing locally, as well as overseas, the Libyan crude oil .

Other Acts issued for the same purpose are :

1) Act number 115 of 1971 concerning the nationalization of British Petroleum (BP).

2) Act number 42 of 1973 concerning the nationalization of Bunker Hunt, an American partner of BP, and the establishment of a National Company, which Later became known the Arabian Gulf Exploration Company. This company retained all the

moneys, properties and assets of the former company in pursuant of the act. This was later changed to the Arabian Gulf Oil Company.

3) Act number 44 of 1973 concerning the nationalization of 51% of the American companies of Occidental, Grace, Esso, Mobil, Gilsinberg and Texaco provided that the nationalized concessionaires would be jointly invested in with the National oil corporation.

4) Act number 10 of 1973 concerning the nationalization of the shares of the Libyan-American petroleum company and transferring them to NOC , and Act number 11 of 1974 concerning the nationalization of the American oil overseas and the establishment of Umm Al Jawaby oil company, a national company, to take over oil operations in the nationalized areas (Amant Alnafd,1973).

In 1981, "Sirt oil company" was launched to replace "Axon-International company" which had withdrawn from Libya.

5) In addition Act number 25 of 1955 regarding the right of the state to resume technical, financial, administrative and economic control over concession holders was also amended.

To consume the Nation's oil wealth, regulation number 9 regarding the financial, administrative and technical control was also introduced. The introduction of these important Acts and Regulations had important implication for the oil industry in Libya. Firstly, the number of foreign companies holding 100% of contracts, as well as joint companies of varying percentages had to sign new agreement known as Partnership Agreements, to increase the protection of the oil wealth. Secondly, these acts and Regulations led to control over this important industry.

Based on the introduction of the above laws, it can be argued that the Government has achieved great achievements in bringing the industry under the Libyan

Government control And this is not only restricted to Libya, but also influenced other countries to adopt the same policy which led to the correction of the prices of the Libyan crude oil. This resulted the 1971 Tripoli Agreement, which raised the announced Libyan crude oil prices from $ 2 a barrel in 1970 to $ 40 a barrel in 1981. The May 1972 Equity Agreement, which came about as a result of the falling value of the US Dollar, resulted in the increase of 8.41% in the crude oil price, as well as the adjustment of exported gas price. Consequently, the price of the Libyan crude oil increased from 2.5 $ per barrel in 1970 to 16 $ per barrel in 1973 and again to 47 $ per barrel in 1980.

In order to sustain better policies and maintain the oil wealth, the production of crude oil was technically and economically limited at a set level, attaining the Libyan needs for strong and effective boost to investment and current requirement. Production was reduced from 3.3 million barrel a day in 1970 to 2.063 million barrel a day in 1977 and then further reduced in 1986 to 1.034 million barrel a day and to 0.973 million barrel a day in 1987, then increased to 1.4 million barrel a day in 1990-1995. This reduction in production in the last few years was due to the Libya commitment with the strategic reduction policy set fort by **OPEC** regarding production and export.

The NOC through its completely owned companies or joint companies began numerous and sizeable activities in the field of discovery in all parts of Libya on land or territorial or regional waters. The achieved success rate of drilling discovered wells reached 45% during the period 1970-1995 (NOC, *annual report*, various issues). As a result of these tremendous activities, there has been a great increase in the number of oil fields, the most important sea oil discovery of all not only for Libya, but in the Mediterranean was the "Buri" sea oil field. Further more, the great and successful performance were achieved by Tehran and Tripoli agreements which will be shown in the following section.

3.6 Tehran and Tripoli agreement:

The general agreement on participation provided the frame work within which individual countries were expected to negotiate detailed agreements with their own concessionaires. The 1970 settlement discussed above has led to the Tehran-Tripoli Agreement of 1971, which raised the posted price of marker crude from US $1.8 to US $ 2.18 and the tax rate from 50 to 55 per cent. Libya, increased her take per barrel by some 80 US cent because of quality preemie (Ministry of Oil,1972). The agreements also involved escalation clauses which were valid for five years. They lasted until October 1973 when the Gulf producers taking advantage of a favorable market situation, decreed substantial price increases.

However, special modifications were made in 1972 and early 1973 in the Tehran Agreement to take account of the devaluation of the US dollar, but these did not deal with the continued increase in the market price of oil which was rapidly under mining and destroying the primary objective of the agreement. The purpose of the Tehran and Tripoli price agreement had been to raise the government share of oil revenues through an increase in tax rates and to establish a reasonably stable basis for sharing profits.

For this purpose it was necessary that tax prices should remain above market prices. Between the spring of 1970 and the summer of 1973, the price of crude oil measured in dollars more than doubled, but the fiscal income of the host governments accounted for only about half of the increase. The rest was due to market pressures, as U.S companies freed from import quotas and controls, joined other users of crude oil in the rush to a market made even tighter by the reluctance of some major companies uncertain of their own supplies, to sell their own crude to third parties (Organization of Arab Petroleum Exporting Countries, 1974).

3.7 Libya and OPEC :

Libya joined Organization of Petroleum Exporting Countries (OPEC) in June 1962, a year after it started exporting its oil. In 1964, OPEC arrived at an agreement with the oil companies which involved the expensing of royalties and which fixed the allowable discounts from posted prices at a uniform rate (8.5 per cent on the first year declining by one percentage point in the second and third year). Libya was asked to adopt this system. It suited her as it implied higher revenues per barrel without disincentive for further exploration and production by the companies.

Libya became a major oil exporter by year 1961 and the bargaining power was vested in her. In 1965 she adopted the OPEC agreement and pressed the concessionaires to accept the new terms. The Independents which benefited most from taxation on the basis of realized prices objected strongly . The majors were not unhappy with a return to a uniform system which expected to weaken the competitive Independents and to re-establish an orderly market the euphemism for oligopolistic domination.

It is pointed out that some major companies might have encouraged Libya to introduce the 1965 legislation (Amanat Alnafd, 1979). However, some argued that such actions are never the real determinants of changes. The real forces were the increasing power of oil-producing countries and the competition of oil companies. It is not yet clear why the companies backed away from an outright confrontation. Libya had the encouragement of OPEC countries, but it was impossible to know what steps they would in fact have taken in her support. There were supply shortage in the

Mediterranean, and prices were rising, so that further reduction in deliveries would have been uncomfortable especially for Europe, and a complete stoppage of Libyan oil could have had serious consequences. It has been stated that the United States feared that Libya would nationalize the American companies if they resisted too long and that European companies would then take over to ensure their own supplies (Farhat, 1980). One oil company executive has testified that the interest of the United States in gas imports from Algeria inhibited it from antagonizing either country (Elhesnawi, 1981). Further more, some U.S. authorities believed that higher oil prices were in the country's interest in view of its declining production capacity and its need for greater investment in exploration and development.

Due to the above reasons, both companies and governments immediately moved to generalize the terms. Algeria, which had been advising Libya, claimed that parity required a substantial increase in the posted prices of her crude oil. The companies offered 55 percent tax rates to the Gulf States and to Nigeria and raised the posted prices for Iraqi crude at Mediterranean terminals and also the posted prices for Iranian and Kuwaiti heavy crudest Similar offers were made to Saudi Arabia and Abu Dhabi. These countries were not, however, satisfied with these offers and demanded greater increases, but before the issues could be resolved the Twenty-first OPEC conference was held in Caracas-Venezuela. At this conference the OPEC Countries laid down the terms that they would accept that is, a minimum 55 percent tax rate, uniform increases in tax prices in accordance with market conditions and finally, the elimination of disparities. These terms were also backed by threats of common action to ensure compliance of companies. The companies which formed their own common negotiating group, tried unsuccessfully to get OPEC to negotiate a settlement for all of the OPEC member countries together, for they were afraid of " leapfrogging " if a settlement were made for individual countries, or a group of countries. This means that it would encourage further demands from others, setting in motion a process whereby countries continually jumped over each other's backs in a series of escalating demands. However, the producing countries were adamant in their demand and threatened to deny oil to companies which refused to accept their terms (*Al-petrol Wa-algas Al-arabi,no.8,1971*).

3.8 Developments under government control :

One of the most important events in the oil industry in the era of Libyan government, beside directing production and correcting prices and protecting the oil wealth, is the entry in the field of oil industry both in oil refining and in the field of natural gas and oil production. In the field of oil refining, Libya realizes a new achievement in the oil industry by entering for the first time in the field of crude oil refining and manufacturing oil products such as benzene, kerosene, oils and other products to meet the needs of the local market and to export the surplus abroad.

The production has thus increased from 3.7 million barrels of the products of refineries in 1970 at Brega refinery, and 12.4 million barrels in 1975. The capacity of the refinery has shown a marked increase to 380 thousand barrels a day in 1995 consisting of 220 thousand barrels a day at Ras Lanuf refinery, 120 thousand barrels a day at Zawia refinery, 10 thousand barrels a day at Brega refinery, 20 thousand barrels a day at Tobruk refinery.

Plans are carried out to establish another refinery such as the Sebha refinery (NOC, 1993). In addition, two plants for asphalt production at Benghazi and Zawia participated in providing the Libyan needs of asphalt. There is also plant at Zawia refinery for mixing oils for needs of local market of different types of oils.

It should also be noted that since Libya entered the field of oil refining, some of it's imports of oil by products have fallen, while some have stopped altogether; kerosene, heavy oils and others are examples.

The Marsa El-Brega fertilizer complex, completed in 1985; produces ammonia, urea and methanol. Despite this fact, the complex is operating only at about 35% of its nominal capacity, production of urea and ammonia far exceed demand for such products.

As for gas industry, seven industrial plants have been established as follows:

1) The first methanol factory with production capacity of 1000 metric ton a day.

2) The second methanol factory with production capacity of 1000 metric ton a day.

3) The first ammonia factory with production capacity of 1000 metric ton a day.

4) The second ammonia factory with production capacity of 1000 metric ton a day.

5) The first urea factory with production capacity of 1000 metric ton a day.

6) The second urea factory with production capacity of 750 metric ton a day.

7) The Brega liquid gas factory with production capacity of: 20,000 barrels a day of liquid gas, 40,000 barrels a day of diesel and 1,000 barrels a day of domestic gas.

The majority of these products are exported through the oil ports and in specific Al-Brega harbor. Concerning the field of fuel industry, a massive complex, one of the largest complexes in Africa, known as Ras Lanuf Petro-chemical complex with a petrochemical production capacity(except refining) of approximately 961,000 tons a year was built. The plant depends on the diesel produced by the refinery as raw product. In fact, some of the factories within this complex have already started work. One such factory is the **ETHYLENE** factory which began production in 1987 with a production capacity of 330,000 tons a day of ethylene and propylene. In addition to this factory, the complex is expected to comprise the following units:

1) High density polyethylene unit with production capacity of 80,000 tons.

2) Low density polyethylene unit with production capacity of 80,000 tons.

3) Polypropylene unit with production capacity of 70,000 tons.

4) Utadalene extracting unit with production capacity of 58,000 tons.

5) Mibe and ISO-butane with production capacity of 47,000 tons.

6) Aromatic Benzene unit with production capacity of 80,000 tons.

The major component of Libya's expansion plan is development of the Bouri field, the largest producing oil field in the Mediterranean sea. Italy's Agip is the developer of the field which is estimated to contain 5 billion barrels of crude, of which 650 million are considered recoverable. The first phase of development, costing $2 billion, was completed in 1990, and is currently producing about 100,000 barrels a day. Agip's second stage expansion plans include the addition of new wells, more platforms and a pipeline to the shore. With a large amount of associated gas, this field is also proving to be the country's greatest potential for natural gas production. Since the discovery of the Bouri field, Agip has reported a string of additional oil finds in its various blocks as have other oil companies in the country. The most significant of these is in the **Murzuk** basin, in the Sahara south of Tripoli. This field, with estimated recoverable reserves of 2 billion of crude, was initially awarded to the Romanian state company **Petrom**, which began drilling there in the second quarter of 1991. Since **Petrom** had difficulty financing the development program in the Murzuk field, its share was purchased by Spain's **Repsol** in 1993 for $65 million. REPSOL is currently leading a three-company European consortium in the project which also consists of Austria's OMV and TOTAL of France (NOC,1993).

Libya, has an extensive crude oil pipeline linking its oil fields to its refineries and terminals. It also developed a gas line net work with a total capacity of 10 billion cubic meters a year. The main branch of this line is the coastal pipeline, with a capacity of 4.1 million cubic meters a year. Completed in September 1989, it links the Marsa El-Brega terminal in the east to the town of Koms in the west and supplies gas to large industry such as the Misurata steel complex and power stations in Libda and Khoms.

Libya has also been considering building its first export gas pipeline if a project for exporting gas to Italy becomes likely. In addition, Libya has planned to link its domestic gas line net work with Algeria's net work as part of a regional gas grid. This could enable Libya to ship gas to Europe via the transmitted gas line from Algeria to Italy (NOC,1993).

Continued expansion of gas production remains a high priority for Libya, both to meet rising domestic demand and to increase the volume of exports. According to OPEC figures, the reserves of natural gas stood at 1.3 trillion cubic meters in 1992 (The Economist Intelligence, 1989-1990), but the country's actual gas reserves are thought to be considerably larger because, in the recent years large new discoveries have been made in the Ghadames and Bouri fields as well as in the Sirte basin.

3.9 Conclusion:

The initial conditions of the Libyan oil supply has been surveyed. The impact of independents on this supply was also discussed. The central part of this chapter has been the discussion and analysis of some of the policies and legislation's promulgated by the Libyan government aimed at minimizing the level of foreign ownership and control of the country's oil supply. These policies have ensured that control of the oil wealth remains largely in Libyan hands. The nationalization policies which have been enacted, greatly affects the level of oil production, and this will be discussed in the next chapter.