

Models of social and environmental responsibility in Algeria- Analytical study

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Abstract:

This research paper aims at shedding light on the problem of the environment and the society, which is pollution, and raising awareness of the corporate environmental and social responsibility. The study has adopted a descriptive and analytical approach by presenting the experience of Algeria in the field of protection the environment and offering environmentally friendly products. The results of the analysis showed that the adoption and integration of the environmental and social interest in the activities of institutions is an economic investment that brings to the corporate huge profits in various fields.

Keywords: *Environmental Responsibility; Social Responsibility; Circular Economy; Wastes; Naftal company; Algeria.*

JEL classification: Q50, Q57, Q20

1. Introduction

In the context of increased competition, enterprises have exploited natural resources and used them in various ways to maximize profits and dominate markets. Of course, enterprises have had to use limited resources to meet the endless human needs. Therefore, meeting these needs and the accompanying industrial development brought to the universe many problems and the most prominent of these problems are environmental problems such as high temperatures resulting from global warming and pollution of water, and marketing of products harmful to the environment etc.

In the light of these changes, organizations and associations has emerged since the early sixties. As a result of the spread of environmental and social awareness that demand the protection of the environment and human society and the rational exploitation of natural resources. To the extent that some researchers said if the environment has tongue we'll hear the cries of tropical forests burning. Water suffocated by oil stains on the seas, the suffocation of the atmosphere suffocating with

toxic gases and lead produced in our atmosphere, as well as the demand for consumer protection.

1.1. The problematic Search

In response to legislation and appeals from governmental and non-governmental bodies, many business organizations have begun to reconsider their social, ethical and environmental responsibilities in their commercial and economic practices by giving the environmental and social dimension prominence in their strategies. In this context, the problem of our research lies in the following question:

How does Algeria perform as a friend of the environment and how it contributes to the social responsibility?

1.2. Hypotheses

H1: Algeria follow environmental policies that enable it save the environment and recycle the wastes.

H2: Algerian companies have environmental certificates and market green products, which represent social responsibility.

1.3. The objective of the Study

This study aims to know how the Algerian government contribute to the social responsibility through its strategies especially that rely on circular economy and marketing green products.

1.4. Research Methodology

To answer the problematic research and testing its hypotheses, we have adopted a descriptive and analytical approach, especially through presenting the Algerian strategies in the field of social responsibility.

2. Literature review

2.1. Corporate Social Responsibility (CSR)

CSR is considered as one of the 'umbrella' label's which has obtained popularity, where lots of emerging issues are being addressed under this label. CSR covers a wide range of issues and topics such as human rights, health, renewable energy, child labor and eco-efficiency.

Firstly, we'll going to define The Corporate Social Responsibility.

CSR can be defined as "the ways in which a business seeks to align its values and behavior with those of its various stakeholders" (Mallin C A, 2009, p. 05).

Also, the corporate social responsibility is defined by Michael Hopkins, in his book, Corporate Social Responsibility and International Development as the follow:

CSR is concerned with treating the stakeholders of the firm ethically or in a responsible manner. 'Ethically or responsible' means treating stakeholders in a manner

deemed acceptable in civilized societies. Social include economic and environmental responsibility. Stakeholders exist both within a firm and outside. The wider aim of social responsibility is to create higher and higher standards of living, while preserving the profitability of the corporation, for peoples both within and outside the corporation (Hopkins M, 2007, p. 15).

Also, Philip Kotler define it as follow: “Corporate Social Responsibility (CSR) is an obligation to improve the well-being of society through estimated or anticipated business practices as well as through corporate resource contributions (Kotler P & Lee N, 2007, p. 03)

So generally, the CSR can be defined as a moral commitment between the organization and the society, which work for helping the organization to strengthen its links with society in order to enhance its position in the minds of consumers and society in general, which in turn reflects on its success.

Social responsibility also contains implications and other dimensions of responsibility like:

- Responsibility to customers: working for satisfying customers through offering their products and services by their real value.
- Responsibility to investors: an attempt to make profits and funds for investors.
- Responsibility to the employees: provide jobs, work to improve and provide a better future and work to motivate them, both morally and financially.

Finally, we can say that the term “being socially responsible” means that, the organization should be more committed with the law when investing in human resources and the environment.

2.2. Corporate environmental responsibility

Davis & Blomstrom’s define corporate environmental responsibility as follow: “The obligation of decision makers to take actions which protect and improve the environment as a whole, along with their own interests.”

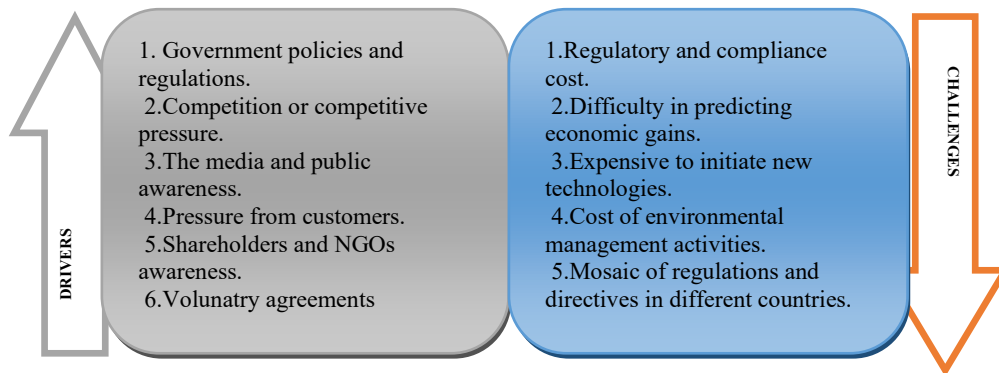
Also, CER is defined as “practices that benefit the environment (or mitigate the adverse impact of business on the environment) that go beyond those that companies are legally obliged to carry out” (Duker J & Olugunna M, 2014, p. 04)

2.3. Drivers and Challenges of CER

The process of adopting corporate environmental responsibility may become easy for some firms and may not be the same for others, because they are operating in different environments, and they are different in their capabilities. Studies have shown that there are factors that drive organizations to make great efforts to implement their environmental commitments, such as the media, the size of the organization, environmental activities, etc. And the adoption of CER represent a challenge to logistics companies, particularly those who try to develop and implement the initiatives towards their customers and or subcontractors.

Recently, there has been increasing pressure on organizations to become eco-friendly, which means becoming environmentally responsible through minimizing the impacts of their business operations on the environment. Also, studies have proved that climate change will become a major business driver over the next few years as organizations come under intense pressure to decarbonise their activities. The figure below (figure 01) presents some drivers and challenges of CER.

Figure 1: Drivers and challenges of CER



Source: (Duker J & Olugunna M, 2014, p. 05).

2.3.1. Drivers of CER

Government and regulations are representing one of the most important drivers of CER. So, government legislations, policies, regulations and directives play a vital role in driving positive environmental behavior. E.g., fuel prices, taxes, subsidies, etc., also there is another factor that encourage organizations to initiate CER practices which is having a competitive advantage that allowed organizations to reach huge number of customers in the same time entering new markets.

In terms of the pressure from the media, which could affect the public image of organizations, pressure from customers and pressure from shareholders and NGOs. All of these three pressures are considered as ones of the most essential driver that oblige organizations to adopt greener strategies, use cleaner technologies to produce green products and using green ways to deliver their products. Also controlling their business's activities through environmental management systems like iso 14001 to show their environmental implements for a reason of staying survived on markets and saving the life at the same time. (Duker J & Olugunna M, 2014, p. 05)

2.3.2. Challenges

Absolutely adopting CER will not be easy and without costs; of course organizations will face some factors that bring setbacks to the progress of adapting CER. Among these factors is what is considered as compliance and regulators cost, which are something with both positive and negative externalities. So even if some organizations want to use what is called the cleaner technologies to reduce their

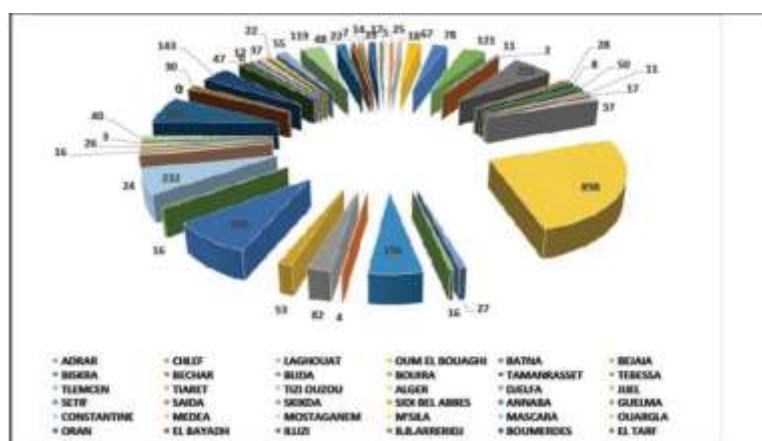
environmental impacts of their activities, but the higher cost of these technologies can deter these organizations overall implementations. On this point porter suggest to encourage innovation just to find solutions of this problem. Also, there is another thing could be served as a challenge for organization to participate in CER which is the predicting of the direct economic gains. Studies in this filed have concluded that organizations may face some difficulties like what is termed as a large upfront participating expense as things that impede the positive development of CER practices. Also, the regulations in different countries may put the multinational corporations in face of a more complex environmental management practices which in turn can inhibit their ability to comply with a mosaic of regulations in different countries that can lead to greater risks from being found in non-compliance (Duker J & Olugunna M, 2014, p. 06).

3. Data and Results discussion

3.1. The reality of recycling in Algeria

we will try to present the reality of recycling In Algeria, whether through institutions that are active in this field, or through recycled materials, as well as The potential gains from recycling waste, and all the data related to the year 2017, and we will explain This is done through the following forms:

Figure 2: Distribution of institutions that are active in recycling by provinces in Algeria

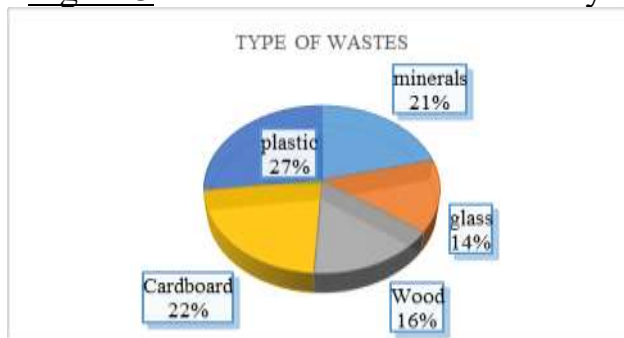


Source: (National Agency Of Wastes, 2019, p. 12)

From the previous figure, we note that Algiers the capital ranks first in terms of the institutions that are active in the field of recycling with 898 institutions, followed by Setif with 305 institutions.

Then Constantine with 232 institutions. In the south, Ouargla's state takes the lead, then Ghardaia.

Figure 3: Distribution of recoveries by type of waste in Algeria



Source: (National Agence Of Wastes, 2019, p. 12)

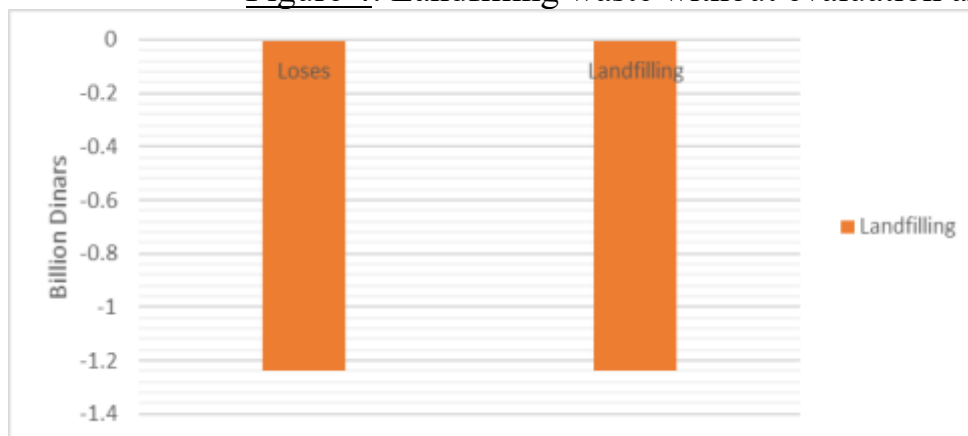
From the previous figure, we note that plastic occupies the first place. Plastic recoveries represent 27% of total waste recovery establishments, followed by Cardboard and metal, then wood and finally glass.

3.1.1. Landfilling waste for its valorization in Algeria

We will show the different cases of landfilling, the corresponding valuation and recovery, and its consequence whether profits or loses (National Agence Of Wastes, 2019, p. 12).

The first case: Landfilling the waste without evaluation and recovery

Figure 4: Landfilling waste without evaluation and recovery



Source: (National Agence Of Wastes, 2019, p. 22)

In this case on the figure above where there is only landfilling, the result will be lost by 1.24 Billion Dinars annually.

The second case: landfilling with packaging recovery

Figure 5: Landfilling with packaging recovery



Source: (National Agency Of Wastes, 2019, p. 22)

In this case where there is a packaging recovered, the result is gaining a profit of 4.258

Billion Dinars annually.

The third case: landfilling with the recovery of organic materials

Figure 6: Landfilling with the recovery of organic materials



Source: (National Agency Of Wastes, 2019, p. 22)

In this case, where the organic materials are recovered, a profit of 92.4 billion dinars is realized per year.

Generally,

Algeria still lacks many pillars to reach a good level of recycling, as most of the projects in this field are young projects, dominated by individual. Within the framework of the new economic model that has been in force since 2016, Algeria has Several projects in the field of circular economy.

3.2. Algeria's efforts and international agreements in the field of waste recycling

3.2.1. Integrated Management of Waste Support (AGID) Program

It is a cooperation project in concerned with waste management between Algeria and Belgium (National Agency for waste and the Belgian technical cooperation), financed with 11,000,000 € for the Belgian party, and 1 Billion DZD for the Algerian party. Its aim is to strengthen and support local groups for upgrading the management of their wastes, the project established for three states in western Algeria

whish are: Mascara, Mostaganem and Sidi Bel Abbes, and the project extended by June 30, 2019 (Ministry of Water Resources and Environment, 2016, p. 02).

3.2.2 The selective sorting's trial of household waste

Algiers was known an experiment called: The Experimental Neighbors, which was launched in June 2016, by The National Waste Agency, in cooperation with the Extranet Foundation, which includes 1602 houses. They are provided by 26 containers with a capacity of 770 liters for each segment of waste (dry waste segment and organic waste segment), The Extranet team had collected dry waste every 03 days, while organic waste was collected daily. After 4 months, the selective sorting witnessed a great response from the population (Ministry of Water Resources and Environment, 2016, p. 03).

3.2.3. Circular Economy-a program of the Environment's Ministry that provides 40 thousand jobs in Algeria

According to Algerian minister of Environment Samia Mwalfi, she presented the "sector's strategy to limit harm to the environment and protect the living of the citizen," by providing program. The program, which has already been implemented, aims to develop Algeria's green and circular economy, by "creating 8000 micro-enterprises employing about 40,000 people over five years. Especially in the collection, transformation and valorization of wastes (M. Abdel Momen, 2022).

- The circular economy constitutes a deposit for the attractiveness of the national industry

In addition to its contribution to the environment through production that generates less waste, the circular economy is considered as a means of enhancing the attractiveness and competitiveness of industrial products and services, underlined the international expert in environment and sustainable development Samir Grimes. He estimated that, "When we invest 1 dinar in circular economy technologies, we earn 4 to 5 dinars by 2026" (Algerian press agency, 2021).

3.3. The environmental and social responsibility

Naftal Company as a big and the only one inside Algeria, which produce deliver petroleum products, attaches great importance to the environmental and social activities, and this is evident from its diverse green products and services.

3.3.1. The environment responsibility of Naftal Company

It can be said that the company adopt an offensive (or very green) strategy, because of its efforts in the promotion and development of environmental performance which are exceeded then what is expected of it and what is required by the government and legislation. This will also provide to the company the chance to achieve a stable and permanent competitive advantage. In this context, NAFTAL is committed to the implementation of international standards for quality products and services through getting the ISO 9001 certification in 2008, the company has also signed the

commitment to comply with all international standards related to quality, security and environment (Q.S.E), it has also obtained ISO 14001 and OHSAS certifications.

3.3.2. The green product of NAFTAL

In order to achieve a healthy and clean environment, NAFTAL has taken great strides to achieve that. And surely one of the most of these strides is producing products which are environmentally friendly, which means they have no negative impact on the environment or less than the other products. These products are represented by some fuel products like:

- Liquefied Petroleum Gas (LPG);
- Regular Unleaded Gasoline;
- Super Gasoline;
- Compressed Natural Gas (CNG).

3.3.2.1. Liquefied Petroleum Gas (LPG)

Liquefied petroleum gas or liquid petroleum gas (LPG or LP gas), also referred to as simply propane or butane, are flammable mixtures of hydrocarbon gases used as fuel in heating appliances, cooking equipment, and vehicles.

It is increasingly used as an aerosol propellant and a refrigerant, replacing chlorofluorocarbons in an effort to reduce damage to the ozone layer. When specifically used as a vehicle fuel it is often referred to as autogas.

3.3.2.2. The LPG's features

Without odor neither color, little emission in the air, clean, no lead and no balance in which a little evaporation and supply of cars is very tight, and extends the life of engines;

We find this gas inside the car tanks on two cases:

- In the upper part of the tank shall be in a gaseous state.
- In the lower part of the tank will be in a liquid state.

During the use, the gas layer is consumed, while the liquid layer evaporates during the process to compensate the gas consumed (Naftal Company, 2009, p. 49).

3.3.2.3. Emission level in the atmosphere

The carbon monoxide (CO) produced by LPG combustion is about 80% less than gasoline combustion, the proportion of non-burning fuel is very low, and there is no release of lead or sulfur oxide.

The extracted nitrogen oxides are reduced to 96% less than diesel and 68% less than gasoline. For this reason, this fuel is not polluted to nature compared to others.

99% of the particles are less than diesel.

Resists the climate change by reducing CO₂ emissions to 20%.

It allows to diversify the energy offers, because it contains 60% of natural gas.

Because the liquefied petroleum gas has good burning properties, as we have said, this makes the engine life of the vehicle longer.

The LPG remains in a liquid case under a pressure of between 4 and 12 bar, depending on the temperature. This pressure is relatively weak, thus avoiding the risk of explosion in case of accidents.

To know the position of this product in the fuel market, we'll look at some numbers in terms of sales as well as the supply and storage of this fuel.

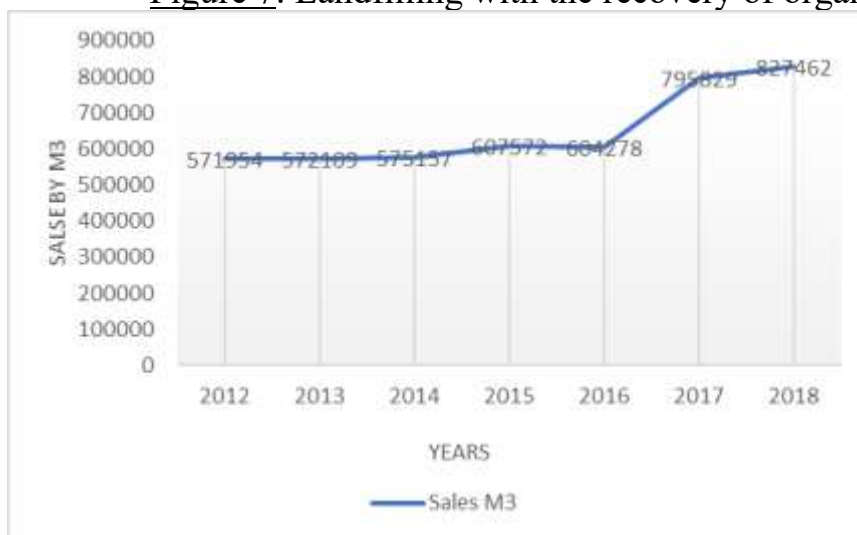
Table 1: Results of LPG activity

Designation	Activity of the LPG						
	2012	2013	2014	2015	2016	2017	2018
Number of stations	405	427	442	457	481	500	500
Sales (M3)	571954	572109	575157	607572	604278	795829	827462

Source: (Naftal Company, 2019, p. 15).

We conclude from the table data that the sales of the LPG is in constant rise from year to year. If we compare the first year 2012 with the last year 2018, sales increased by 44%.

Figure 7: Landfilling with the recovery of organic materials



Source: (Naftal Company, Naftal's commercial department report, 2019, p. 15).

For the number of stations is in constant rise from year to year, through 2012 to 2018, the number increased by 95 stations.

3.3.2.4. The distribution of LPG product:

In order to market the LPG product through the various parts of the Algerian country, NAFTAL has equipped a large number of service stations with a distribution system of mostly 20 m³ and distribution pumps. These stations has enriched by gas distribution centers. The total storage capacity of this product is more than 9230 m³.

In the framework of modernity, modernization and environmental protection, NAFTAL company has set up pipes or transporting and distributing LPG through pipelines as a sign or step in this regard. (Naftal Company, 2010, p. 35)

- The distribution by pipelines

For example, we mention the projects of developing transport and distribution through pipelines which are called "MP12" "GPL8", in Berahal, state of skikda. This project is a highly efficient pipeline network. As part of the implementation of the agreement concluded on July 17, 2009 between NAFTAL and ENAC, to construct 80-km (12-inch) pipeline lines, for providing liquefied petroleum gas to the distribution and storage center (CDS) from the Skikda refinery.

The project is part of an extensive program to modernize and renovate the infrastructure of the Naftal Foundation, including the development and rehabilitation of its pipeline system. Which is part of an ambitious project that seeks to build a 2,720 km line between Annaba, Galma, Taref, Tebessa and Souk Ahras (Naftal Company, 2010, pp. 45-46).

The most important benefits of pipe transport include:

- Reduce traffic on the road.
- Reduce the rate of leakage of hazardous materials.
- Reduce emissions of polluting gases.
- Provides public safety (Naftal Company, 2010, p. 47).
- Pilot program for biological treatment of contaminated floors "Projet Pilote D'installation de Traitement Biologique des Sols "Biopile"

In the context of managing the areas, sites and floors in which the activity is practiced, especially those polluted which require more careness, and that what is considered as a major concern of the company because of its impact on the environment and the health of workers, especially those located at the level of storage and distribution's centers of fuel. And within the respect of the laws in this regard, the Naftal company has partnered with the University to develop a biological treatment system for contaminated floors "Biopile" in order to reduce the proportion of substances pollution organic materials found naturally in these dust.

Benefits of this program:

- To avoid pollution of workers and the natural environment.
- Due to the absence of a specialized center in this treatment, the company had decided to establish this project.
- Considering the high cost of storage of these wastes and the fees for their conversion, the company chose this achievement.
- To re-evaluate these sites after stopping the activity.

- Avoid complaints by neighbors of these contaminated sites.
- To preserve the environmental image and the citizenship status of the institution to customers. (Naftal Company, 2013, pp. 17-19).

- Recovery of used oils:

Naftal seeks to consecrate the principle of continuous improvement adopted in its environmental policy through its work to protect the environment, where it retrieves the used oils, to be dumped in nature or through the drains of dirty water. For this reason Naftal company has harnessed enormous material and human resources to collect and retrieve motor oils and used machinery from all consumption points, such as large scale enterprises such as Sonelghaz and others like lubricating, washing and renewing oils for automotive engines, for free and by the capacities of Naftal company.

For this purpose, the Corporation acquired private trucks of various sizes and equipped with the necessary machines and pumps. So, that they are painted in special colors indicating the environment and maintained and distributed across the different regions of the country at the level of all units. Directorates, and the collected oils are stored in the nearest warehouse, where Naftal allocate storage's capacity of these oils in tanks with a considerable capacity of at least 100 m³ in each storage warehouse and when the estimated quantities of sales are arrived, they export them to European countries for re-industrialization and regeneration for other uses. In comparison to the costs associated with the recovery process, the company records a loss and cost that exceeds the return on exporting process because the main objective of the process is to preserve the environment and contribute to improving the conditions of society and public health.

Storage capacity in the largest warehouses:

A - warehouse of Oran = 3200 m³

B - the warehouse of the Capital = 3750 m³

C - Annaba warehouse = 1600 m³

Total = 8550 m³.

Here we have results of the process of exporting used oil:

Table 2: The exported quantities of used oils and their value in US dollars of the years 2017 and 2018

Year of 2017		Year of 2018	
Quantity	Value	Quantity	Value
8297.68	1617505.04	11355.4	4553371.04

Source: (Naftal Company, 2019, p. 50)

We note that the process of recovering used oils rose from 2017 to 2018 by 36%

4. CONCLUSION

The deplorable state of the environment has gathered the global efforts to find solutions to environmental problems. This has forced institutions to adopt the concepts of environmental and social responsibility. The first concept is the application of environmental protection processes, which means the process of covering the environmental impacts of production processes of enterprises, such as reducing product damage and emissions, and reducing practices that have negative impacts on the environment.

And the social responsibility is a commitment by companies to include environmental and social considerations in their work and in their interaction with stakeholders in a voluntary manner. Therefore, through this research we've concluded some results as follows:

- Environmental responsibility is a rebalancing of the business relationship to the environment.
- The environmental responsibility is mainly aimed at raising awareness and preventing the external effects of production that harm natural resources.
- Environmental responsibility consists of a set of institutional measures that prevent or limit certain activities, methods or products that pose a threat to the natural equilibrium.
- The adoption and integration of the environmental and social interest of the activities of institutions is an economic investment that brings to the corporate huge profits in various fields.
- Algeria has huge capacities for investment in renewable energies, which provides it with one of the most important sources of diversification
- Algeria follow many environmental programs as AGID that enable it to recycle wastes and save the environment, this proves the validity of the first hypothesis.
- NAFTAL Company has environmental certificates, market green products as LPG, CNG also follow safe canalization by pipeline, collect used oil and clean the weather through high- tech such as the Biopile program, which represent social responsibility. This proves the second hypothesis
- NAFTAL Company has the potential to be committed to environmental and social responsibility and it's striving to achieve the principles of environmental and social responsibility, but it is still far from achieving it because of the lack of environmental conservation's culture both in terms of managers and even Algerian society.

Recommendations

- As human we should increase efforts to raise awareness of environmental problems through various media, conferences and seminars on an ongoing basis.

- Ensuring the establishment of mechanisms for monitoring and auditing the environmental programs and continuous assessment so as to ensure their compatibility and effectiveness in achieving their objectives.
- Imposition of fines on industrial establishments that violate the rules of environmental protection commensurate with the degree of violation.

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