The Black Gold of the Sahara

Brief history of the Algerian and Libyan oil industry up to 1973[1]

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Abstract:

Until the middle of the 20th century, Africa did not feature prominently as a mining area for crude oil, i.e. black gold. It is true that oil was found in Egypt and French Morocco already in the first half of the century, but this was not significant in world terms. Although there were traces of oil in the area already in ancient times. Two millennia later, in the 1930s, in Algeria and Libya, geologists also found clues indicating that there could be significant oil reserves deep underground. These assumptions were realized only from 1949 onwards. After that, however, the North African states that became independent from the colonial rule had to deal with many difficulties. Among them are the aspirations of the large international oil cartels and the accompanying political projections.

Keywords:

Algeria; Libya; Sahara; crude oil; natural gas; OPEC; Seven Sisters.

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Introduction

The sources of ground pitch in North Africa were already written about in ancient times by Strabo in his geographical work "Geógraphika hypomnémata". However, in the first century of the oil industry, the Black Continent was not among the most important oil deposits in the world. The first targeted oil exploration began at the end of the 19th century, and in 1886 the first well was drilled in Egypt. After that, oil was found in Egypt in 1909 and in French Morocco in 1918, but the amount was not significant. In 1938, Egypt's crude oil production was 226,000 tons, while that of French-Morocco was 3,000 tons. With this, 0.1% of the Earth's 1938 production was mined in Africa, where 100 million tons of crude oil reserves were believed to be 2.1% of the world's estimated reserves at the time. Of course, it must be added that during this period, many things were not yet known about the oil deposits of the Black Continent (Strabón, 1977, p. 847, Juhász, S.a., p. 259–261, Petroleum Panorama, 1959, p. A-32, Traut–Boote–Clark-Lowes, 1998, p. 70–71).

The description of György Aladár in 1904 clearly shows how North Africa, that is, the Sahara, was not the oil in the public mind:

> "The Sahara is almost identical to the northern part of Africa. In the northwest, it extends from the southern reaches of the Atlas Mountains, the region of which the French call «petit Sahara», to an indefinite point; in the east it breaks through the Nile all the way to the coast of the Red Sea, and in the south, even the mighty Niger River and Lake Chad cannot prevent its expansion everywhere. If we call the area Sahara, where the land is poor and barren, and where the dry atmosphere prevails, so we get an area that is not much smaller than Europe. […] The Sahara Desert is the huge stove, the hot air of which penetrates both north and south, and which has made the whole of Africa famous for its bleakness" (György, 1904, p. 121–122).

Based on György Aladár's description, the Sahara was famous in Europe 120 years ago because of its desert lunar landscape and merciless heat. At the same time, in Algeria, a more thorough exploration of the surface oil spills mentioned by Strabón took place in the Selif basin in the northern part of the country in the Oran region from 1877. In 1892, the company Ain Zeft, established with British capital, drilled an oil well that produced 125 barrels of oil per day. Smaller oil fields were discovered in the southern part of the Selif Basin, but between 1892 and 1932 only 15,000 tons of oil were mined in the area. Which is an insignificant amount, and not much has changed that. In the current situation, serious research was not carried out in Algeria for two decades (Szurovy, 1993, p. 276).

In 1936, the French geologist Francois Théodore Conrad Kilian wrote a letter to the French Academy of Sciences, in which he drew the scientific society's attention to the fact that the Sahara could hide oil deep underground. He wrote about this:

> "The Sahara has the world's largest oil deposit. The Fezzan basin is closer to the sea than any other desert basin, and consequently the construction of an oil pipeline is relatively easy. Cheaper than any other way to transport crude oil. This crude oil is 1,300 kilometers from Algiers, in the Edzele Basin. And Edzele is only 675 kilometers from Tripoli. One kilometer of oil pipeline costs fifty-three million francs. It is worth sacrificing so much, because the Sahara contains billions of tons of petroleum, the invested amount would quickly pay off, France and Algeria could quickly get back on their feet thanks to Sahara oil." (Kanyó, 1976, p. 140).

Based on the letter, it is no coincidence that he also wanted to persuade the French government to finance oil exploration in Algeria from 1921. This would also have been important to the Paris government, because France, as an oil-poor country, had to import crude oil. Before the Second World War, Albert Duchêne believed that very important raw materials for their country, including petroleum, would be found in the Sahara (Ónody, 1978, p. 103–104, Taquet 2007, p. 183–190). Research was renewed in 1941-1942. At that time, a couple of novice French geologists went to Algeria with the aim of conducting geological investigations. Their activities were also extremely important due to hydrocarbon exploration, and their results were also shared with oil companies. During this period, it was possible to find a Paleozoic basin in the Sahara, where there was a serious chance of the presence of hydrocarbons. From 1940, the French Compagnie française des pétroles (CFP, nowadays TotalEnergies SE) also got involved in research. Which was also important because during the Second World War in Algeria it became very difficult to supply the motor vehicle fleet with fuel. And this brought with it the renewal of oil research, thanks to which it was possible to find crude oil near the exhausted Mesila field (Szurovy, 1993, p. 277, Traut–Boote–Clark-Lowes, 1998, p. 69).

After World War II, the French government created an organization called the Bureau de Recherches des Pétroles (BRP) whose job it was to supply petroleum from their colonies for France. At that time, increased oil exploration also began in Algeria. In the course of this, research began in the northern foreground of the Tell-Atlas, during which 43 exploration wells were drilled between 1947 and 1952, but only a small amount of natural gas and salt water was found. After that, the investigations were moved to the area of Vádi Guetirni, where oil was produced from pits dug by hand during the war. The first serious result was achieved in 1949, when a well yielding 15 tons of oil per day was drilled. After that, they also drilled a 100 ton per day production well in this small oil field, which produced 330,000 tons of oil by 1956 (Szurovy, 1993, p. 278, Traut–Boote–Clark-Lowes, 1998, p. 70).

After the possibilities of oil exploration in the previously researched areas were exhausted, the researchers began to investigate in the area of the Saharan Atlas and the Ahaggar massif. Meanwhile, back in 1946, BRP and the Algerian government created the Societé Nationale des Recherches et d'Exploration des Pétroles d'Algerie (SNREPAL),

which together with CFP and other oil companies with Anglo-Saxon interests created CFP(A) i.e. Compagnie française des pétroles (Algérie). Shell and ESSO (Standard Oil Company of New Jersey) acquired a 35% stake in this company based on the agreement. Shell's subsidiary Compagnie Pétrole d'Algérie (CPA) received exploration rights for 240,000 km2 in 1953. (Szurovy, 1993, p. 281–282, Traut–Boote–Clark-Lowes, 1998, p. 70).

Finally, in 1956, it was possible to discover an oil field at Hászi-Meszúd and a natural gas field at Hászi R'Mel. The dimensions of these two hydrocarbon deposits are well illustrated by the fact that the crude oil reserves of the former were estimated at half a billion tons, and the natural gas reserves of the latter at 900 billion cubic meters. This discovery was a real breakthrough compared to previous research and their results. After the discovery, Saharan oil became the focus of interest and every year more and more investment came into the desert country's oil industry. In the spring of 1957, following the investment of French banks and companies, the Compagnie Francaise du Sahara (CFS), the Compagnie Financiére pour le Développement Économique d'Algérie (COFIDAL), the Groupement Technique et Financier pour le Sahara (GTFS) and the Compagnie Financiére pour l' Outre-Mer (COFIMER). The goal of these companies was to exploit the Algerian oil wealth, like Standard Oil Co. of New Jersey and Royal Dutch Shell, which invested in the French colony in North Africa (Ónody, 1978, p. 105–106, Devernois, 1958, p. 271–310).

In this period, the oil industry goals of the French were greatly influenced by the 1956 Suez crisis and the independence aspirations of African countries. The French began colonizing Algeria in the 1830s, and the colony had a civil government in 1858. In the first years of the Second World War, it belonged to Vichy France, and in 1943, the French National Liberation Committee led by Charles de Gaulle was founded in Algiers, and in this year, the independence aspirations of the local population also began under the leadership of Ferhát Abbasz. This struggle was restarted in November 1954 under the leadership of the National Liberation Front. Although the French Union established in 1946 was replaced by the Communauté Francaise in 1958, even this could not prevent the African colonies of the Paris government from becoming independent. Finally, at the cost of 8 years of fighting mainly affecting the northern part of the country and 1 million deaths, Algeria won its independence after Charles de Gaulle's France concluded the Evian Treaty with its former colony in 1962. The agreement granted exploration rights to the oil monopolies, and an appropriate economic cooperation was also established between the former colonial state and its former colony (Szurovy, 1993, p. 281–282, Fischer, 2005, p. 105, Ónody, 1978, p. 105–107, Szlávik, 2007, p. 19–20, Traut–Boote–Clark-Lowes, 1998, p. 73, Sóger, 2019, p. 92, Saba, 2016 p. 159–176).

Another major hydrocarbon-producing state in the Sahara was Libya. Most of the country's population was concentrated on the Mediterranean coast, while the desert part was uninhabited except for a few oases. The country became a colony of the Kingdom of Italy in 1911, then during the Second World War it was occupied by the Allies from German and Italian troops, and British and French administrations were

established on its territory. Until the war, the Italians were primarily looking for water in the Saharan country, although natural gas was already found in Tripoli in 1914. At the same time, the reason for hydrogeological research was that the Italian government led by Benito Mussolini wanted to develop the local economy and agriculture. Despite this, in addition to natural gas from Tripoli, Italian hydrogeologists also found traces of oil on several occasions, although geologist Ardito Desiro managed to collect a bottle of crude oil, and this resulted in AGIP (Azienda Generale Italiana Petroli) also sinking eight exploratory wells, but a serious result was The Italians did not reach it in the 1930s (Szurovy, 1993, p. 272, Szlávik, 2007, p. 445, McLachan, 1989, p. 243–250, Tjønn–Lemberg-Pedersen, 2022).

Even after the Second World War, the country was under British and French occupation until 1950, after which it became an independent state in 1951 under the name of the United Kingdom of Libya, although the power of its ruler, King Idris I, was nominal. The main source of income for the extremely poor state was provided by the money received for the air base at Wheelus Field, which was leased by the Americans. However, this was not enough for the country struggling with a significant shortage of professionals to get ahead. The hydrocarbon research started in 1947 by two American geologists, but only slowly unfolding, could give some hope for this. On November 7, 1953, on the advice of the UN, a general mineral law was adopted in the country, and on January 19, 1955, the new petroleum law came into force, which regulated matters related to hydrocarbon research. Due to oil exploration, the country was divided into four large zones and each zone into smaller areas (squares). Finally, at the turn of 1955/1956, 9 operators from 15 oil companies received exploration permits for 433,000 km2 (Szurovy, 1993, p. 273, Kaszap A., 1965, p. 618, Simons, 1993, p. 164–190).

One of the biggest problems at that time was that during the World War, a lot of landmines - 6 million - were installed in the territory of Libya due to the fighting in the country. 210 groups of firefighters worked to eliminate this situation, and until the end of 1962, these mines caused the death of many workers of the oil companies. Demining the hydrocarbon exploration areas cost the oil companies one and a half million US dollars. Thanks to the neutralization of the explosives, the investigation of the area around the Algerian border could begin. British Petroleum (BP) invested 20 million pounds, but no oil was found in the Saharan country. The Libyan American Oil Company's first exploratory drilling in 1956 was also unsuccessful. In contrast to them, the Italian ENI (Ente Nazionale Idrocarburi) did not even get as far as obtaining a concession. However, the head of the Italian energy giant, Enrico Mattei, negotiated with the Libyan ambassador to Rome in early 1957, and then with Prime Minister Mustafa Ben Halim in March. At first, it looks like everything is going well. An agreement was reached, according to which ENI would have acquired a concession area in the Fezzan area, and according to the agreement, ENI would have shared 75% of its profits, and Libya would have shared 25%. In the end, nothing came of the deal, because shortly after the visit of the special representative of the US Secretary of State John F. Dulles to Tripoli, the Libyan Prime Minister fell, and then the new government of the

North African country withdrew from cooperation with ENI (Szurovy, 1993, p. 273, Ónody, 1978, p. 102, Kaszap A. 1965, p. 618).

The fact that the large international oil companies were able to push the Italian company out of Libya played a major role in ENI's failure. As John D. Antony put it in his 1975 book „The Middle East Oil, Politics and Development": "Libyan oil fell into the hands of international companies, among which American independents played the leading role. The traditional oil companies here were no longer in a position to control the oil, as they did in other Middle Eastern countries." (Ónody, 1978, p. 102)

Anthony's opinion is confirmed by the facts, since in Libya, after minor difficulties, the following companies played a decisive role in the prosperity of the local oil industry: ESSO Standard (Standard Oil Company of New Jersey), Shell, Standard Oil Company of California, British Petroleum, Mobil Oil Corporation and Texaco, and of course the Italians were also able to get involved in the oil exploration of the Saharan country (Ónody, 1978, p. 102).

The first result in Libyan oil exploration was achieved on January 20, 1958, when an exploratory well in the Atsan area was successful and the well yielded oil. The breakthrough came in 1959, when ESSO Standard employees found 2,800 m3 of oil per day at Bir Zelten in the Sirtica basin at a depth of 1,676 meters. The discovery was reported on June 13, 1959 by geologist Joe Brown (MOGIM Ad. 147-75., Szurovy, 1993, p. 273).

Oil exploration in the North African country continued after the success of 1959, and by 1960, 282 million US dollars had been invested in the hydrocarbon industry there, and by 1963, 952 exploratory wells had been drilled, of which 420 wells yielded oil and 2 produced natural gas (Libya's natural gas reserves were 750 billion m3). During the early research in Libya, it was also possible to find an oil well, the production of which reached 5.5 million m3 per year. The development of the Libyan oil industry took on extraordinary proportions in the years following the discovery. The transportation of the oil via pipeline had to be solved. Therefore, a 167 km long pipeline with a capacity of 6 million tons per year was built between the Bir Zelten field and the port of Marsza el-Brega in 1961, then in 1962 an oil port was built in Sidra, and two more were under construction in Libya, and new pipelines were also planned. The infrastructural developments created the basis for the export of the African country's crude oil. Then on September 12, 1961, the ESSO Canterbury tanker delivered the first export shipment from ESSO Standard's port in Marsa el-Brega. With this, Libya entered the ranks of oil exporting countries. Two factors had a favorable effect on crude oil exports. On the one hand, the oil found in the country was of good quality, rich in white goods and free of sulphur. On the other hand, the European (Western European) buyer market is close to Libya, which made it easier to find buyers for North African crude oil. Thus, it is no coincidence that the share of African oil in the supply of the western part of the old continent increased to 13.5% between 1959 and 1962. In a short time, Libya became the world's third largest crude oil exporter (MOGIM Ad. 147-75.,

Szurovy, 1993, p. 273, Szlávik, 2007, p. 445, Mosley, 1974, p. 233–234, Ónody, 1978, p. 101, Friedensburg–Dorstewitz, 1976, p. 260, Kaszap, 1965, p. 98).

Exploration continued after that, and in 1965, 50 drilling rigs were already working in Libya. Encouraged by the success of oil exploration, by 1966 the number of concessions had already increased to 46, and the number of explorations to 124. As King Idris' Petroleum Minister Khalifah Mussa noted, foreign oil companies were competing to produce crude oil in Libya. Hydrocarbon exploration was carried out on a third of the territory of the country that became an oil superpower, and the annual production of crude oil rose from the level of 800,000 tons in 1961 to 159.2 million tons in 1970. This made the African country one of the largest oil producers in the world after the United States, the Soviet Union, Saudi Arabia, Iran and Kuwait. Based on all of this, it was no coincidence that the oil revenue of 143,000 USD in 1955 rose to 1,106,000,000 USD by 1969 (Szlávik, 2007, p. 445, Szurovy, 1993, p. 273, Ónody, 1978 p. 302, Scselkacsov, 1975, p. 163,Bowerman, 1967, p. 1564–1586).

In the mid and late 1960s, significant political changes occurred in both Algeria and Libya. First, in 1965, Colonel Huári Bumedien took control of the Algerian government after removing the country's first president, Ben Bella, from power in a military coup. This year was also important because it was then that the Franco-Algerian agreement was signed in Algiers, which regulated the cooperation between the two countries regarding the exploitation of the oil resources of the Saharan state. According to the agreement, the Algerian government obtained a larger share of the profits from the oil wealth, and the oil company had to invest a part of the profits in the African country. In addition, they agreed with the French that Algeria would receive a long-term industrial development loan. As a result of the agreement, Algerian oil production increased by 40% in 1966 (Soós, 1968, p. 778).

In the beginning of the 1960s, progress was also made in the field of natural gas exports in Algeria. A natural gas liquefaction plant was built in Arzew between 1962 and 1964, which was able to convert 1.5 billion m3 of gas into 2.3 million m3 of liquid gas per year. The same factory was built in 1972 in Marsa el-Brega, Libya. The gas converter there converted 3.65 billion m3 of natural gas into 5.84 million m3 of liquid natural gas per year. And with this, it became the largest such plant in the world. LNG was delivered from these factories to European customers on ships (Szurovy, 1993, p. 274–275, Friedensburg – Dorstewitz, 1976, p. 260).

In 1969, a significant political change took place in Libya as well. King Idris I was driven from his throne, and military officers seized power under the leadership of Colonel Muammar Gaddafi. After that, the Revolutionary Military Council proclaimed the Libyan Arab Republic. Later, this change did not leave the Libyan oil industry untouched either, because the political and economic environment was more favorable for the international oil concern while the king ruled. The new management wanted to change this (Szlávik, 2007, p. 445, Sampson, 1978, p. 303).

In the meantime, serious progress was made in the Libyan oil industry. Not only in the field of exploration and production, but also the petroleum processing industry

began to be developed. There was a compelling reason for this, because the country's processing capacity was low, so the Libyans were forced to import fuel and motor oil made from their own crude oil, as well as other oil products, primarily from Italy. To change this situation, a new refinery was first built in Zawia together with an Italian company. After that, a processing plant was built in Tobruk and then near Benghazi. In order to mitigate the shortage of professionals, a Petroleum Industry Institute was established in Tripoli with French help. From 1970, the city's university offered courses in petroleum engineering, then in 1973, geologist and geophysicist. Géza Szurovy played an important role in the organization of the latter trainings (MOGIM Ad. 147-75., Szurovy, 1993, p. 275).

As already mentioned, Libyan oil production rose to 159.2 million tons in 1970. Oil mining peaked at this level, as the country's new leadership intervened in production because they believed that Libya's huge oil reserves, estimated at 6 billion tons, could be exhausted within two decades. Therefore, they forced the oil companies to reduce production, and thus by 1974, the country's crude oil production was only 77 million tons. This was achieved in such a way that the oil income of the Libyans did not decrease, that is, the price was raised after an agreement was reached with the oil companies (MOGIM Ad. 147-75.).

At least the "agreement", as Anthony Sampson wrote about it, was not easy:

> "General Gaddafi soon faced the companies. He told twenty-one companies that if they did not agree to the price increase, he would take unilateral action. The new regime, to show what it meant, soon established contact with Moscow to discuss eastern markets for their oil. Also, separate dialogues were initiated with the oil companies to bring them down one by one. Their demand was an additional forty cents per barrel; and when comparing the quality and availability of Libyan oil to that of the Persian Gulf, it was not an exaggeration. In addition, they received some support from an unexpected place, the United States Department of State." (Sampson, 1978, pp. 303–304).

Gaddafi's other goal from the beginning was to nationalize his country's oil industry. Prime Minister Abdessalam Jalloud was able to temporarily divert him from this plan, who was aware that his country needed the large international oil companies in order to be able to sell their crude oil abroad. In defiance of Jalloud's proposal, in 1971 Gaddafi nationalized British Petroleum's Libyan plants on the grounds that the British government did not object to Iran's occupation of two small Arab islands in the Persian Gulf. Moreover, in 1973, 50% of the company AGIP (Libya) was acquired from ENI. Then in 1974, the equipment of several Anglo-Saxon companies with capital interests (e.g.: Texaco, Libyan American Oil Company) was nationalized. Shell's sales network in Libya also became state property (MOGIM Ad. 147-75., Kanyó, 1976, p. 148-150, Friedensburg-Dortsewitz, 1976, 260, Mosley, 1974, p. 333, Libya Law, 1974 p. 60–63).

During the period of political transformations in Algeria and Libya, major changes took place in the Arab world's oil industry. On the one hand, OPEC (Organization of the Petroleum Exporting Countries) was established in 1960, and after the six-day (Israeli-Egyptian) war in 1968, OAPEC (Organization of Arab Petroleum Exporting Countries) was established in 1968. After the Six-Day War, the Arab oil-exporting states blocked the Trans-Arabian transmission line, and as a result of the war, traffic on the Suez Canal also ceased. Although the embargo did not achieve results at that time, in 1970 OPEC raised the price of crude oil, which in 1971 they were able to pass through the Western oil industry concerns with great difficulty. The situation opened the possibility for the subsidiaries of the American and British oil companies to be closed in Algeria in the summer of 1967, then their capital export was prohibited and in the spring of 1968 the facilities of ESSO, BP and Shell were taken over by the state. And in 1971, Boumedien announced that he would nationalize 51% of the shares of the local French oil companies, as well as the natural gas fields and pipelines. The transformation of the international political situation made it possible for Gaddafi to carry out nationalizations in Libya, as was already discussed above (MOGIM Ad. 151-75., Kanyó, 1976, p. 148, Libya Law, 1974 p. 60–63).

The fight between the oil-producing states and the Western oil conglomerates continued in the following years, during which the price of a barrel of oil rose from $2.23 in 1970 to $16 in 1973 because of the oil price explosion following the Yom Kippur War, i.e. the oil crisis. This brought about significant changes in the world, but the world still needed the black gold of Algeria and Libya, i.e. the Sahara, and the oil industry of the two North African countries continued to operate after the nationalizations (Szurovy, 1978, p. 352, Tarján, https://rubicon.hu/kalendarium/1973-oktober-17-kirobban-az-elso-olajvalsag, Downloaded: 10.05.2024).

Conflict of Interest

The author hereby declares that no competing financial interest exists for this manuscript.

Notes on Contributors

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