

An Overview of Libyan Economy: Oil and Non-Oil Industries Regulations and Consequences

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ABSTRACT: This paper presents a picture of economic development in Libya, with a focus on the adverse effects of development on the environment. In this context, we present an overview of environment-related laws and regulations issued according to successive government policies. The oil-based sector is especially culpable in incidents negatively affecting the environment and wellbeing of surrounding communities in Libya.

Keywords: Libyan Economy, History, Industrial Sector, Environmental Regulations.

I. INTRODUCTION

Libya is among the fastest growing countries in Africa in terms of GDP (Figure 1). The Libyan economy has been focussed on the extraction and sale of natural resources, rather than on the creation of products and services through investments and innovation (Porter and Yergin, 2006). Oil exploration in Libya began in 1955, with the Key National Petroleum Law No.25 enacted in April of that year. Libya's first oil fields were discovered in 1959 at Amal and Zelten – now known as Nasser; and oil exports began in 1961 (Biltayib, 2006).

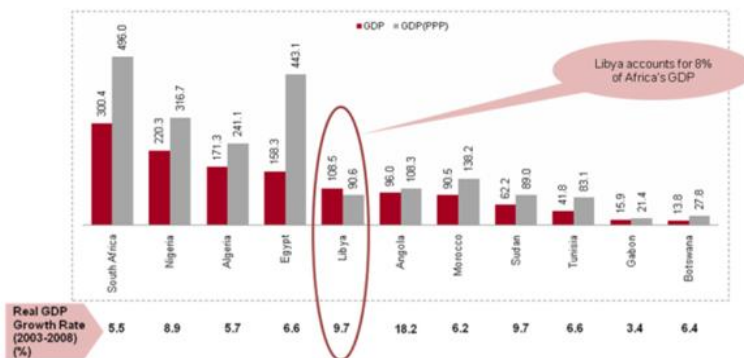


Figure (1) Libya is among the fastest growing countries in Africa
 Source: <http://www.ociped.com>

II. IMPACTS OF LIBYAN OIL INDUSTRY

Libya is the highest holder of proven oil reserves in Africa (Figure 2). Libya possesses proven reserves of 39 billion barrels of oil, with a production capacity of 1.4 million barrels per day. Development activities accelerated in all sectors of the economy following the increase in oil prices in 1973 – especially in heavy industries such as cement, iron and steel, fertilisers, and petrochemicals (Anwar, 2001).

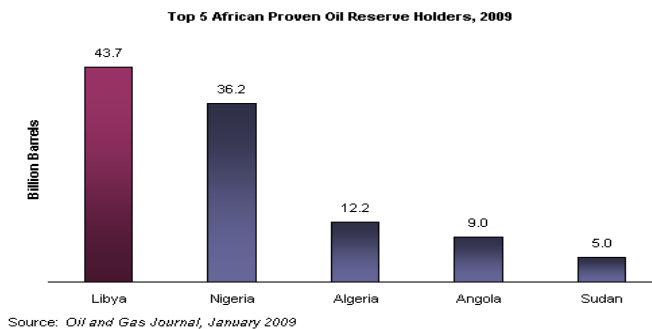


Figure (2) Top Proven Oil-Reserve Holders in Africa (Oil & Gas Journal, 2009)

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As such, Libya’s economy is based on oil revenue, which accounts for 95% of Libya’s hard currency. However, these earnings were hurt severely by the dramatic decline in oil prices during 1998, as well as by reduction in oil production due to UN sanctions during the 90s. Foreign investment in Libya was severely reduced as a result of the sanctions between 1992 and 1999. Since the sanctions were lifted in 1999, the government of Libya has tried to make the country attractive to foreign investors, including a recent relaxation of foreign exchange controls (Biltyib, 2006). Libyan oil export revenues increased from 5.9 billion in 1998 to 13.4 billion in 2003. Due to higher oil export revenues, Libya experienced strong economic growth between 2003 and 2004, with real domestic product (GDP) estimated to have grown by about 9.8% and 7.7% respectively (Oil and Gas Journal, 2009).

In 2003, the economy started to undergo a gradual process of liberalisation by the government. Liberalisation came mainly in the form of privatisation of government-owned enterprises. The Libyan government also pledged to bring Libya into the World Trade Organisation (WTO).

During 2004, Libyan oil production was estimated at nearly 1.6 million barrels per day (bbi/d), with a consumption of 237,000 bbi/d, and net exports of about 1.34 million bbi/d. The vast majority (more than 75%) of Libya’s exports is sold to European countries like Italy, Germany, France, Spain, and Greece (Oil and Gas Journal, 2009). Sometimes exports also go to United States (Figure 3).

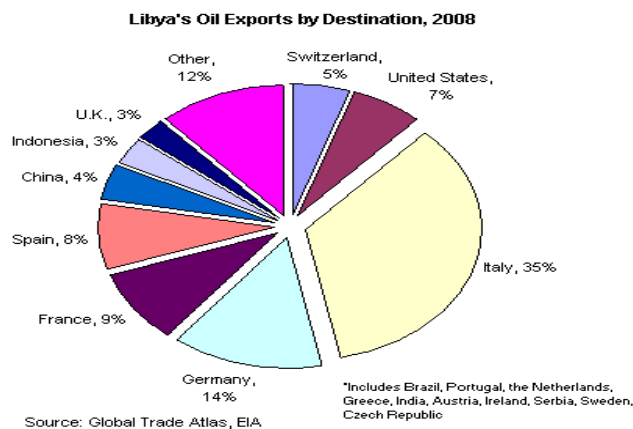


Figure (3) Libya’s Oil Exports by Destination, 2008

Libya has been striving to position itself as a key economic intermediary between Europe and Africa. It has become more involved in the Euro-Mediterranean process, and has pushed for a new African Union. The foreign relations of the country might see some development as Libya continues its efforts to establish an African Union.

In view of sanctions and recent changes in the economy, Libya’s economic outlook has been uncertain, although not bleak. An important economic strategy for Libya has been the effort to build on the achievements of its oil industry to create a well-developed chemical industry. Libya has been hoping to reduce its dependency on oil as the country’s sole source of income, and to increase investment in agriculture, tourism, fisheries, mining, and natural gas (Mohamed, 2005).

Overall, Libya would like foreign companies to help increase the country’s oil production to 3 million bbi/d by 2015. In order to achieve this goal, and to upgrade its oil infrastructure in general, Libya was seeking as much as USD30 billion in foreign investments. Libya is considered an attractive oil province due to low cost of oil recovery (as low as USD1 per barrel in some fields), high quality of oil, proximity to European markets, and well-developed infrastructure. It is also considered a major oil producer and preserver in Africa (Figure 4).

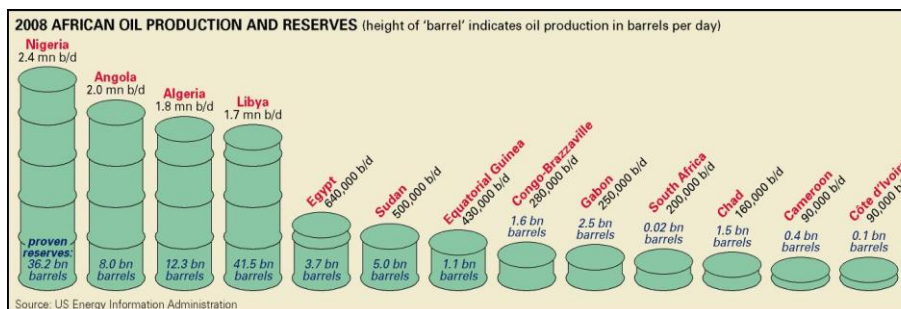


Figure (4) African Oil Production and Reserves

III. PRIVATISATION IN LIBYAN INDUSTRIAL SECTOR

The Libyan Ministry of Industry was created in 1961. After 1969, the new government paid attention to the industrial sector for the purpose of economic diversification by expansion into non-oil products, as well as achieving self-reliance and sufficiency in food. With the aim to improve regional development and job-creation, the Libyan industrial sector has received priority status and a huge amount of money. From 1970 to 2005, Libya spent LYD6 billion (USD3.27 billion) on the industrial sector (Aboujdiryha, 2011).

Libya has a legacy of central economic management and excessive reliance on the public sector. However, dissatisfaction with the performance of this sector and its inefficiency has led to reform in economic programs (Aboujdiryha, 2011). Public corporations in Libya were often inequitable, inefficiently run, and their managers were not incentivised to improve efficiency (Porter & Yergin, 2006). Starting with *Tashrukiyya* (collective ownership that allowed for the creation of corporation to which partners contributed labour and capital) in the mid-1980s, the government adopted different types of privatisation. In the early 1990s, the government introduced the concept of *Sharika Musahima*, a kind of joint-stock corporation. In 2003, the government introduced *al-Tamleek*, which sought to broaden ownership base through encouraging citizens to own public firms and thereby avoid concentrated ownership (Aboujdiryha, 2011). Therefore, after the transition from a planned to a market-based system, some industrial corporations became private (Elmogla, 2009).

Libya encourages the industrial sector by allowing banks to provide loans and credit facilities to Libyan investors. The Libyan Central Bank provides some banks' activities such as loans and credit facilities by each of commercial bank, development bank, and rural bank to improve the industrial sectors (see Table 1, 2, 3) during the period of 2000s.

Table (1) Commercial Bank Credit to Various Sectors (x LYD1000)

Year	2004	2005	2006	2007	2008	2009	2010			
							Q1	Q2	Q3	Q4
Loan value	3194.2	2701.6	3589.9	4544.0	6596.8	7341.8	7970.4	7592.1	7583.9	8086.8

Source: Libyan Central Bank

Table (2) Credit Facilities from Commercial Bank (x LYD1000)

Year		2008	2009	2010		
				Q1	Q2	Q3
Loan value	Oil sector	755374	90866	89908	84378	76182
	Industrial sector	1033901	1384064	1442537	1295026	1406171

Source: Libyan Central Bank

Table (3) Rural Bank Loans to Industrial Sector (x LYD1000)

Year	2003	2004	2005	2006	2007	2008	2009	2010
Number	87	309	1698	2196	2955	690	2040	2402
Value	259.5	913.5	4353.0	10011.5	10967.5	2220.0	6700.0	7296.0

Source: Libyan Central Bank

The above tables illustrate how the Libyan industrial sector has received attention from the government. Table 4 presents the value of loans provided by the Libyan Development Bank to each industrial sector from 2000 to 2010.

It is the industrial sector (oil-based as well as non-oil-based) that enhances gross domestic product (GDP) and provides the Libyan economy with millions in Libyan Dinars (Table 5). Although a major part of GDP comes from the oil sector, non-oil industrial sectors also contribute significantly.

Table (4) Development Bank Loans by Sector (x LYD1000)

Year	Food	Building Materials	Chemical Products	Metalwork	Textile	Paper and Wood	Industrial Services	Others	Total
2000	4150.7	2445.5	5008.0	4024.0	344.2	814.4	252603	1408.7	20721.8
2001	4794.8	2053.3	6693.7	1862.2	1271.4	730.5	5456.6	8841.7	31704.2
2002	7368.6	5113.8	18763.3	10023.7	228.7	270.1	17116.1	10282.3	69166.6
2003	16729.0	10865.0	13645.8	10053.2	844.7	1130.1	16707.6	7800.3	77825.7
2004	11154.5	6543.1	4059.0	2185.5	233.9	306.7	7147.3	4392.8	36022.8
2005	10778.3	18604.1	8569.0	3240.9	173.9	8377.6	196685.7	7978.5	254408.0
2006	25701.6	59518.9	14823.4	6837.2	2480.0	2493.4	12976.3	52645.5	177476.3
2007	29178.2	129949.2	7843.4	5969.9	490.0	0.0	6858.3	41650.4	221939.9
2008	4710.6	40820.3	358.2	290.9	6071.0	808.6	1356.4	12016.4	80968.5
2009	6033.0	65793.0	1218.3	1289.4	0.0	1402.2	5260.7	5788.1	86784.7
2010									
First Q	865.0	15698.5	37.0	329.8	0.0	480.6	603.0	1794.0	19807.9
Second Q	2704.1	27298.9	156.6	568.9	800.0	630.6	901.0	9973.7	43033.8
Third Q	4201.3	46629.4	1321.0	808.7	1050.0	780.6	1006.0	16482.3	72279.3
Fourth Q	4476.9	58967.6	1421.0	808.7	1230.0	780.6	1770.9	20014.6	89470.3

Source: Libyan Central Bank

Table (5) Gross Domestic Product by Economic Sector (x million LYD)

Sector	2004	2005	2006	2007	2008	2009
Oil and Gas	29.202.1	44.041.7	53.867.8	62.282.6	81.149.8	47.087.1
Mining and Quarrying	144.1	127.5	114.5	85.5	79.8	75.8
Manufacturing	5.447.6	4.888.8	4.032.1	3.602.6	3.124.8	2.451.8

Source: Libyan Central Bank

The industrial sector helps enhance the value of Libyan exports, which subsequently enhance national income. Table 6 presents the value of exported goods.

Table (6) Value of Exports by Industrial Sector 2005-2009 (x LYD1000)

Sector	2005	2006	2007	2008	2009
Food products	2265	991	104	1282	1437
Beverage and Tobacco	-	-	-	-	533
Crude materials	3477	2520	1391	11832	1150
Fuel	30312161	34891184	39589130	52946843	33353288
Animal and vegetable oils and fats	-	1236	657	128	24
Chemicals	825257	1223793	1173311	1352890	562205
Manufacturing goods classified according to materials	2338	215293	198295	418967	151878
Machinery and transportation equipment	2465	327	118	63	251
Other industries	31	730	9044	379	85
Total	31147998	36336254	40972050	54732375	34070852

Source: General Information Authority (2009)

Table (7) Value of Exports by Country, 2008-2009 (x LYD1000)

Country	Italy	France	China	Spain	Germany	UK	Greece
2008	24428400	5409711	2328615	3042465	4503652	1705493	685011
2009	11670818	4090982	3811615	2637737	2358339	1297119	1216292
Country	Brazil	Netherlands	Canada	Tunisia	USA	India	Portugal
2008	1654574	1476120	479447	1129848	3197663	546501	1610000
2009	1140521	747324	271112	712129	598403	584709	543628
Country	Turkey	Ireland	Egypt	Other countries	<i>Total export value</i>		
2008	330223	196499	249012	1759141	<i>54732375</i>		
2009	405578	322116	252192	960238	<i>34070852</i>		

Source: General Information Authority (2009)

A 2007 list of manufacturing corporations found on the website of the General Information Authority classifies Libyan manufacturing corporations into two categories according to number of employees. Corporations that employ less than 10 personnel are 1250 in number, and corporations that employ more than 10 employees are 868 in number. 216 of these are public-owned, and the rest are privately-owned (General Information Authority, 2007).

IV. IMPACTS OF INDUSTRIAL SECTOR ON THE ENVIRONMENT IN LIBYA

Although oil and non-oil sectors in Libya are the foundation of Libyan economy, these industries also have a clear impact on the environment. Anwar and Osama (2007) note that land and forest degradation in the Arab region – including Libya – has reached dangerous levels. Offshore oil and gas drilling, and the transportation of oil by tankers is a significant source of air pollution, while the potential for introducing invasive organisms via ballast waste represents a serious threat to the marine environment. The environmental impact of water disposed into soil is mainly attributed to the oil sector. The release of produced water results in the contamination of the receiving environment, pollution of soil and surface water (Biltybe, 2006). The presence of basic industrial plants such as cement factories, oil refineries, and steel and iron factories has negatively affected environmental conditions on the Libyan coast (EU-Libyan Trade SIA, 2009). Badawi (2009) points out that the oil sector is the basic source of pollutant emissions in Libya. Products used as operational energy in oil refining cause damage to health and environment.

Several environmental accidents that happened in oil operations have also had an adverse impact. A total of 723 accidents happened during the year 2006 alone. These accidents include spills, fires, fatal accidents related to oil operation, and industrial accidents that impact the environment (Table 8).

Table (8) Environmental Accidents in the Libyan Oil Industry

Type of accident	Number of accidents
Spills	475
Fire incidents	43
Fatal incidents related to oil operations	4
Industrial incidents	201
Total	723

Source: Annual Report of the NOC (2006)

These incidents need to be controlled and reduced, since they could cost oil companies millions of dollars in addition to harming the surrounding environment. Table 9 illustrates some of the accidents and the cost of their mitigation.

Table (9) Mitigation Cost of some Oil Accidents (Annual Report of the NOC, 2006)

Company	Date of incident	Type of incident	Cost (USD)
Eni Company	16-4-1999	Incident at Pory Well No. B3-25	15,145,876.00
Raslanuf Company	19-3-2002	Fire at ethylene reservoir	10,054,495.64
Brega Petroleum Marketing Company	26-1-2003	Incident at heavy oil reservoir No. 60 in Janzour	181,380.65
Eni Company	3-3-2002	Oil spill in the Pory Field	2,030,006.00
Brega Petroleum Marketing Company	20-2-2003	Incident at heavy oil reservoir No's. 470, 471, and 472	806,048.500
Haroug Oil Company	2-12-2005	Incident at well No. ui-72	4,542,610.31
Haroug Oil Company	17-6-2005	Thermal processor (HTC411) fire	2,627,258.00
Brega Petroleum Marketing Company	2-5-2002	Racer tanker collision	8,000,000.00

Source: Annual Report of the NOC (2006)

Smog in the inner cities and incidence of spills damage the fertility of soil; problems related to oil transportation negatively affect both the quality of air as well as of land. There are many environmental problems caused by effluent sources, and there is a need to control all industrial waste that results from the Libyan industrial sector (Elhassadi, 2008).

V. ENVIRONMENTAL REGULATIONS IN LIBYA

Although laws on the environment exist at present (Table 10), environmental protection has not been a significant concern in Libya. This might be due to the political instability that served to isolate the country from the rest of the world for many years. However, the opening up of the Libyan economy also resulted in the government's increased concern for environmental protection. This shift in priorities led to the formulation of a new law on the environment in 2003 in the Libyan congress (Law No. 15/03) (Biltybe, 2006), as well as the HSE program for the oil sector. The latter aims to promote national policies for the protection of health and environment through an integrative approach that links economic, environmental, and social policies. Therefore, companies are increasingly interested in formulating and executing sound environmental performance. The actual methods of implementation involve minimisation of the environmental impact of companies' operations. It is difficult to implement environmental management systems effectively without strong legislative backing from the government. Companies need to consider technical/operational as well as legal requirements in order to adhere to environmental legislation.

Table (10) Legislation Regarding Environment and Natural Resources

Legislation	Main Objectives
<i>Law 15 of 1992</i>	• Protect agricultural lands, pastures, and forests; convert them to irrigated agricultural lands
<i>Law 72 of 1988</i>	• Establish Arab Centre for Desert Research; development of desert communities
<i>Law 15 of 1984</i>	• Protect animals and trees from urban expansion; prevent hunting of wild animals;
<i>Law 1 of 1983</i>	• Agricultural inspection
<i>Law 790 of 1982</i>	• Organise drilling operations and preserve of water sources
<i>Law 7 of 1982</i>	• Protection of the environment
<i>Law 5 of 1982</i>	• Protection of pastures and forests
<i>Law 827 of 1980</i>	• The establishment of the General Authority for Scientific Research and associated bodies
<i>Law 46 of 1972</i>	• Protection of shrub land
<i>Law 26 of 1972</i>	• The establishment of a public board of water responsible for proposing public policies and legislations concerning water; overseeing follow-up projects related to water extraction, digging wells, and methods of using them

Source: Saad et al. (2011)

VI. THE ENVIRONMENTAL GENERAL AUTHORITY

The EGA was established in 2000 as a regulatory scientific body concerned with environmental issues in terms of the preservation of natural resources, control of environmental pollution, and conservation of biological diversity. The EGA follows the General People’s Committee, which is the highest executive authority in Libya. EGA has the right to inspect all public, private, national, and foreign companies in order to ensure that they maintain the environment. EGA as an independent body performs functions in accordance with Law No.15 of 2003 to protect and maintain the natural environment. This law, combined with the establishment of the Libyan Stock Market, has strengthened the role of EGA in Libya (Ahmad and Mousa, 2010).

The EGA carries out tasks such as formulation of environmental plans and programs, carrying out research related to the environment, and organising campaigns to enhance general awareness regarding the environment. The EGA is also responsible for assessing the environmental impact of companies operating in Libya, and establishing environmental specifications and standards. It assesses environmental challenges at local and national scales in order to ensure compliance with international treaties and conventions regarding the environment (www.environmental.org.ly). According to Ahmad and Mousa (2010), EGA is responsible for evaluating Libyan companies’ environmental responsibility, and assisting them in fulfilling required standards.

VII. THE PERFORMANCE OF LIBYAN INDUSTRIES

Although the Libyan government has prioritised the industrial sector due to its contribution towards GDP and national income, it still suffers from weakness and has not been able to provide perfect outcomes. For example, the sector achieved production of only LYD1,956,999 out of the production target of LYD2,548,531 in 2009, as shown in Table 11.

Table (11) Performance of Manufacturing Industries (x LYD1000)

Industrial sector	Designed capacity	Production target	Achieved production
Mineral industries	1,143,083	804,691	706,183
Cement and building material industries	631,831	410,435	468,325
Chemical industries	332,525	179,596	67,105
Textile, furniture & paper industries	50,698	5,798	1,548
Food industries	1,453,537	775,696	480,048
Electrical and engineering industries	1,851,642	37,315	233,789
Total	5,463,315	2,548,531	1,956,999

Source: General Information Authority (2009)

Additionally, the industrial sector seems to be unable to market produced goods, as Table 12 shows; except for cement, other sectors suffer from accumulation of stock in their stores, which is an indicator of poor product quality, and/or of weakness in marketing.

Table (12) Production Stock of Libyan Industries 2009 (x LYD1000)

Industrial sector	Production stock value	
	Opening 2009	End of 2009
Minerals	1576	2804
Cement and building materials	0	0
Chemicals	4889	4425
Textile, furniture & paper	1914	1699
Food	904	2568
Electrical and engineering	952	699
Total	10235	12195

Source: General Information Authority (2009)

The increase in oil prices in the late 1970s, early 1980s, and after 2000 increased government revenues, which contributed to the upliftment of the Libyan economy. However, this led to loss of competitiveness among non-oil tradable goods (Ali & Harvie, 2012; Porter & Yergin, 2006). Several indicators have shown that Libyan industries are weak in competitiveness. For instance, Almahdi (2011) notes that Libyan industrial corporations fail to satisfy a wide customer base, instead focusing on existing customers. These corporations need to adopt new strategies in order to achieve bigger goals.

“If oil wealth is discounted, Libya would have very low GDP per capita, due to the current level of competitiveness” (Porter & Yergin, 2006) p.5). Almahdi (2011) adds that 65% of Libyan corporations find it difficult to raise capital from banks. The productivity of Libyan corporations is weak (Porter & Yergin, 2006). The introduction of market liberalisation by the Libyan government has negatively impacted the performance and competitiveness of Libyan corporations due to lack of resources and experience. In the open market economy, Libyan corporations are unable to face increased international competition (Aboujdirya, 2011).

The researcher conducted interviews with heads of two Libyan corporations: Aman Corporation of Tires and Batters in Benghazi, and a leather-products and shoe company in Benghazi. The head of Aman noted that his corporation has had a difficult time facing international competition since the lifting of UN sanctions in 1999 and subsequent opening of the market to foreign products:

“In the past, we were facing great demand on our products to the extent that some people were waiting in queues for a long time to get our products, but now as you see we are going to lose our place in the market.”

In the second interview, the head of the Leather-Products and Shoes Company noted that his corporation was going to lose customers and employees due to pressure from external products and foreign investments. In both cases, low quality of products, high cost of input, and small stagnant government salaries are the major reasons leading to lack of competitiveness. Investors and employees prefer to work in companies that engage in social and environmental activities.

Another reason for the weakness of Libyan corporations is indicated by Eltaief (2009), who notes that Libyan construction corporations were unable to reach their expected efficiency level due to poor utilisation of resources .

VIII. CONCLUSION

This paper maintains that the Libyan economy is heavily dependent on revenue from natural resources, especially oil. However, Libya also seeks to diversify beyond the oil sector, in order to create valuable output in the form of products and services through innovation and investment. This has led to a degree of privatisation, as well as the private sector’s engagement in diverse industrial activities.

In 2003, the country started to transition from a planned and government-controlled economy to a market-based system. Foreign products and investments are now allowed to enter the Libyan market. However, Libyan products seems to be unable to face foreign competition, which is partly a result of prior sanctions.

Libyan industries can achieve competitiveness through the enhancement of their environmental practices, which can enhance use of resources as well as productivity. This in line with resource based view theory, which postulates that the basis for gaining competitive advantage is rooted in a set of emerging capabilities, such as waste minimisation, green product design, and technological cooperation (Hart, 1995). The Libyan context affords an interesting opportunity to research the role of environmental competencies in providing a competitive edge to existing industries.

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