Article

Print Media Coverage of Environmental Issues in the COVID-19 Pandemic: An Ecolinguistic Analysis

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A B S T R A C T

The coverage of environmental issues is of great importance to Moroccan newspapers, namely As-Sabah, Al-Akhbar, and Al-Massae. The present study explores the frequency of articles that covered environmental issues and investigated the newspapers' professionalism in writing environmental reports on man's environmental setting violations. The Research was accomplished through the framework of ecolinguistics to categorize and analyze all environmental stories that extended from March to July 2020. The sums of 308 issues of the three newspapers were manually checked to identify the issues reported about environmental problems. The findings revealed that environmental coverage by the three newspapers was feeble. Precisely, only 73 newspaper issues pertaining to the three newspapers contained at least one environmental title. Practically, identified environmental articles were manually searched and treated based on a keyword selection such as environment, forest, animals, water, pollution, air, irrigation, deforestation, and overgrazing, among other words. In total, the final sum of environmental articles published by the three newspapers during the COVID-19 period were 92 articles (1.8%) over 4922 total articles published by 73 issues. The role of print media is determinant in covering environmental topics to maintain the public informed about the protection of environmental resources during the COVID-19 pandemic. Unfortunately, this role is far from being achieved given the feeble interest devoted to environmental issues and the way through which the newspapers have produced environmentally based stories. To remedy this situation, some recommendations are afforded to improve the writing of environmental reports in line with ecolinguistics principles and environmental journalism ethics.

I. INTRODUCTION

For decades, the media has treated the environment as an issue that concerns human existence. Since the late 1960s and by the 1980s, the environment has become a specific issue of public and political concern that is attracting mainstream media's attention by negotiating access and shaping meanings (Das, Bacon & Zaman, 2009; Lester & Hutchins, 2009). For many decades now, the attention of media studies has focused on how media covers environmental and sustainability issues (Mazur & Lee, 1993; Bell, 1994; Demeritt, 2001; Carvalho & Burgess, 2005; Andreadis & Smith, 2007; Lewis & Boyce, 2009; Chubb & Bacon, 2010; Doyle, 2011; Ouazouze, 2014; Ford & King, 2015). The role that media plays in raising environmental awareness among the public is measured according to its ability to socially construct opinions and meaning around global warming, pollution, and deforestation (Dispensa & Brulle, 2003).

In the aftermath of the 22nd session of the Conference of the Parties to the United Nations Framework Convention on Climate Changes

(COP22), which took place in Marrakesh from November 7 to 18, 2016, a meeting was organized by the High Authority of Audiovisual Communication (HACA) around the theme 'Media professionals, major players in the protection of the environment'. Immediately after, a National Media, Environment, and Sustainable Development Charter (NMESDC) was signed by many national institutions, ministerial departments, territorial authorities, the private sector, research institutes, the audiovisual, and the print media.

Literally, the NMESDC aims to strengthen national media's impact to meet the major challenges facing Morocco regarding environment and sustainability. Having that said, the interest that the print press gives to the environment in Morocco is a topic that needs investigation to provide a comprehensive analysis of the role of the Moroccan print media in communicating environmental issues during the COVID-19 pandemic. In this sense, the present study will look at how *As-Sabah, Al-Akhbar, and Al-Massae* daily newspapers handled information on man's violation of the lockdown environment during the lockdown started in the mid-March 2020 and was slowly alleviated by the end of July.

Over the past four months, the kingdom has experienced a real health crisis related to the spread of COVID-19 disease that was countered by a state of health emergency declared by the Moroccan government since March 20, 2020. Admittedly, the media bears a great responsibility in informing people about an uncertain enemy because never before had a health crisis been covered by media. Its role has been primordial during the COVID-19 pandemic in reporting the consequent impact of the restrictions on individuals' movement (Barnes et al., 2020; Mejia et al., 2020). Locally, no one can deny the efforts deployed by print media to inform people about the contagion risks and the protection measures to face the disease.

Early in March 2020, the Moroccan print media produced many articles on the virus, a contagion that remains little known to even scientists. The three newspapers under study heavily reported confinement topics, the medical staff's efforts, sports, cooking, and entertainment, among other themes. Despite the importance of environmental issues, there is often a gap in media coverage while dealing with the environmental crises when it comes to their causes, the stages they have been through, the responsibility of authorities, and their repercussion on other spheres of life. Furthermore, Luedecke and Boykof (2017) claim that media intervention, which seeks to enhance understanding of complex and dynamic human– environment interactions, often runs contrary to "journalistic norms and values like personalization or novelty. As a result, vague and decontextualized reporting confuses rather than clarifies understanding and engagement on environmental issues" (p.3).

For Stocking, and Leonard (1990), Kaul (2017), and Abou-Doun (2019), the lack of information available for journalists working on environmental issues, complicates their mission to recreate, visualize and portray environmental realities since associated disasters involve abstract and probabilistic science, laws, politics, speculative economics, and the complex interplay of individuals and societies. As a matter of cat, journalists, who are most of the time generalists with little training in science or the environment (Kaul, 2017), fail to encompass the multifacetedness and interconnectedness of the environmental problems (Yang, 2008). In fact, it is not possible to talk about environmental media in the absence of specialized Moroccan environmental journalism that adopts a scientific, understandable, and clear treatment of environmental issues. Furthermore, there is an observed gap in the literature that needs to be filled when it comes to the study of environmental narratives in print media. To examine the visibility of environmental issues during the COVID-19 health crisis, the aim of the present study is: 1) to evaluate the importance and interest of environmental concerns in the Moroccan three printed newspapers, 2) to identify the environmental themes often discussed by the newspapers, and 3) to formulate concrete actions to improve the coverage of environmental issues in the written press. What place did the Moroccan printed press give to environmental violations in the COVID-19 pandemic? Is the Moroccan print media sufficiently playing its role of informing and warning about the environment during the COVID -19 pandemic? What were environmental topics mostly used by Moroccan print media in the COVID -19 pandemic?

The media is a public space where politics, sport, economy, and environmental issues are reported:

"media critically contribute to the architecture of these spaces" (Boykoff & Luedecke, 2016, p.1). In the last few decades, many environmental disasters (global warming, pollution, and deforestation) have been recognized as the most treated environmental issues by the media (Dunwoody & Peters, 1992; Nitz, 2001; Boykoff & Boykoff, 2004; Boykoff, 2011; Luedecke & Boykof, 2017).

At the same time, many studies have pointed out that media coverage of these environmental crises appears to have many shortcomings. For instance, news coverage of violations has been affected by inconsistencies, distortions, cyclical and sporadic attention, and a misrepresentation of data (Adler, 1992; Greider, 1992; Boyle, 1993; Salmon & Glasser, 1995; Nitz & Jarvis, 1998; Shanahan & McComas, 1997; Nitz, 2001). Despite that, sustained and quantitative media reporting of environmental issues is an issue that has attracted the interest of many scholars.

By way of illustration, a report by Miller and Pollak (2013) on coverage of environmental headlines among 30 news media organizations in the United States of America revealed that entertainment headlines were three times more covered than environmental problems. The same study assumes that Fox News had the highest percentage of environmental stories and CNN had the lowest among television networks. Among print media, Miller and Pollakmentions that the Huffington Post was the environmental coverage leader for nationally focused news organizations.

Differently, a study carried out by Abi-Karam (2013) on the Lebanese printed media assumes that the environmental issues covered by the printed press were superficial and demonstrated no sufficient in-depth analysis. For Abi-Karam, the print media in his country press is very far from acquiring investigative environmental journalism. In the same line, a Spanish longitudinal study by Castrechini, Pol, and Guàrdia-Olmos (2014) was carried out on the representation of environmental issues in 1039 news articles belonging to two newspapers (*La Vanguardia* and *El País*) during a period that ranged from the Rio Earth Summit to several years after the Johannesburg Summit (1992–2006). For instance, Castrechini *et al* reveal an increase in environmental news during the period of analysis and an increased variety of themes addressed and

represented. Their results evidence significant urban problems in recent years and a movement from "scientific to political discourse and a change towards greater reflection and social recognition of the relevance of environmental issues" (Castrechini et al., 2014, p.213).In the COVID-19 situation, communication of verified and filtered information to the public has been critical (World Health Organization, 2017) in that the population has not been properly informed about protective measures regarding the disease (Khan, Ali, Siddique & Nabi, 2020). Correspondingly, people have faced serious psychological distress due to the dissemination of fear and mass circulation of falsehoods that have spread as fast as the virus itself (Ren, Gao & Chen, 2020; the United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2020).

As human behavior has changed due to the COVID-19 disease, man's impact on nature and the environment changes too in that pollution's level has shown major reduction (Rousseau & Deschacht, 2020). Extraordinarily, one of the paradoxical consequences of the global crisis triggered by the COVID-19 is its impact on the environment that has caused sharp declines in pollutant emissions across the world's most populated cities (Garcia, 2020; Helm, 2020; Hernandez, 2020). Concretely, the forced quarantine measures imposed by affected countries resulted in significant reductions in global CO_2 emissions, mostly due to changes in surface transport (Le Quéré et al., 2020), a decrease in nitrogen dioxide pollution over northern China, Western Europe, and the United States of America (Bauwens et al., 2020), and improvement of water quality in India (Yunus et al., 2020).Unfortunately, when many environmental crises have been declining or improving, mainstream media have lost sight of environmental coverage and awareness raising.

To illustrate this fact, a recent study by Texier (2020), carried out in France during the COVID-19 pandemic, identified more than 3,000 French media titles related mostly to the concepts of confinement, epidemic, health, pandemic, mask, hospital, deaths, patient, and doctor among others. While the news has been abundant on the pandemic, Texier's study does not mention any concept or title of an environmental nature whatsoever.Analogously, Asselin (2020), who examined the major symbolic
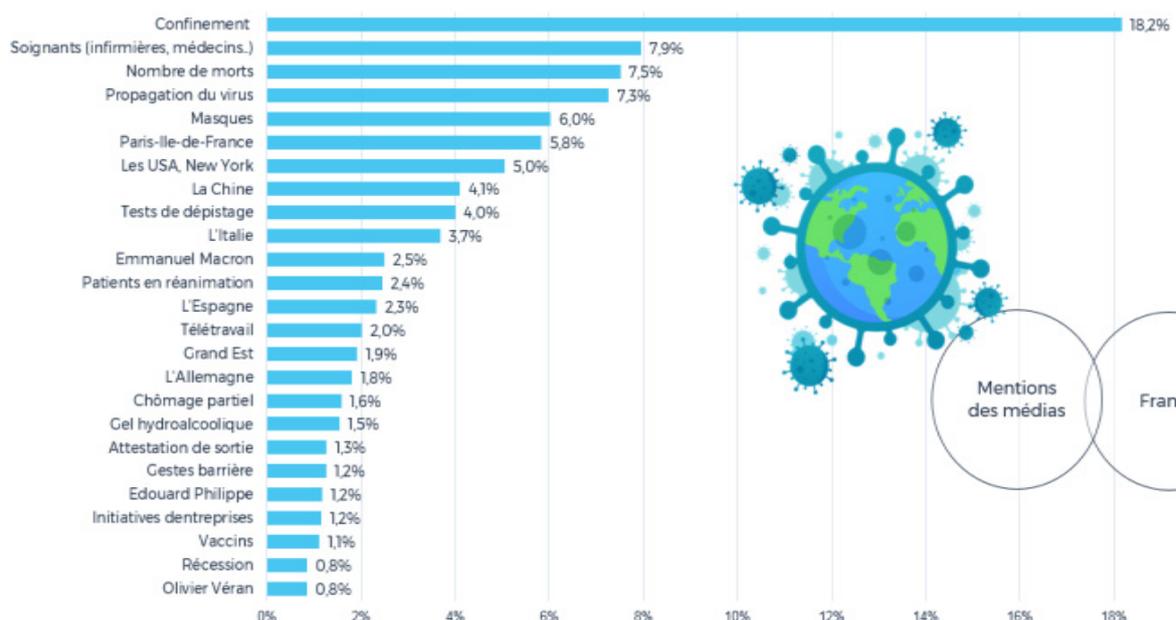
Figure 1. Covered Topics by French Media in COVID-19 (Asselin, 2020)

themes covered by French media during the COVID-19 pandemic, admits that most of the reports were on the virus's spread, the confinement, medical and health personnel, and the number of deaths of COVID-19. It is worth mentioning that the results obtained in Asselin (2020) do not show any statistics on the disclosure of environmental crises in France during the COVID-19 pandemic (see figure 1).

Even though the environment has become a global preoccupation in the COVID-19 era, its coverage seems very limited in the Moroccan media. Actually, No one can deny the unprecedented and critical experience that the Moroccan printed press witnessed during this period. The daily newspapers devoted considerable energy to communicate news despite fear of covering the facts from hospitals where confirmed cases were treated. In this sense, a timeline drawn by Kasraoui (2020) shows the chronology of events that the Moroccan press covered in the COVID-19 pandemic in Morocco. Accordingly, most media coverage spotted the measures implemented to inhibit the disease and address the impacts of the lockdown across social and economic sectors (Kasraoui, 2020). However, there is no scientific evidence for media reporting on environmental issues during the pandemic in Morocco; even so, some media reports have shed light on the Moroccan press's performance in the COVID-19 time and the many hardships it faced. Illustratively, the reports focused on the impact of

the COVID-19 in weakening the financial revenues of many daily newspapers that we're unable to pay their journalists (Abde-Samad, 2020; Ali Mrabi, 2020; Douyeb, 2020; Lamrabat, 2020)

Ecolinguistics

Within the ecolinguistics framework dictated in Stibbe (2015), this Research analyzes the environmental articles published by the three daily newspapers during the COIVD-19 pandemic. Specifically, this study examines the environmental stories from an ecological perspective covered by *As-Sabah, Al-Akhbar, and Al-Massae* dailies, to see if they "encourage people to destroy or protect the ecosystems that life depends on. If they are destructive then they need to be resisted, and if beneficial they need to be promoted" (Stibbe, 2015, p. 2). In his book "Ecolinguistics language, ecology, and the stories we live by" Stibbe (2015) assumes that ecolinguistics analyses language to reveal the stories we live by, judges those stories from an ecological perspective, resists damaging stories, and contributes to the search for new stories to live by.

Furthermore, Stibbe explains that ecolinguistics is an umbrella term for a wide range of approaches, with different aims and goals covering eight types of story: ideologies, framings, metaphors, evaluations, identities, convictions, erasure, and salience. As far as a metaphor is concerned, Stibbe posits that it is a type of framing where the source frame is

from a concretely imaginable area of life distinctly different from the target domain. In the domain of ecolinguistics, Stibbereckons that metaphors are a type of framing which can be particularly powerful and vivid since they use a specific, concrete, and clearly distinct frame to think about an area of life, for example, 'CLIMATE CHANGE IS A TIME BOMB', 'CLIMATE CHANGE IS A ROLLERCOASTER', or 'CLIMATE CHANGE IS AN ANGRY BEAST'.

Differently, environmental ecolinguistics is concerned with communication that unites researchers, and which Milstein, Littlejohn, and Foss (2009) summarize as "Research and theory within the field are united by the topical focus on communication and human relations with the environment. Scholars who study environmental communication are particularly concerned with the ways people communicate about the natural world because they believe such communication has far-reaching effects at a time of largely human-caused crises" (p.344).

Accordingly, the present study limits itself to the principles of ecolinguistics dictated by Stibbe (2015) to redirect the way environmental issues are covered by print media. We live in a time of social, technological, and industrial advents that media treatment of environmental problems lies in how the stories are written. For more than twenty years, ecolinguistics emerged as a new field of study within the realm of linguistics, a branch that investigates interactions between any given language and its environment (Haeckel, 1866; Haugen, 1972; Haugen, 2001). At first glance, the discipline seems a concept that binds language and ecology, two separate aspects of life that look independent from each other. In fact, ecolinguistics is interested in how people construct discourse about environmental issues.

According to Stibbe (2015), ecolinguistics is a field of linguistics that explores "the general patterns of language that influence how people think about, and treat, the world" (p.1).Similarly, Couto (2013; 2015) stipulates that ecolinguistics studies the relationships between language and environment and the verbal interactions inside the linguistic ecosystem. Basically, it reflects how discourses of the media, politics, advertising, and economics shape the way people think and treat the environment. Many studies have been conducted on the role of language in society, particularly when the discourse is connected to the natural environment (Trim, 1959). Following Haugen's notion of 'language ecology' (Haugen, 1972), many linguists have established the principles of ecolinguistics as a new branch in linguistics to examine the relations between language, ecology, and society (Fill, 1998; Halliday, 2001; Haugen, 1971; Mühlhäusler, 1996, 2000, 2002, 2003; Mühlhäusler & Fill, 2001; Mühlhäusler & Peace, 2006).

Halliday (2001) claims that the destruction of species, pollution, and the like are not just problems for the biologists and physicists but are concerns of the applied linguistic community. In this sense, many ecolinguists have embraced environmental discourse analysis, often known as eco-critical discourse analysis (EDA) (Couto, 2015), and the language of ecology and environmentalism (Nash, 2015). The contemporary analysis of environmental discourse analysis, including EDA, is the part of ecosystemic linguistics that deals with discourses and texts and places life on earth in the foreground (Couto, 2015). In this framework, Couto recognizes that EDA is now a branch of ecolinguistics that emerged in the University of Brasília and the Federal University of Goiás to study issues that mix ecology and linguistics.

In the Moroccan context, ecolinguistics flourishes thanks to a body of Research emerging among the English Department in the Moulay Ismail University of Meknes. The studies adopted ecolinguistics to deal with different issues like environmental narratives in English textbooks (Mliless & Larouz, 2018), green public service advertising (Mliless, Larouz & Yachoulti, 2019), environmental discourse in Moroccan eco-documentaries (Mliless, 2020), and experts' discourse in eco-documentaries (Mliless & Azzouzi, 2020). Of great importance to the analysis of print media coverage of environmental issues in the COVID-19 pandemic, this study uses ecolinguistics to study the mechanisms by which environmental issues are linguistically represented in Moroccan print press discourse. Precisely, this study examines the extent to which stories on man's exploitation of the environment were accurately written in compliance with the principles of

ecolinguistic mentioned in Stibbe (2015).

Most of the time, environmental journalism is characterized by mass nouns, abstract concepts, and erasure (Cáceres, 2019). It should be clarified that mass nouns, which are abstract concepts that generalize and homogenize, are an ensemble of entities that can create erasure patterns. As for erasure, Stibbe (2015) argues that it is a story that renders an area of life unimportant or unworthy of consideration "through manifestations of language patterns that fail to represent a particular area of life at all, or which background or distort it" (p. 17).

To explain this concept, Stibbe says that erasure involves many types: 1) the 'void', where something important is completely excluded from a text, 2) the 'mask' where it is erased but replaced by a distorted version of itself, and 3) the 'trace' which occurs when language representing the natural world obscures it and leaves faint trace rather than a vivid image. Print media could be impactful when it treats and portrays environmental issues following the ethics of journalism and professional methods of collecting, verifying, and reporting on environmental issues. Unquestionably, environmental issues are highly topical, and some journalists may not have the adequate professional experience to objectively report about them (Abou-Doun, 2019).

In order to surmount the linguistic challenges when reporting about environmental issues, Kaul (2017) admits that the quality of environmental media writing should be improved and journalists should use the best sources to educate, expose and encourage the audience to preserve the environment. For this aim, Kaul argues that science and environmental journalists should collaborate "to make complex issues comprehensible to fit the daily environment in that the information should be translated and technical matters lucidly explained by journalists" (p.694). Within the framework of ecolinguistics (Stibbe, 2015), the present study uses linguistic analysis forms as traditional critical discourse studies. The framework it operates in considers not only the way Moroccan print media covered environmental issues in the COVID-19 period, but it is concerned with the extent to which the three newspapers succeeded in composing

environmental articles. Eventually, ecolinguistics permits this study to analyse media discourse and explore those which encourage ecologically destructive behavior and seeking out those which encourage relationships of respect and care for the natural world (Stibbe, 2014).

II. METHODS

Related to the coverage of environmental problems by Moroccan print media, the present Research aims at alleviating the role of three newspapers in reporting about man's violation of the natural environment in the lockdown that took place between the middle of March and the middle of July of the year 2020. Genuinely, the lockdown restrictions on the population's movement resulted in a large reduction in individuals' activities and associated degradation like pollution and carbon emissions. Despite that, there were several instances when humans violated the lockdown restrictions and committed appalling crimes to natural resources. Relying on the newspapers' websites, the present article examines the extent to which print media succeeded in composing and covering efficient environmental reports and articles. In practical terms, 308 newspapers' issues were individually checked to determine the articles that chronicle environmental issues. It is no wonder that environmentally based articles were not sufficient enough.

Throughout the three newspapers, only 73 issues have tackled environmental disasters. As for the disclosure of environmental articles, we searched for all the reports that addressed environmental concerns based on non-exhaustive list of keywords that included but was not limited to the words such as 'air', 'animals', 'pollution', 'soil', 'sand', 'trees', and 'water' among others'. Subsequently, the operation permitted us to locate 92 articles that were deeply attached to environmental problems. Once all the information has been collected, the data were categorized into topics and services. The concept of theme, a pivotal tool in social sciences to categorize data or texts, bears many different names such as 'categories'(Glaser & Strauss, 1967), 'codes'(Miles & Huberman, 1994), 'labels' (Dey, 1993), 'incidents' (Glaser & Strauss, 1967), 'segments' (Tesch, 1990), 'thematic units' (Krippendorf, 1980), 'data-bits'(Dey, 1993),

'*chunks*' (Miles & Huberman, 1994), or '*concepts*' (Strauss & Corbin, 1990).

Based on Ryan and Bernard (2003), our analysis focused on content by putting news stories into categories to answer some of the most important and most interesting questions related to the alternation of environmental issues. For Ryan and Bernard (2003), the categorization of data into themes is a multifaceted technique that involves several tasks: "discovering themes and subthemes, winnowing themes to a manageable few (i.e., deciding which themes are important in any project), building hierarchies of themes or codebooks, and linking themes into theoretical models" (p.85). In this sense, texts were converted and classified according to Ryan and Bernard (2003) framework, which is based on a) '*an analysis of words*' (word repetitions, key-indigenous terms, and key-words-in contexts); b) '*careful reading of larger blocks of texts*' (compare and contrast social science queries and searching for missing information); c) '*intentional analysis of linguistic features*' (metaphors, transitions, connectors); and d) '*physical manipulation of texts*' (unmarked texts, pawing, and cut and sort procedures). In the issue at hand, the present study opted for '*Key-words-in-context*', a deconstruction technique used by Ryan and Bernard (2003) to systematically observe and identify keywords and systematically search corpora and texts. The goal of which is to find all instances of the word or phrase by being physically sorted into piles of similar meaning.

Based on this methodology, this study examines the representation of environmental issues to answer the following questions: What is the place of natural and environmental issues in the *As-Sabah, Al-Akhbar, and Al-Massae* daily newspapers? Which environmental issues were mostly covered? Were the environmental reports adequately formulated based on the ecolinguistic framework of analysis?

III. RESULTS

Moroccan print media is important in the fight against environmental deterioration in the COVID-19 pandemic. It has a great responsibility in promoting environment and sustainable development awareness among the general public. Since March 20 2020, the date when the first COVID-19 case was confirmed, the three

newspapers (*Al-Massae, Al-Akhbar, and As-Sabah*) suspended publication of hard copies and decided to assign free online access to e-paper versions. Due to the financial predicament imposed by the COVID-19 propagation, most publishers and owners of the print press called for governmental support. Despite this complication, the print media made considerable efforts to supplement the information to the public. In this sense, the present study's objective is to examine the extent to which the Moroccan print press succeeded in maintaining the pendulum between news related to the pandemic and the environment that arose during the COVID-19 period, notably illegal violations and uncontrollable exploitation of natural resources.

3.1. General Results of the Three Newspapers

The print press is the oldest information medium. Each day the three daily newspapers summarize most of the information and prioritize it in its webpages. Newspapers in general, especially those investigated in this study, covered many listed issues according to table one below. For the *Al-Massae* daily, the indexing of the content and the ordering of headings and titles show the nature of the newspaper's topics in the COVID-19 period.

According to the categories of topics, *Al-Massae* publishes stories and reports that fall within the themes of 'Social Event', 'Regions', 'Cooking', 'Announcement', and 'Sport' among others. Following the same line, the *Al-Akhbar* newspaper covered the spheres of 'Politics', 'Cities', 'Economy', 'Culture', 'Sport', and 'Reports'. Within *Al-Akhbar* daily, it is noticed that the domains of 'Reports' and 'Sports' took three to four pages in every issue. As for the *As-Sabah* newspaper, covered headings and titles were published under the themes of 'Home News', 'Confronting Corona', 'Justice', 'Art and Television', and 'Sport'. Though some headings took one page, the category of 'Confronting Corona', 'Justice', and 'Sport headings have more than that. For example, the heading of 'Sport' in *As-Sabah* newspaper took four pages. The portrayal of environmental crises during the pandemic has been examined by checking all issues from March 20 until mid-July, 2020.

As indicated in table 1 below, the numbers show that 303 issues published in this period were inspected

Table 1. General statistics about the three newspapers

Periodicals	Issues	Issues with Environmental Topics	Total Articles	Environmental Titles	National	Global
Al-Massae	96	12	761	13	10	3
Al-Akhbar	83	24	1989	32	32	-
As-Sabah	129	37	2179	47	18	29
Total	308	73	4922	92	60	32

among which 96 (31.6%) pertain to *Al-Massae,* 83 (27.3%) were published by *Al-Akhbar,* and 129 (42.5%) belong to *As-Sabah*. More particularly, 73 (24.9%) issues among a total sum of 303 issues reported about environmental problems during the COVID-19 pandemic. In more details, the study found that 12 (16.4%) belong to *Al-Massae*, 24 (32.8%) occur in *Al-Akhbar*, and 37 (50.6%) of *As-Sabah*. Concerning the environmental topics highlighted by the three newspapers, the results related to *Al-Massae* newspaper indicate that 10 headlines documented national environmental issues and 3 were dictated to global issues. In the same line, the results of *Al-Akhbar* daily indicate that all environmental stories were national. Finally, the results related to *As-Sabah* newspaper indicate that on the 47 covered environmental headlines, 18 stories were national and 29 were global.

Media interest in environmental issues fluctuated over the interval period, peaking in May 2020. The coverage of environmental issues remained relatively discrepant during the study period except for increases in the number of environmental articles in June and in April of the same period. The surge in media interest in environmental issues may be attributed to reported violations despite the government's state of health emergency to stop the disease from spreading. The subsequent decline in coverage in extremes, March and July, may be rendered to the dwindling number of registered violations of environmental properties as the country declared quarantine measures in March and ended the confinement in July. In the first month, people were reported to have fully complied with the regulations and as for July, this month marked the return to normal life after lifting the lockdown restrictions.

3.2. Results of Al-Massae Newspaper

The pivotal period ranges from March to July,

when the international community declared a worldwide health emergency. Many countries envisaged the lockdown as the perfect measure to stop the spread of COVID-19. On this occasion, the *Al-Massae* newspaper published 13 environmental articles on the environment in 12 issues. Most of the stories were put inside the newspaper as shown in appendix 1. Looking at the environmental topics published by *Al-Massae* daily, it is crystal clear that the environment is a very minority theme.

According to themes, a scan of the 12 issues of *Al-Massae* containing environmental topics shows an unparalleled distribution of articles. Given the fact that there is no Arabic based software to count and categorize articles and headlines, the identification of articles was made manually. Over the 12 issues of *Al-Massae*, the present study counted 761 articles that pertain to different spheres of life, the classification of which depicts unparalleled distribution regarding the magnitude of environmental themes covered by the newspaper. For instance, environmental titles were the least theme to be addressed by the newspaper 13 (1.7%); meanwhile, other themes have been widely covered such as 'Sport' (17.7%), 'Events' (14.1%), and 'Justice' (12.3%). As for the least ones, 'Reports' (3.5%), 'Interviews' (3.2%), and 'World News' (2.7%) are located at the bottom (see figure 2). Being the least covered topic by *Al-Massae* newspaper, weak coverage of environmental problems reflects the newspaper's feeble interest to man's violations and exploitation of natural resources at the height of the quarantine measure to limit the spread of the COVID-19.

The distribution of environmental themes in the *Al-Massae* newspaper during the COVID-19 period (figure 3) shows that a great part of the topics covered by the newspaper were devoted to the elements of 'water' (30.8%), 'forests' (30.8%), 'animals' (30.8%), and 'pollution' (7.7%). Finally,
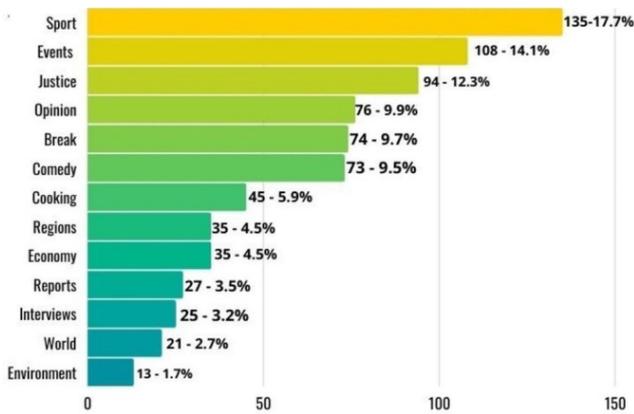
Figure 2. Topics Covered by Al-Masae Newspaper

a flagrant observation concerning this newspaper is that all the published environmental headlines appear either in the middle or in the newspaper's final pages.
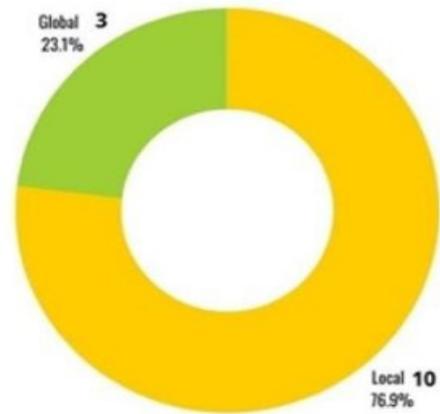

Figure 3. Distribution of Environmental Themes in Al-Massae Newspaper

Regarding the dispersion of environmental topics in time, figure 4 below indicates that related stories were published in April (4), May (3), and July (4).

Figure 4. Time Distribution

Figure 5. Geographical Distribution

As for the geographical distribution, the representation of environmental stories in the newspaper (figure 5) reveals that the environmental matters' treatment was national, as almost three quarters (76.9%) of topics took place in urban and rural locations. However, it should be noted here that only three of the environmental subjects in the *Al-Massae* newspaper have universal or global tendencies.
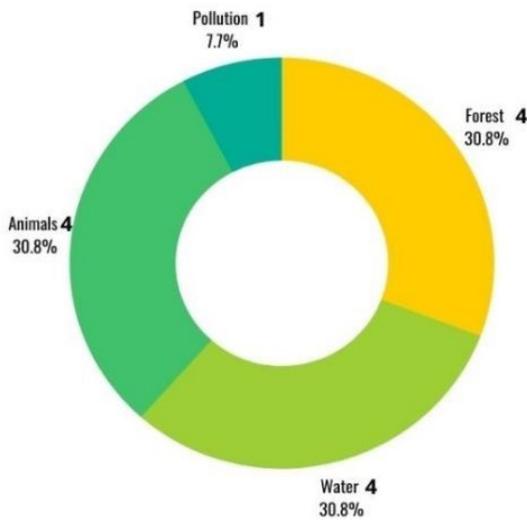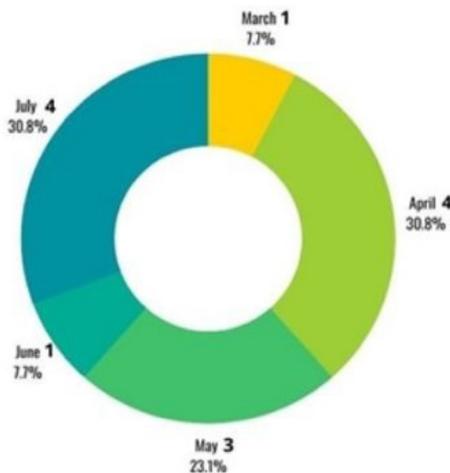
3.3. Results of AL-Akhbar Newspaper

During the Coronavirus period, the *AL-Akhbar* newspaper published 24 issues (7.9%) of the total issues posted online during the COVID-19 era and which contain at least one article on man's exploitation of natural elements. In this context, the results indicate that *AL-Akhbar* newspaper published 32 environmental articles. Specifically, this study detects that the environmental topics disseminated in 24 issues were 32 articles. Based on this evidence, the environment remains a minority theme for the newspaper compared to the themes of politics, health, economy, sports, and even cooking. The newspaper gave ample importance (See appendix 2). A scan of the 24 issues of *AL-Akhbar* that contains environmental information that shows an unparalleled distribution among the most discussed themes during the COVID-19 pandemic. For instance, the scattering of 1989 headlines across 24 issues exhibits that environmental cases (32) are feebly reported with a 1.6% percentage. Similarly, this study assumes that other areas of life have been insufficiently documented such as 'Education' (2.1%)), 'Justice' (2.2%), and 'Economy' (5.6%); meanwhile, other issues, like 'Sport'(23.1%), 'Reports' (11%) and 'Cities & People' (12.3%), were assigned broad coverage.
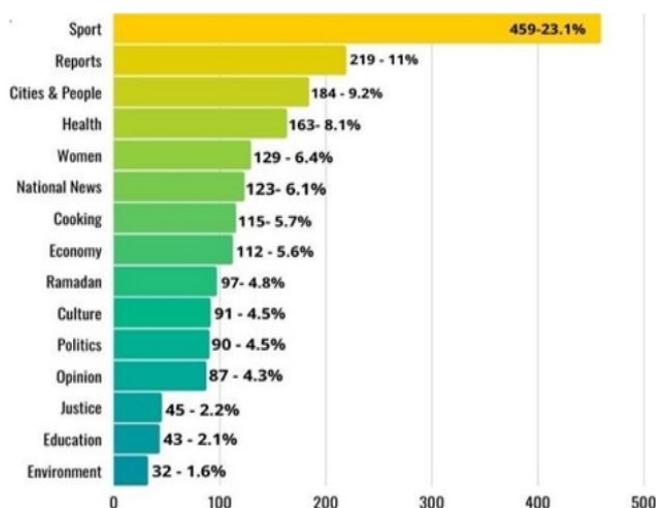
Figure 6. Topics Covered By Al-Akhbar Newspaper

With respect to the dispersion of environmental themes in the interval of study, the results in figure 7 indicate that the stories were published in May (17- 53.1%), June (7-21.9%), and April (6-18.8%). As for the geographical spread, the portrayal of environmental issues in *AL-Akhbar* daily makes known that most of the environmental topics treated in this period were local while three topics were global.
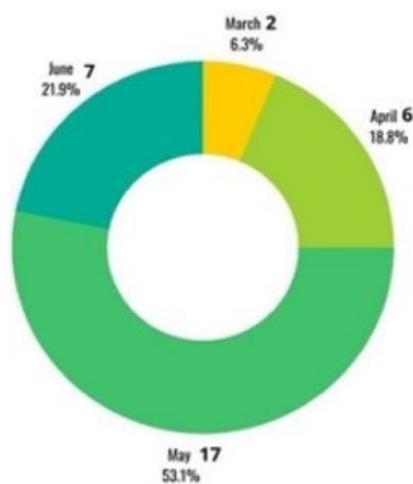

Figure 7. Time Distribution

Differently, the arrangement of environmental titles into themes shows that they were bound to 'pollution' (34.3%), 'hygiene' (12.5%), 'water' (12.5%), and 'degradation' (9.3%). With feeble percentages, the results show that the themes of 'hunting' (6.2%), 'animals' (6.2%), 'overgrazing' (3.1%), and 'forests' (3.1%) were slightly covered (See figure 8).
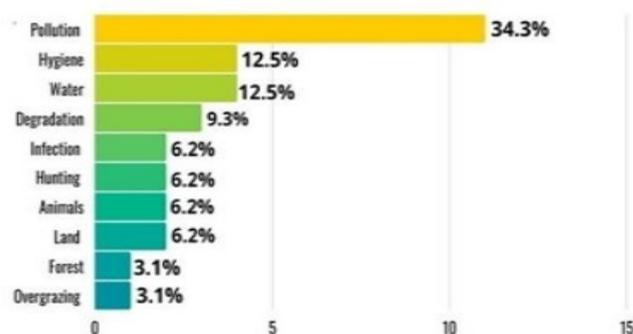

Figure 8. Categorization of Themes

3.4. Results of As-Sabah Newspaper

Over the 129 issues published by the *As-Sabah* newspaper during the COVID-19 pandemic, 37 issues contained environmental stories. It is crystal clear that the newspaper gave much importance to the government's measures to curve the disease such as the 'pandemic', 'health', 'propagation', and 'safety'. It is worth mentioning that inside the 37 issues, the *As-Sabah* newspaper dictated 47 articles to report about the environment, among which 18 stories were local. A manual examination of the 37 issues that reported about natural and environmental crises shows that environmental topics (47, 2.1%) were feebly covered with over the total sum of 2172 titles published by the newspaper during the COVID-19 pandemic. As for the most used subject, the results in figure 9 indicate that articles under the heading of 'Justice' were first with (23.9%) followed by 'Sport' (22.9%) and 'News' (12.7%). Interestingly, most of the articles devoted to the environment were put on the cover page in a part called 'anecdotes' (See appendix 3). Yet again, we observe that environmental topics reported by *As-Sabah* daily in the lockdown period were very limited if compared to other issues such as 'justice', 'art and television', 'entertainment', and 'sport'.
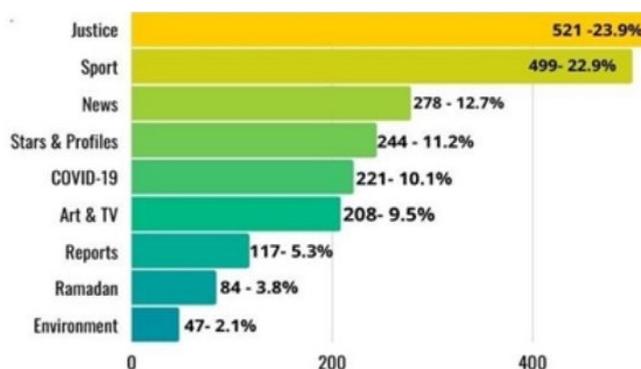

Figure 9. Covered Topics by As-Sabah Newspaper

In *As-Sabah newspaper,* time dispersion of environmental topics, as illustrated in figure 10, indicates that most of the articles were published in June (13- 35.1%), May (12- 32.45%), and April (7- 18.9%). As for their geographical deployment, the representation of environmental stories in *As-Sabah* shows that their treatment included 18 (26.7%) local issues while almost three-quarters of the environmental titles (29- 73.3%) were of global interest.
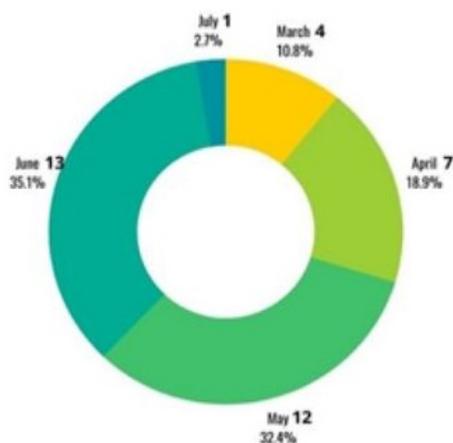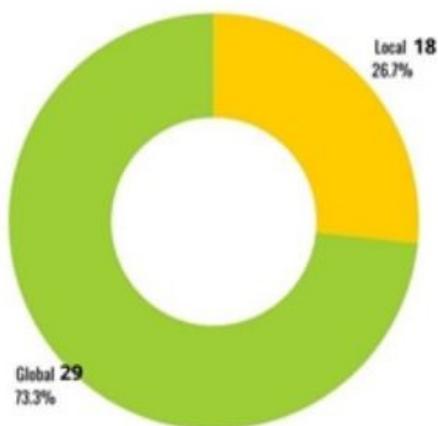

Figure 10. Time distribution

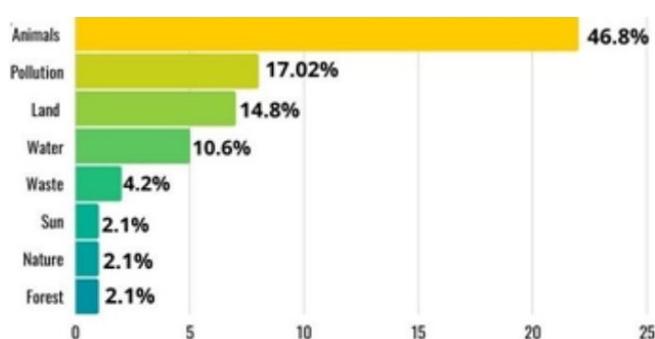**Figure 11. Geographical Distribution**

Figure 12. Distribution of Articles into Themes

In a different way, the distribution of environmental titles into themes in the *As-Sabah* newspaper during the COVID-19 period shows that most of the topics were devoted to 'animals' (22- 46.8%), 'pollution' (8- 17.02%), 'land' (7-14.8%), and 'water' (5-10.6%). With feeble frequencies, the natural elements of 'sun' and 'forest' appear once in the data (see figure 12).

IV. DISCUSSION

To investigate the coverage of environmental issues by the Moroccan print media during the COVID-19 pandemic has not been an easy task. Indeed, the continuous propagation of the disease and its consequent economic and health downturns have impacted the country's journalistic production, particularly among *Al-Massae*, *Al-Akhbar*, and *As-Sabah* daily newspapers. Within the framework of ecolinguistics (Stibbe, 2015), the present study works towards critiquing how media coverage of environmental crises during the pandemic contributed to the rise of environmental awareness regarding man's destruction of natural resources. The role of environmental journalism, henceforth, is to influence public's environmental literacy that inspires the general public to protect the natural world based on the idea that "the nature and level of environmental news reporting is one of the most important influences on the perception and understanding of the environment" (Miller & Pollak, 2013, p. 16). In the first place, this article admits that the three newspapers failed to report about environmental issues that happened during the lockdown when many individuals have seized the quarantine measures to procure illegal and irregular activities on nature. We observe a flagrant decrease in the number of environmental topics during the COVID- 19 pandemic. Still, there has been a lack of professionalism in treating the environmental issues that often involve complex facts, terminology, and scientific discourse.

4.1. Al-Massae Newspaper

Be it a multidisciplinary study, this Research is a double reflection that examines the coverage of environmental crises by the media during a hazardous health period marked by rapid dispersion of the COVID-19 pandemic. The aim is to develop a common conceptual framework for analyzing the Moroccan print media's environmental

representation during the COVID-19 pandemic. On the one hand, the present study questions the role of the Moroccan printed press in demystifying man's uncontrolled behavior perpetrated to the natural environment, and on the other, it constitutes an opportunity to explore the extent to which the environmental stories published by the three dailies were powerful enough to unmask man's mistreatment of nature during the quarantine period declared by the government to refrain the propagation of the contagion. While the lockdown has been implemented to limit people's movement, including the authority that ensures the protection of forests, individuals have seized the occasion to destroy nature on many levels. The pressure put by the lockdown pushed individuals to exploit the natural resources to surmount multiple economic and financial hardships. In this context, we expected that the media's role had been to expose violations, irregularities, and lawless mistreatment of species, land, air, and water, among other elements.

Unfortunately, the three newspapers have reserved a very limited space to the environmental issues in that 92 titles (1.8%) over 4922 titles covered man's infractions on the environment. A striking characteristic of these articles is that they scarcely quote sources, be it scientific or laymen's testimonies. This finding is consistent with Das, Bacon, and Zaman (2009) who noticed that 70% of two Bangladesh newspapers did not directly quote any sources at all. To give impetus to our results, the environmental story illustrated in figure 13 below (retrieved from *Al-Massae*) warns against the pollution of a river that caused fish mortality.

The information was raised by a human rights group that warned against hazardous pollution activities that killed a large quantity of fish due to a toxic substance leaking by an unidentified group. The destructive act shocked the locality residents once they witnessed a sudden change in the water's color. The crisis occurred at a time when the community was busy fighting the outbreak of the COVID-19 pandemic. As mentioned in the article, the story tells about the leaking of an unknown toxic substance administered by unknown individuals who took advantage of the lockdown to commit environmental crime. In fact, the polluted water threatens the community's safety, the herd, and the waterbed.

Figure 13. Pollution (Al-Massae, 4168, p. 1)

From an ecolinguistic perspective, the discourse employed by the article is full of ambiguities and generalities. Although the story invokes a human right organ's inclusion, the article gives no detailed information about its name. Furthermore, the story provides no identity of the people who polluted the river; it does not allude to the name of the toxic substances leaked into the river and gives no pursuit of the environmental crisis's outcome now that we know about its impact.

Concerning other studies (Cáceres, 2019a), the responsibility for environmental issues in environmental news and journalism is often attributed to a generic and indeterminate subject (humans, man, humanity, or simply we). It is a linguistic maneuver that Stibbe (2015) calls 'mass nouns' or 'abstract concepts' that generalizes and homogenizes an ensemble of entities. The purpose is to incorporate many and diverse elements into a single word to convey all those elements at once (Cáceres, 2019a).

The masking of agents and actors involved in the environmental issue cited by the article above is what Schleppegrell (1997) calls 'agency' in environmental discourse. It is a generic process whereby indeterminate subjects 'We' or 'Humans' lead individuals towards representing solutions in terms of a shared responsibility model. People are judged as equally responsible for environmental problems. In the *Al-Massae* daily newspaper, the environment is treated shallowly and superficially; meanwhile, alarmist titles indicate real threats that the environment has been facing during the COVID-19 pandemic.

During the examination of the data, many flagrant discrepancies between titles and content were observed. The environmental stories pretend to report sensational and risky disasters while their

content mitigates the dramatic nature of issues, not to say that many stories were deviant, out of context, and failed to assign the human responsibility for the destruction of the environment. To explain more, the article in figure 14 is a warning against the prevalence of forests' looting during the quarantine period. The story points to the Ministry of the Interior's responsibility, which must prevent the looting of forests during the quarantine period given the fact that the forest guards were not excluded from the lockdown measures. The guards' mission is primordial, mainly during night shifts, to prevent illegal practices related to forests' looting.

Despite the title that suggests an environmental catastrophe, the story strongly focused on the obligation of activating the role of the guards during the quarantine. Basically, the article dwelt a lot on the administrative procedures to reactivate the guards' mission to protect forests against massive lootings. However, the article was not faithful to its title, which highlights the exploitation of forests. It would have been a good environmental report if it mentioned places where the offenses took place, the names and identities of looters, the impact of the violation on the environment, and the measures that should be taken to stop the destruction in the confinement period.

Figure 14. Forest Looting (Al-Massae, 4178, p.8)

As far as animals are concerned, the *Al-Massae* newspaper reported a mass execution of stray dogs shot in Zagora. Under the pretext of fighting *leishmaniasis* skin lesions that dogs might transfer to the community, the story tells about the village council's decision according to which at least 85 dogs were shot dead. The population was perceived as an inhuman massacre while the village council claimed that it was heroic. According to the villages' council, the shooting was more merciful because poisoning is a tortured way to kill dogs in two days or more. Sometimes the dogs may not die and continue

to suffer. The aim behind this operation, said the council's spokesman, is that dogs repeatedly attack the population and cause fatal traffic accidents. The article blames the act of shooting, specifically the inhuman way of massacring stray dogs, and dwells a lot on enumerating why the village council opted for this decision rather than any other way to isolate dogs from the community. Actually, the article is superficial and fails to portray the reality of the act. Once again, the perpetrators of the massacre were erased and hidden by a mass noun (village council), and no accurate details were provided on the identity of the killers or those who ordered and planned the massacre. The same remark was mentioned in Cáceres (2019b), who claims that in English, several linguist patterns are used to suppress grammatical agency, which refers to the presence of the subject that acts as the verb as in the example: "She broke the glass" → "The glass broke".

**Figure15. Mass shooting of stray dogs
(Al-Massae, 4168, p. 11)**

In the same context, some titles of articles (figures 13, 14, and 15) were assigned headlines that contain 'mass nouns' and 'passive voice' structures. In the list below, one cannot identify the acting subjects that were deleted to put emphasis on the action and the object of a sentence rather than doers of action. This means that the subjects are either less important or that the newspaper does not want to know who the subjects are by masking the perpetrators. In addition to mass nouns, the use of passivization in some titles below is how the newspaper erased subjects. Therefore, whoever is responsible for these acts has disappeared at least from the titles.

Concerning the use of passivization in environmental discourse, a study by Mliless and Larouz (2018) on Moroccan English language teaching textbooks found that the use of passive voice to erase agency or actors obscures meaning in environmental

حقوقيـــــون يحـــذرون من تلـــوث خطـــير لميـــاه واد تسـبب فـــي نفـــوق اسماك
- *Human right activists warn of serious pollution of the water of a river that caused the death of fish*

تحـــــذيرات من تفشـــي نهب الغابـــات بعـد حضـر التجـــول الليلـــي علـى الغـــابويين الميـــــدانيين
- *Warnings of widespread forest looting after a night curfew on field forest guards*

مجزرة فـي حق عشرات الكـلاب رميـا بالرصـاص
- *A massacre of dozens of dogs shot by live ammunition*

narratives and hides responsibility of humans whose collusion with nature has caused tremendous destruction to the environment. This mode of titles' writing is problematic and misleading because the headlines are indirect and lack agency. The fact that the titles were passivized makes the reader envisage that wrongdoers of environmental crises were systematically erased from the discourse. This assumption joins Cáceres's (2019b) who explains that the problems and negative consequences that arise when attributing responsibility to generic and indeterminate subjects (we, humans, society, or humanity) as causes of environmental issues (using passivization mass nouns, and erasure) is intentionally used to conceal those responsible or to individualize guilt for environmental issues. It seems that these forms of discourse, frequently repeated in the environmental articles, is an ingrained strategy that reflects the process of journalists of the newspaper when writing about environmental issues. Based on this unsatisfactory coverage of environmental issues, this study assumes that the *Al-Massae* newspaper not only undermined the environmental issues occurring in the lockdown time, but it also gave a superficial account for the few environmental crises that it reported during the COVID-19 pandemic.

4.2. AL-Akhbar Newspaper

The *AL-Akhbar* newspaper strategy is not different from that adopted by *Al-Massae* newspaper when it comes to the space reserved for the environmental topics, their locality, and the writing of environmental issues during the COVID-19 pandemic. It should be mentioned that the newspaper scarcely reported about man's violations and exploitation of natural resources. This is revealed in the number of environmental topics (47) that the newspaper devoted to environmental matters.

The occurrence of environmental stories during the pandemic remains insufficient regarding the total sum of articles (2172) that were published in the lockdown period. To provide some interpretations to the content of the environmental publications, figures 16, 17, 18, and 19 below introduce some articles that we retrieve from the newspaper. For instance, figure 16 is about an alarming environmental issue alleged by villagers to the Minister of Agriculture about irregular overgrazing activities during the lockdown period. The article does not mention the impact of overgrazing on the environmental context but it highlights a conflict that has turned to vandalism and physical conflict between the villagers and a community of nomads. As a matter of fact, this study presumes that the story is not faithful to its title, it is out of context, and does not provide any names or details about the perpetrators and the damages man made to the environmental setting.

Figure 16. Overgrazing (Al-Akhbar, 2275, P. 4)

Similarly, the article in figure 17 on the release of poachers convicted of deer illegally hunting during the quarantine period gives much importance to the way the local authorities caught the offenders. Basically, the story dwells on law enforcement's dangerous and hard pursuit to arrest the convicts. Unfortunately, the article neither invokes the violators' identity, named as entrepreneurs, nor it talks about the mass killing of a group of deer,

as shown in the picture. Once again, it is crystal clear that the *AL-Akhbar* newspaper not only fails to provide accurate and sufficient media coverage of men's perpetual violations of environmental resources, but it does not properly write about the environmental issues it reports.

Figure 17. Deer's Poachers Released (Al-Akhbar, 2322, p.7)

4.3. As-Sabah Newspaper

Moroccan print media has played a prominent role in disseminating environmental information among people during the COVID-19 pandemic. In this section, the study aims to examine the extent to which *As-Sabah* daily newspaper treated environmental degradations due man's exploitation of natural resources. Based on the data obtained for this aim, the Research assumes that the frequency and writing quality of environmental reports published by *As-Sabah* do not drastically differ from those procured by the other newspapers.

To illustrate this argument, we opted for some examples to explain how the *As-Sabah* newspaper covered environmental violations during the COVID-19 pandemic (see figures 18, 19, and 20). Take one example, the story in figure 18 mentions the name of the person who denounced random disposal of medical waste and cites many national and international conventions that regulate the destruction and eradication of medical wastes. The story states that random abandonment of medical waste is a real threat to both humans and the natural environment, especially in the light of the spread of COVID-19 disease. In this respect, the newspaper recalls the responsibility of the minister of Energy, Mines and the Environment in taking indispensable actions to monitor, manage, and respect the environment according to laws that regulate the treatment and the disposal of medical waste. Though the article cites sources and names, it fails to name public and private hospitals that perpetrated the violation, does not mention the nature of the medical waste, and does not give an explicit account for the effect of medical waste on man, nature, and species.

Figure 18. Medical Wastes (As-Sabah, 6213,p. 1)

The technical or rhetorical nature of environmental content does not focus on details regarding the perpetrators and the solutions required to make environmental news stories more useful. Reporting of environmental issues by *As-Sabah* newspaper reinforces our belief that the strategy followed by the newspaper to manage environmental degradations is far from being a professional to increase the visibility of environmental stories.

Based on the data obtained for this objective, this Research assumes that the frequency and writing quality of environmental stories published during the COVID-19 pandemic is a very complicated issue on the qualitative and the quantitative levels. In fact, more stories featuring environment-related stories would have given the newspaper more value in increasing public awareness about man's violations of the natural environment. To illustrate this idea, the article in figure 19 reports about an environmental violation detected by the local authorities related to a wastewater treatment plant to irrigate fields of corn.

It must be said that the story uses mass nouns to refer to the authorities that denounced, stopped, and closed the station. The article gives much importance to the local authorities' efforts and the law enforcement personnel who were harshly resisted by the violators. Desperately, the article does not name the individuals or groups of people who irrigate corn their corn fields with wastewater. This is mirrored in the article title which is put in the passive voice to erase the responsibility of the action. The title "ذرة ضيعات سقي بالواد الحار" *Irrigation of corn fields with wastewater'* indicates that the subject is either less important than the action of irrigating cornfields with wastewater or that we don't know who or what the subject is. From an ecolinguistic standpoint, the title of the

article is deficient based on the fact that offenders should be disclosed to the public. Additionally, the impact of pollution was not accounted for mainly when it comes to citizens' wcornfieldsgricultural products' safety, and the purity of the wat,erbed. This being said, the story cites scientifaction's responsibility Moroccan Ministry of interior on the strict measures thatcornfieldspoused in terms of wastewater management. By way of illustration, the Ministry cites studies carried out in Western countries on the possibility of being infected by COVID-19 with respect to the leaking of wastewater.

Figure 19. Wastewater for irrigation
(As-Sabah, 6237, p. 1)

Last but not least, the article in figure 20 is about the destruction of green spaces perpetrated by the council of Casablanca to expand urban constructions. The council's unjustified attack caused a wave of outrage among citizens and of environmental activists who signed petitions to stop the environmental disaster. The story exhibits some empathy towards the demolishment of green spaces saying that trees, of more than 90 years, were cut down and sold. Dramatically, the article mentions that palm trees had been wrapped with electrical wires for lighting, an act that speeds up palms' loss.

Once again, we observe that the article cites the place where the activity took place but it does neither name the responsible of the destruction nor it mentions the activists' identity. The meaning of the title below is ambiguous due to the use of a mass noun 'council of Casablanca' and the passive voice that masked the individuals who did the violation: *Execution of the rest of the green spaces in Casablanca*'. As Schleppegrell (1997) mentioned, the use of mass nouns and passive voice to report about the environmental crisis obscure responsibility and agency and undermine real actors of environmental problems. The

abstraction of perpetrators and the suppression of subjects via mass nouns and passivization make the article avoid attributing man's responsibility for the environmental problem.

Figure 20. Demolition of Green Spaces
(As-Sabah, 6237, p.1)

The present study recognizes that feeble media coverage was devoted to this issue by the Moroccan printed press to capture the complexity of man and nature's interactions in the COVID-19 time. It is necessary to highlight that environmental articles' writing is defective and scanty because no distinct environmental headings were reserved for environmental problems within the three newspapers. Writing of environmental news, which is a highly technical media genre, shows many deficiencies when it comes to the use of linguistic structure such as mass nouns and passivization. In reality, these linguistic expressions' frequent use erases perpetrators of infractions and obscures environmental stories' meaning. On a different level, this study assumes that the three newspapers' environmental reports were dominated by news columns than that of the environment testified by the feeble coverage of environmental offenses during the COVID-19 period. On this basis, it is crystal clear that the relationship between man and the natural setting becomes a subordinate concern.

During the COVID-19 pandemic, Moroccan print media gave slight concern to devastating environmental transgressions in the lockdown time. Undoubtedly, there is a pressing need to make environmental crimes a priority among the national media, which is where investigative environmental journalism can make a difference. To prioritize the environmental issues, Moroccan print media needs to implement investigative environmental journalism and in-depth analysis procedures that may reveal stories of exploitation, degradation, and destruction activities of individuals or corporations.

V. CONCLUSION

For more than four decades, reporting about environmental issues has become a pivotal concern for the media to improve environmental awareness among the general public. In fact, print media has become a primary voice to unveil environmental awareness and a very impactful way to inform about preserving natural resources. The choice of discourse to cover environmental problems is primordial to effectively mobilize the public around environmental issues, modify their behavior, and ask organizations and authorities for more commitment to protect and preserve natural resources. The present study highlighted the extent to which three Moroccan printed newspapers have quantitatively and qualitatively reported about natural and environmental issues during the COVID-19 pandemic. Precisely, the study focused on the process by which the three daily newspapers have documented the environmental crises, their frequency, and how far the newspapers were so professional in writing efficient environmental stories. Based on the obtained results, the present study assumes that the three newspapers were slow to report about environmental issues and unable to produce environmentally skillful content on the levels of substance and discourse. In effect, the three newspapers did not include distinct headings reserved for environmental journalism, did not publish enough articles on the environmental crises, and failed to provide accurate reports about the environmental disasters in agreement with ecolinguistics and environmental journalism principles.

Recommendations

The fact that the newspapers failed to appropriately cover environmental issues, at least during the COVID-19 pandemic, is rendered to a structural problem due to the lack of distinguished specialized environmental journalists. Surely, the Moroccan print media is trying to devote much space to the coverage of environmental issues. Still, the road to better improvement of this shortcoming is far from being reached. The following recommendations are offered to remedy this situation and eradicate the many deficiencies that undermine its efforts. First, Moroccan print media needs to create distinct environmental journalism cells and train journalists on how to write insightful and impactful articles in conformity with ecolinguistics and environmental journalism principles. Second, more future Research is needed to improve the mechanisms by which Moroccan print media is invited to raise public consciousness on environmental problems. Finally, media professionals need to be initiated to research techniques (interviews, panels, longitudinal Research, and experiential Research, among others) to assess their journalistic production effectiveness.

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