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Environmental management: A survey industrial establishments in the region gharb- chrarda beni hssen

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ABSTRACT

Taking into account the effects of industrial activity on the environment is a recent phenomenon on the scale of development of industrial societies. In Morocco, it was not until 2009 that the collective consciousness of environmental issues grows widely, whether in politics or in civil society following the development project of the National Charter environment and development^[1]

The Morocco has gradually in recent years laws and regulations for the protection of the environment (air, water, waste), in addition to the Governing Council adopted in January 2014, the draft framework law 99-12 concerning the national Charter for environment and Sustainable development. This new environmental charter covers very broad areas such as industrial pollution, deforestation, or coastal erosion.

This article presents the results of a survey conducted by the Laboratory for Nutrition and Health, Faculty of Sciences, University Ibn Tofail - Morocco. The purpose of this study is to measure and explain the different degrees of involvement of companies in environmental management approach within the region of Gharb-Chrarda Beni Hssen, the study covers more than 313 industrial enterprises the region.

Stages of the implementation of the survey are described and analyzed, namely, the definition of objectives, the composition of the sample, the preparation of the questionnaire, the organization and implementation of the survey itself, encoding results and analysis thereof.

Analysis of the results reveals the existing problems in the environmental management and identifies proposed solutions.

The results show that, despite a collective awareness of environmental issues, environmental risks are managed significantly only in a few companies.

If regulators and values of leaders guide establishments primarily towards managing more "responsible", the complexity of regulations and lack of information seems to explain the observed slowing of voluntary environmental initiatives.

Costs, lack of human and financial resources, and low perception of the immediate benefits seem, indeed, constitute barriers to the pursuit of more ambitious environmental actions. Thus, environmental risk management becomes more like an expensive way to legitimize and perpetuate the activities as an economic or competitive opportunity.

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KEYWORDS

Environmental risks;
Industry;
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survey.

INTRODUCTION

Business activities have a significant environmental impact. They are a major source of harvesting of natural resources and environmental releases.

All industrial enterprises consume raw materials, energy, water, use of space, and emit more or less harmful substances and pollutants in the environment, in different proportions depending on their activity.

The intense consumption of natural resources by industries causes considerable environmental damage deforestation, extinction of animal and plant species, depletion of resources...

Many companies realize that their involvement in the protection and preservation of natural resources affects their long-term survival. Their environmental challenges are vast :

- consumption of raw materials, energy, water, natural resources
- releases to the environment
- use of space
- compliance with environmental laws and regulations

To address these issues and minimize their environmental impact, companies can adopt different levels of involvement :

- integration of environmental concerns in the business strategy
- implementation of an environmental management system
- involvement in a system of Social and Environmental Responsibility
- implementation of specific actions
- adoption of eco -design
- etc.

Some will have a boost environmental awareness and will decide to integrate it into their strategy and operation, through a sustainable development approach.

Others will integrate their internal management system, and will also raise awareness and encourage their stakeholders to adopt and implement actions to minimize their environmental impact^[2]

To cope with their environmental responsibility, companies are more likely to try to integrate environmental concerns into their daily management. This integration brings the classic system of management companies to evolve to a new type of management: envi-

ronmental management. The new management is exercised in companies through a set of control devices generally grouped under the heading of environmental management^[3]

This survey will allow us to better understand how institutions appreciate the risks they generate to their environment and incorporate them into their management. It aims to understand the environmental risk management (The term "environmental risks: RE" Industrial and technological risks generated by impacting the business environment. Water, air, sites and soils, noise, etc.) within industrial enterprises located in the region of Gharb Chrarda Beni Hssen. The survey analysis devices Environmental Risk Management implemented and identifies motivations and brakes of these actions as described by company officials.

At first, we present the region of Gharb- Chrarda Beni Hssen and the objective of this investigation. Then, in a second step, we specify the methodology: The sample of respondents institutions there will be described, and methods of preparation and administration of the questionnaire developed. Finally, the first results will be presented and analyzed.

PRESENTATION OF THE GHARB REGION CHRARDA BENI HSSEN**General data**

The region of Gharb Chrarda Beni Hssen is bounded on the north by the region of Tangier- Tetouan, North -East by the Taza -El Hoceima- Taounate, south-east by the regions of Fez- Meknes -Tafilalet and Boulmane, to the south by the Rabat -Salé- Zemmour-Zaer and west by the Atlantic Ocean.

Administratively, the region comprises three provinces (Kenitra, Sidi Kacem and Sidi Slimane), 10 urban districts and 53 rural municipalities.

The region extends over an area of 8,805 km² or 1.2 % of the total area of the country and includes the Gharb plain (4.200Km²).

Referring to the general census of population and housing 2004, the demographics of the region is as follows:

- Population: 1,859,540 hab, or 6.22% of the population of Morocco

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- Growth Rate : 1.4%
- Urban Population: 780,971 inhabitants, the city of Kenitra alone accounts for almost 46 %.
- Rural Population: 1,078,569 inhabitants.
- Urbanization rate : 42%.
- Medium Density 211 inhabitants / Km².

These data indicate a high density of population, 5 times higher than the national average, which could generate a strong pressure on natural resources.

The poverty rate in the region reached 20.5% against 14 % nationally. However, even if the Region has the highest across the United poverty rate, this does not mean that all common features that destitute, since they are at number 21 on 72 common ^[4]

industry

The industrial sector of the region of Gharb Chrarda Beni Hssen home 313 industrial establishments in various activities, or 3% of national industrial enterprises ^[5]

These institutions contribute by 2% to employment, exports 2%, 2% for investment, production 3% and 6% of the added value achieved at national level.

The agri -food sector occupies a privileged place in the economy of the region (36% of institutions in the region, 57 % of the population and 82 % of industrial GDP in the region).

The industry in the region of Gharb Chrarda Beni Hssen is dominated by two main sectors : agro -food and chemical industries since and para- chemical industry accounted for 41 % of total number of establishments, contribute up to 88% overall output of the region and generate 98% of industrial GDP in the region.

Moreover, it should be noted that 95 % of the industrial fabric of the region is composed of SMI: Small and Medium Industries realize that 47 % of production, 55 % of exports and employs 50% of the total number of region.

The weight of the industry Kenitra province is well established as it helps with proportions exceeding 83 % in macro- economic variables in the region.

PRESENTATION OF THE SURVEY

The objective of this survey is to understand and observe the implementation and enforcement of environmental responsibility within companies in the region

of Gharb- Chrarda Beni Hssen

This survey can also measure and explain the different degrees of involvement of companies in environmental management approach.

More precisely, in this survey we will collect information on initiatives, actions, liabilities, political positions, and business needs to the concept of environmental management.

To conduct this investigation, we used a questionnaire that tries to answer the following questions^[6]

- How companies they perceive public environmental policies?
- How to organize themselves in the environment? Have - they implemented Environmental Management Systems ?
- With what characteristics ? Why?
- The environmental management tools they improve the environmental performance of companies ?
- What are the determinants of environmental action business ?

Regulation?

Economic considerations ?

The pressure of societal actors such as environmental organizations and local associations?

RESEARCH METHODOLOGY

Definition of the target population and sampling method

A survey protocol can be designed based on a previously defined sample. To build the sample, referred to the objectives as defined above. It has been shown that to perform a good audit of a census, the sample should be sufficiently large and the number of variables important enough to complete it.

Units composing the target population were identified from the directory of industrial companies in the region of Gharb- Chrarda Beni Hssen prepared by the delegation of trade and industry Kenitra. This database lists all industrial enterprises in the region of Gharb- Chrarda Beni Hssen. It includes 313 industrial companies.

The adopted sampling method is random sampling stratified by industry, more specifically, we proceeded as follows:

TABLE 1: The five strata of the population

Strate	Secteur d'activité Principal	Effectif des entreprises
Strate 1	industrie agro-alimentaire	113
Strate 2	industrie textiles et cuir	17
Strate 3	industrie chimiques et para-chimiques	101
Strate 4	industrie métallique métallurgique	80
Strate 5	industrie électrique et électronique	02

We divided the total population into 05 strata according to the industry.

Within each stratum, we selected a random sample using the following formula:

$$n = \frac{385}{1 + \frac{385}{N}}$$

N: The size of the total population, n: The sample size
This formula provides a margin of error in estimating the proportion less than 5% and a confidence level of 95 % [7]

The development and administration of the questionnaire

The development of the questionnaire

Particular attention was paid to the introductory paragraph of the questionnaire relates to the definition of key concepts in order to avoid any possible confusion on the part of respondents. This introduction has clarified the confidentiality of the investigation.

The types of information collected has been defined, based on the objectives of the survey mentioned previously, further questions were arranged in a logical order favoring thematic grouping, thus facilitating the transition from one theme to another and avoiding any attitude of withdrawal from the respondents.

The survey questionnaire includes only qualitative questions divided into five themes:

Theme 1 : Environmental Management

Theme 2 : Systems and management tools

Theme 3 : Public Policy Environment

Theme 4 : Policy on Environment

Theme 5 : Information and Training

“Environmental Management”: General Information, which qualify the companies surveyed are obtained in response to five (05) questions that deal with the general characteristics of firms vis -à-vis environmental

management.

“Systems and management tools”: This line contains seven (07) questions relating to instruments and systems management company in relation to the environment.

“Public Policy Environment “ Through eleven (11) questions, we will evaluate the instruments of environmental policy in enterprises.

“Policies on the environment”: This axis 23 issues seeks to identify the main impacts of business activities on the environment, taking into consideration all aspects of the environment: water, air, landscape, waste..... and methods to manage these impacts.

“Information and training”: Seven (07) questions about how the company communicates its strategy and actions for environmental management.

To facilitate data processing, closed-ended questions were used in order to achieve the terms of response choices varied: binary choice (yes or no), fan (choice of one among several possibilities), or multiple choice or rank (choice # 1 choice n), five open-ended questions were included to give the opportunity for respondents to indicate their response.

This type of question allows the speed and convenience for the person completing the questionnaire, and a quantum statistical treatment response and questioned obliges the company to clarify its thinking before providing an answer. Particular attention was devoted to the formulation of questions and the vocabulary used.

The administration of the questionnaire

To maximize response rates, we opted for the diversity of techniques of data collection: the electronic questionnaire, the postal questionnaire and the questionnaire door to door, but unfortunately we have not received any response. Understanding that our approach is not bearing fruit, we decided to let us know in the midst of environmental professionals to establish a relationship of trust and become part of a network of actors. Thus we have joined the association Gharb for the protection of the environment, and seek the support of the Regional Observatory for Environment and Sustainable Development (OREDD) Regional Observatory of the Environment and Sustainable development's role is to ensure a continuous monitoring of the state of the environment and measure the re-

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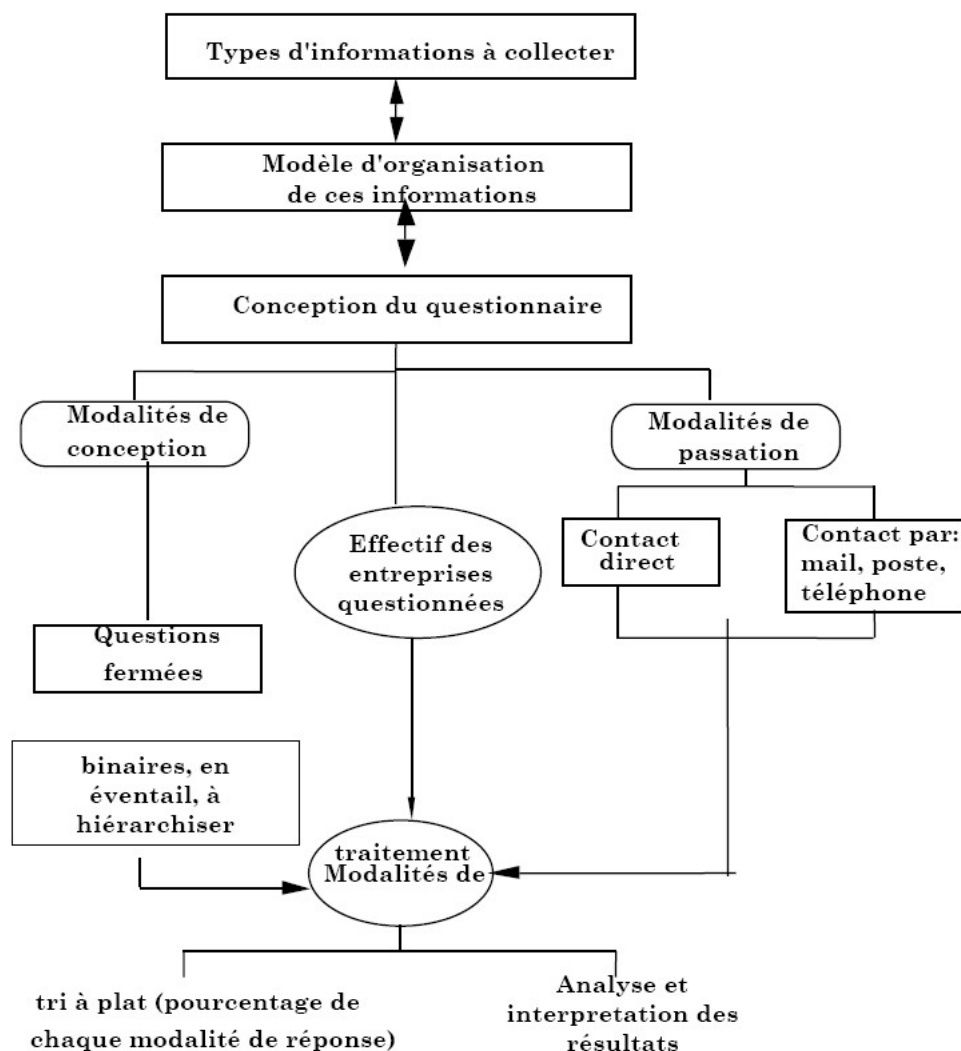


Figure 1 : Phases de réalisation pratique du questionnaire

sults and performance of corrective actions initiated by programs environmental upgrading.

This approach allowed us easier access to businesses.

During the visit of the said companies, a meeting was held with the head (1h - 1h30) we presented the questionnaire (Q1- Q53) and we completed the section on corporate identity and identity of the speaker in order to preserve the anonymity of the survey.

RÉSULTATS DE L'ENQUÊTE

Les différents taux de réponse et taux de sondage sont présentés dans la TABLE2 ci dessous.

The response rate of the survey is nearly 92 %, very important result for this type of survey

The main sectors represented in the responses:

The chemical and para -chemical, metal / metal sec-

tor and the electrical and electronics industry with more than 92 % of responses sector.

Prior to analyzing the results, it is important to check the reliability and representativeness of responses. Concerning non-response, the quality of the game data is good (fill rate : 96%), missing values were not replaced by fear significantly skew the statistical characteristics of certain variables^[8]

Analysis and interpretation of results

The characteristics of the sample are identified, we are interested in this general trends in terms of environmental management through analyzes flat. These were supplemented by cross-analysis.

A recent awareness of the issues associated with environmental protection

Companies are aware that their activity may gener-

ate risks and damage to the environment and that efforts should be made to minimize them.

The majority of companies (98%) do not engage in reflection and action in the fields of solid waste, waste gas, liquid effluents and energy savings. The companies say a large majority they do not use hazardous products (94%).

However, the environmental approach is new: nearly 45 % of companies have considered significantly environmental issues in their strategy for five years. Protection of the environment and appears to be a relatively young concern. Indeed, it is only in the years 2009 institutions across industry have realized the benefit of seeing the need to integrate environmental variable in their development strategy.

99% of companies have no service or staff specifically responsible for environmental issues.

“Minimalism” approaches and commitments to environmental

Despite the development of many management devices to prevent, reduce, accept, or otherwise transfer the RE, voluntary management approaches RE struggling to develop. Only three companies have adopted environmental management system (EMS) ISO 14001^[9] certified

In fact, if the implementation of such a system has many advantages (cost control and discards ultimately building a citizen image, etc.), Its implementation is not always easy (costs of implementation, investment in equipment, operating costs, administrative burden).

The companies surveyed (74 %) perceived the management of environmental problems as an additional constraint, only 19 % of companies rather see it as a duty that must be done to preserve nature and the quality of life and 7% companies see it as an additional op-

portunity that allows to save and improve product quality.

Only 2% of companies report be entered in partnerships with associations of environmental protection. This concerns mainly manufacturing (chemicals, steel). It seems that most companies find it difficult to establish partnerships to strengthen their management policy RE III- 1.3. The complexity of environmental regulation, and the need for information expressed by managers.

The main obstacle to the implementation of the environmental management system is the lack of information on technical and financial assistance to business opportunities, moreover, more than half of them declare a vice information regulatory and RE on sanctions violations.

To remedy this lack of information and the lack of visibility of regulatory systems, solutions have been proposed by the company managers. These advocate a more systematic communication on regulatory developments in the form of various media such as websites, flash messages. Others cite the establishment of meetings between entities with similar RE to promote the sharing of experiences and knowledge management RE. The co-construction of such a network would ambition to conduct collective approaches intelligence and improve the environmental performance of participating institutions.

Management RE : primarily a regulatory requirement, and an expensive way to legitimize and sustain activities

Management of RE is a legitimation strategy and sustaining a competitive business strategy. In fact, only half of respondents say they can save if managing RE, and barely a quarter refers to the ability to access new markets or improve their competitiveness. It shows that the business opportunities and the economic benefits

TABLE 2 : Echantillonnage et taux de réponse

strate	Population Totale (1)	Population reçu le Questionnaire (2)	Nombre de réponses (3)	Taux de réponse (3)/(2)	Taux de sondage (3)/(1)
Strate 1 : industrie agro-alimentaire	113	88	79	89 %	69,91%
Strate 2 : industrie textiles et cuir	17	16	14	87,5 %	82,35%
Strate 3 : industrie chimiques et para-chimiques	101	80	74	92,5%	73,26%
Strate 4 : industrie métallique métallurgique	80	67	66	98,5%	82,5%
Strate 5 : industrie électrique et électronique	2	2	2	100%	100%
Total	313	253	235	92,88%	75,07%

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do not appear clearly. Only the aspect of “ risk reduction and pollution “ seems to play a major role in motivating institutions to engage in environmental actions (92.9 % of companies surveyed).

In addition to the motivational aspects of organizational management decision ROE, company officials identified a number of checks:

Costs appear to be the first brake (for 41 % of companies), whether in small, medium or large structures. The complexity of the rules (25% of companies), the lack of human and / or financial (24 % of companies), and low perception of the immediate benefits (10 % of firms) are also discussed. This phenomenon of myopia over the time horizon is in fact likely to affect organizational management decision RE. It is for the private actor, performing a calculation consisting of anticipation to sacrifice immediate profits for delay, via long-term investment in order to reap hypothetical benefits, tangible or intangible. Thus, environmental investments are more perceived costs, while many environmental actions can eventually lead to significant savings (reducing waste, improving energy efficiency, etc..).

Companies need support, allowing them to take a first step towards environmental protection

Accompaniment will enable companies to realize the consequences of their activities on the environment, enabling them to improve the impact factors, and identify necessary to improve their environmental performance shares.

This support should provide the basis for a preliminary implementation of an EMS and eventual certification^[10]

CONCLUSION

The figures are unlikely to have pride. Only three companies in the region of Gharb- Chrarda Beni Hssen are certified environmental management.

Among the non-certified companies, only ten companies have a policy of environmental management and consist of large multinational subsidiaries and Moroccan companies.

We noticed that there is lack of environmental culture, non- belief of his interest, lack of information and awareness-raising effort. What we seem to ignore is that the environmental standards allows the company to gain

credit and reputation among some stakeholders.

We summarize below all the weaknesses relating to the management of the environment marked by the companies surveyed:

- The certification according to ISO 14001 or other standards is not an objective for businesses;
- The lack of a clear strategy and well-defined in terms of environmental protection
- The lack of documentation regarding the environment;
- Work planning is not carefully defined so as to prevent environmental impacts;
- The negligence of staff training on environmental objectives and the lack of resources committed by businesses;

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