

Environmental Management and its Impact on Psychosocial Health in Industrial Companies

Soukaina CHARROUD¹, Zakia ERRABIH¹, Kenza RAISSOUNI¹, Salmane BOUREKKADI²

¹Sidi Mohamed Ben Abdelah University (EST), Laboratory: Technologies and Industrial Services, Fez, Morocco

²Poitiers University, France – Ibn Tofail University, Morocco

Abstract. Nowadays, Morocco keeps showing several efforts as part of sustainable development to introduce environmental management measures within companies, no matter what their size or activity field. However, studies prove the impact of these measures on psychosocial risk management which are still limited or inexistent. This paper explores the impact of poor environmental management as a factor affecting health and psychosocial well-being at work. The question is: How can environmental practices contribute to reducing psychosocial risks in the workplace? To answer this question, an experiment including the distribution of a questionnaire was carried out, addressed to 150 employees working in industrial companies in the Larache's region, Morocco. The collected responses show that the psychosocial health of more than ninety percent of those surveyed is directly impacted by living conditions at work. These results indicate that responsible environmental management practices are necessary to improve employee well-being and reduce psychosocial risks in organisations.

Keywords— Environmental management, employee well-being, psychosocial risks management, Sustainable development, industrial company, Morocco.

1 Introduction

Since 1990, green management has been the subject of much debate around the world[1]. Many companies are looking to assume their environmental responsibilities and integrate new ecological criteria determined by public policies to conserve the environment[2].

Morocco is not excluded from this trend, having expressed its interest in environmental management in the Royal Speech delivered in 2005 and by the agreements signed in the

context of sustainable development, which provide for a series of environmental and social requirements to be met[3]. This commitment was confirmed by the holding of COP22-Marrakech in 2016. More recently, in 2017, Morocco drew up its national sustainable development strategy, which is based on the integration of four essential pillars[4], including the environment, while mentioning its active participation in several world events in 2023 in this sense, such as World Environment Day, COP 28 in Dubai[3], etc.

To keep up with the competition and satisfy the requirements of ISO 14001, Moroccan companies have increasingly begun to develop their management methods and consider environmental concerns in their daily administration, to reduce the negative impact of their activities on the environment and the individual. More specifically, these practices, known as environmental management systems (EMS)[5], are based on standards drawn up by professional agencies such as the Moroccan standards institute IMANOR[6].

The integration of an environmental management system can have a positive impact on physical health, as well as the psychosocial health of employees, which is almost negligible in Moroccan enterprises[7].

Creating a safer, healthier environment through measures such as improving air quality, chemical, and better product safety, noise management, etc., can have a direct impact on reducing psychosocial risks linked to stress, anxiety, and the fear of exposure to harmful substances[8], and more specifically in industrial companies, which we see as fertile ground for our research.

The problem addressed by this humble work analyzes the impact of these concerns on the psychosocial health of employees. Therefore, our research question is: how environmental management can reduce psychosocial risks in the workplace?

Our objectives with this paper are to clarify the existing relationship between environmental management and psychosocial well-being at work and to analyze the current situation of some industrial companies based in Larache, Morocco, in terms of applying environmental measures and taking into consideration the psychosocial health of their human capital.

The interest in choosing this topic is mainly due to the following points: Firstly, most studies about externality and the impact of industrial companies' activities on the environment do not consider employees' mental and psychosocial health. Secondly, empirical studies on this subject are limited and almost nonexistent, especially in our region Tangier-Tetouan-Hoceima, so we wanted to fill these gaps.

To achieve our objectives, we have conducted a field experiment that included the distribution of a questionnaire to employees of the industrial companies we had targeted. This investigation aims to touch on all aspects of our issue: corporate environmental responsibility and its influence on psychosocial well-being in the workplace.

For a brief presentation of the results, we have structured our paper using the IMRAD model: introduction, method, results, and discussion[9], we have also added a data analysis section.

2 Method

Our study is part of a positivist paradigm, which requires us to confront assumptions with realities, using deductive reasoning, derived from quantitative methods, to explain these realities[10]. To do this, we carried out a detailed literature review, then we opted for a survey using a Google Forms questionnaire, addressed to the employees concerned. This choice seemed the most appropriate for our study objective, which was to determine the impact of environmental management on psychosocial health in enterprises.

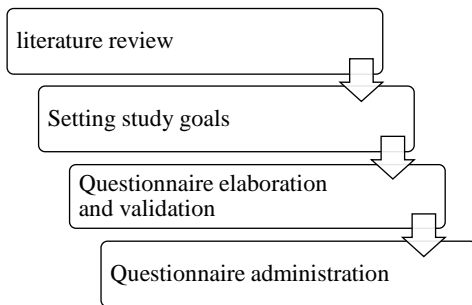


Fig.1 Questionnaire design steps
 Source: elaborated by us

As a field of our study, we selected some industrial companies in Larache city and its regions to distribute our survey form, composed of 15 questions (93% are closed questions) to a sample of 150 employees working in positions directly linked to production tasks. 55.3% of participants are women, while 48% are men (Fig.2), this gender distribution provides an opportunity to explore potential divergences in perception according to sex and age (Fig.3).

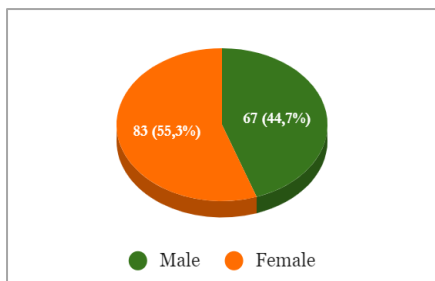


Fig.2: Number of respondents by gender

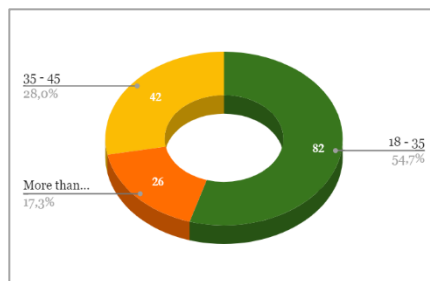


Fig.3: Age distribution of respondents

Source: Questionnaire survey results

To achieve the final results, the study was carried out for a period of three months. We distributed our questionnaire on various digital channels, using LinkedIn, Facebook, WhatsApp, Instagram, and Gmail to share it with the employees concerned, as well as sending it to the people we were in contact with, who work in these firms. These data are analyzed via cross-tabulation and graphics, assisted by Excel and Google Sheets.

3 Data analysis

3.1 Environmental Practices in industrial companies

-After collecting 150 responses from those surveyed working in the Larache region's industrial zone, 71% confirm that their companies implement environmental management practices, while the other 29% state that they do not (fig.4). This proportion is divided according to the companies' type of activity, as illustrated in the dynamic cross graph below (fig.4):

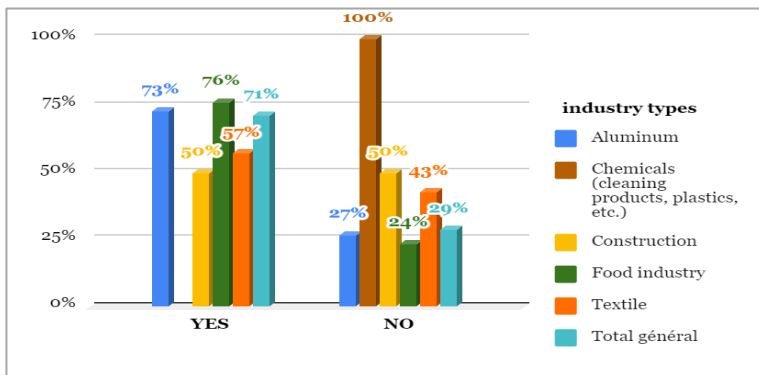


Fig.4: Do you think your company implements responsible measures to protect our environment?
 Source: Questionnaire survey results

-The question about the type of these environmental measures was not mandatory, so we only received 108 responses. The results show that waste and recycling management is the most popular practice at these industrial enterprises (63.9%), followed by others including chemical hazard and toxic substance management (around 50%), rationalisation of water and energy use (48.1%, and 35.2% respectively), and finally nuisance management (23.1%) (Fig.5).

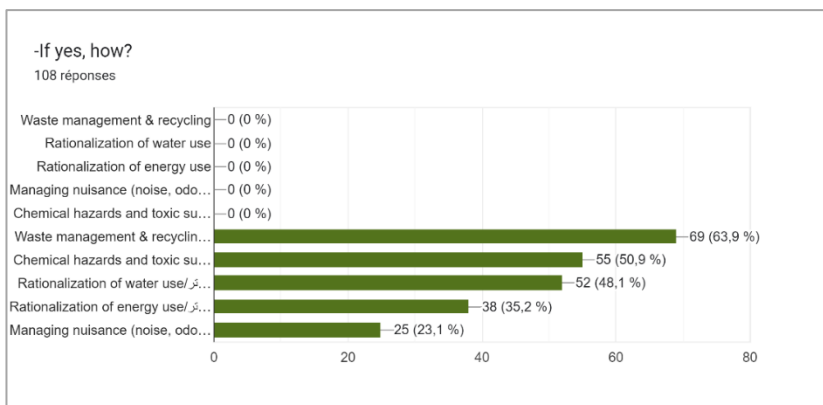


Fig.5: The environmental measures taken by these companies, according to the respondents
 Source: Questionnaire survey results

3.2 Environmental practices related to occupational health and Safety

Based on the answers received regarding the information provided by companies about the risks associated with the hazardous and chemical products used, 69.3% of employees responded "YES", the others suggested that they do not receive that information (Fig.6).

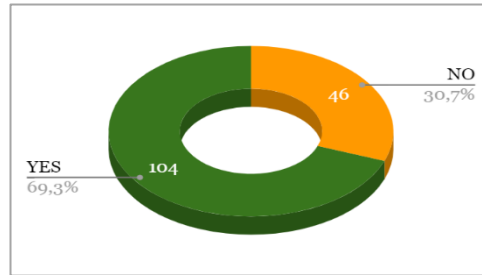


Fig.6-Does your company inform you about all the risks associated with the chemical and hazardous products you use?

Source: Questionnaire survey results

To get closer to our research objective, we asked respondents if their companies implement measures to ensure their safety at work such as cleanliness, access to clean and pure drinking water, and comfortable temperature..., with 88.4% answering "yes" and the rest declaring the opposite (Fig.7). As for the rest area's conformity to hygiene standards, 70% of employees in these companies said that they complied with these norms, while 30% answered "no" (Fig.8).

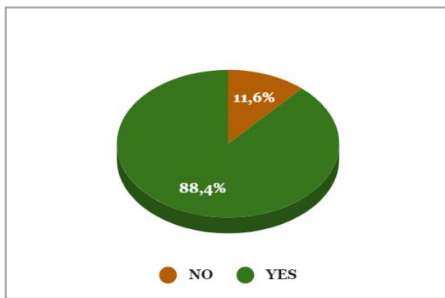


Fig.7: If yes, does it use any measures to ensure your safety (providing personal

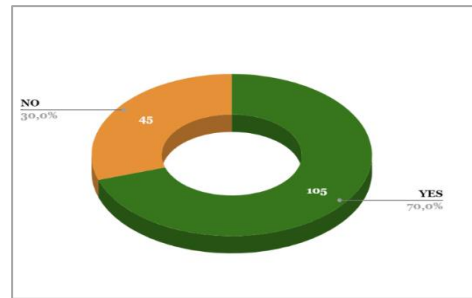


Fig.8: Is the rest area within your company adequate and compliant with hygiene standards?

Source: Questionnaire survey results

3.3 The Impact of environmental management on psychosocial health in industrial enterprises

A total of 89% of 150 employees confirmed that environmental practices have an impact on psychosocial well-being at work, this proportion being slightly higher for men (91%) than for women (88%) (Fig 9). Only 11% of respondents found no relationship between the two parameters.

Another question was asked about the impact of workplace conditions on psychosocial risks, with almost all surveys (98.7%) indicating that noise, heat, or inadequate lighting can increase stress and anxiety levels (Fig.10).

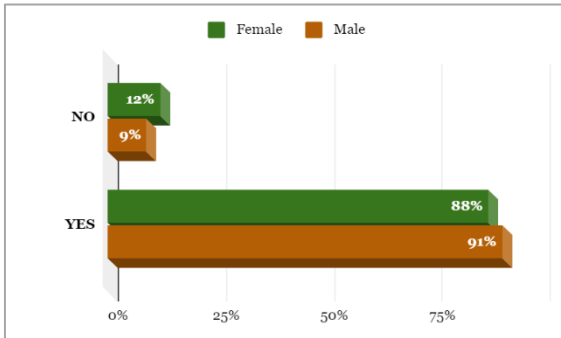


Fig.9: Do you think that these management practices impact your psychosocial well-being at work?

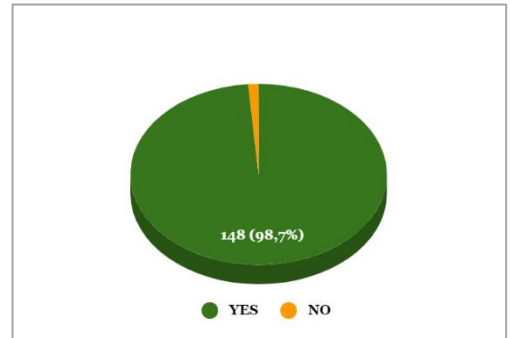


Fig.10: Do you think that noise at work, heat, or bad lighting can increase your level of stress and anxiety?

Source: Questionnaire survey results

-A dynamic cross-analysis revealed that 92% of participants said that tasks related to chemical and hazardous products generated a high level of anxiety and fear of exposure to danger (Fig.11), whilst a low percentage of 8% (7% of employees aged over 45) felt that these tasks had no influence (Fig.12).

-The last closed question asked whether weak environmental management leads to a lack of enthusiasm and motivation at work. 95.3% confirmed this assumption (Fig.13).

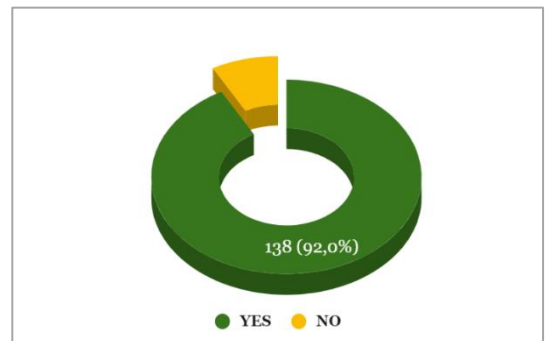
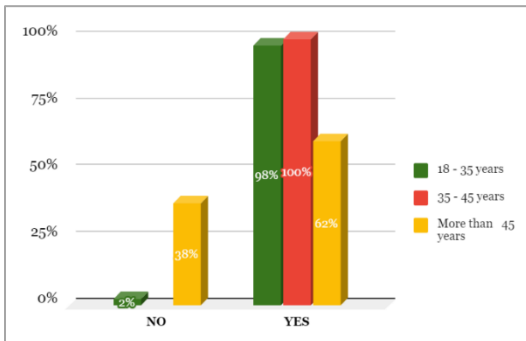


Fig11 & Fig12: If your task is related to these types of chemicals, will it affect your psychosocial health, such as living in constant worry and fear of being exposed to dangers?

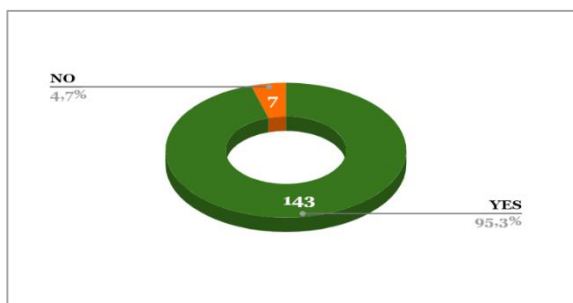


Fig.13: Does inadequate environmental management inside your company can result in a diminished level of motivation at work?

Source: Questionnaire Survey results

4 Results

The survey showed that corporate environmental responsibility has a direct impact on psychosocial risk management among workers, with high levels of stress, anxiety, fear, and burnout strongly linked to working conditions.

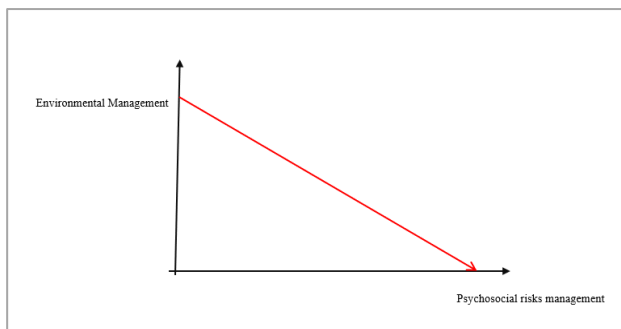


Fig.14 The impact of environmental management on PSR
Source: *Questionnaire Survey Results*

Industrial companies in our region are increasingly taking their environmental responsibilities into account, to minimize negative externalities through concerns such as waste management, nuisance management, rationalization of energy and water use, etc. (Fig.5). However, these practices are limited, with a significant proportion of respondents seeing that they are not part of this strategy. The problem of asymmetric information concerns the hazardous materials used, noise, heat, poor lighting, dirt, and the unorganised nature of the work environment. All of these factors have an impact on employees' psychosocial well-being, which can lead to health disorders, but also to reduced productivity, and consequently lower revenue for these companies.

Indeed, the psychosocial health of young people is much more affected by environmental mismanagement, and this can be explained by the fact that they are more susceptible to negative long-term effects. This category of respondents gave us several recommendations and suggestions for improving the effectiveness of environmental strategies within their organisations, which we will explore in the discussion section.

5 Discussion

The effects of psychosocial risks on employee health and company processes illustrate the importance of a responsible approach to environmental management that places individuals at the core of daily considerations[6]. When we talk about psychosocial risks, we're talking about a series of factors that can generate psychosocial pathologies, which means that a risk prevention strategy is necessarily based on these elements, including the environment and working conditions[11].



Fig.15 Psychosocial risk factors

Source: *prevention guide for psychosocial risks in the workplace*[12]

So far, Moroccan enterprises ignore the psychosocial healthcare of their human capital, and this is simply because there is no legal instrument in the country's labour code covering these types of occupational risks[13]. This situation puts workers in a difficult position, as they don't know where to turn for assistance. That's why the turnover is increasing more and more, and it's one of the biggest challenges facing the organisation's human resources department. Many employees leave their jobs because the workplace environment is inappropriate[14].

The analyses carried out above show that the relationship between environmental management and psychosocial well-being is significant. Ninety-five percent of respondents confirm that motivation at work is impacted by the environmental ecosystem: minimising noise, promoting better air quality and lighting, reducing exposure to hazardous products, and improving hygiene standards, all these factors play a vital role in the prevention and reduction of psychosocial risks (stress, anxiety, fear, burnout, etc.).

To improve environmental management, the participants in our research suggest several recommendations, including the importance of regular environmental audits to evaluate the effectiveness of the measures put in place, as well as compliance with ISO 14001 standards. In addition, planning awareness-raising training sessions for personnel to integrate them into a responsible strategy that aims to create a culture of preserving natural resources within the company[15].

This study presents a very important opportunity to highlight an ignored element in industrial companies of Morocco, which is the psychosocial dimension of employees and invisible factors that have a direct impact on stress levels and burnout in the workplace[16]. For this reason, we carried out a field survey to get closer to the viewpoints of the stakeholders involved, which helped us to confirm our hypothesis constructed from the literature research we did. The results demonstrate that a successful environmental management system contributes positively to the reduction of psychosocial risks in the enterprise.

Research limitations: As with all research studies, a series of obstacles were faced, such as the absence of specific information about the strategies adopted by the companies we targeted, as well as obscurity regarding environmental management practices in daily business, also a lack of scientific papers and publications examining the relationship between environmental management and psychosocial risks in the workplace.

6 Conclusion

In general, it's recommended to adopt a collaborative, multidisciplinary strategy of responsible environmental management that involves all the organisation's parties, including employees[17], in order to control one of the risk factors within companies, especially those engaged in industrial activities. This approach provides advantages for both sides of the organisation, promoting an improved working climate, increased productivity, and lower costs. For employees, it means greater job satisfaction and a reduction of work-related health disorders.

As a reminder, our issue focuses on the impact of environmental management on stimulating health and psychosocial well-being in industrial companies. To answer this question, we conducted a theoretical literature search and an empirical analysis to understand the relationship between these two variables. The investigations carried out allowed us to establish many findings regarding the importance of these concerns in the improvement of conditions of work life as well as the minimization of psychosocial risks generated by environmental factors. The originality of our contribution resides in the way it covers a new topic that has not yet been explored in Morocco.

Future research: Based on the conclusions obtained, various areas of future studies can be envisaged, conducting a study on:

- Psychosocial risks in Morocco, between knowledge and absence of regulation;
- Developing a guide to preventing psychosocial risks in Moroccan companies;
- Another example, is stress management associated with the use of hazardous chemicals in industrial companies.

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